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Medicine Oral Presentations

M-4: Photodynamic Therapy in the Management of Cutaneous Leishmaniasis: A game changer.

Iftikhar Ahmad. Institute of Radiotherapy and Nuclear Medicine

Objective/Hypothesis: The aim of this study was to assess the efficacy of Photodynamic therapy (PDT) in the management of Cutaneous Leishmaniasis (CL). **Study Design:** Prospective Study. **Materials and Methods:** A total of 350 patients (around 600 CL lesions) were treated with methylaminolevulinate (MAL)- based PDT, with a light dose of 75 J/cm² delivered during one session. The treatment was completed in three sessions on day 1, 14 and 42. The clinical variables used for treatment assessment included the sizes of the inner and outer borders of the CL lesions, the absence of all inflammatory signs (e.g., skin edema/ hardening) and complete scarring/ reepithelialization of the ulcerative lesions. Complete response was defined as complete disappearance of the CL lesion with no scar and symptom present, while no change in the size/ pattern of the lesion was called “no response”. Likewise, a reduction in the size and ulceration of the lesion and skin edema was categorized as a partial response to the treatment. **Results:** The study revealed the complete treatment response of 95% while partial response in 5% patients. Moreover, the patient compliance, both in terms of patient relief and cosmetics, was highly satisfactory. **Conclusion/Recommendations:** Photodynamic therapy (PDT) is a simple and economically viable therapeutic approach exhibiting substantial effectiveness in the management of CL lesions. **Keywords:** Vector born skin disease, Meglumine antimoniate, Photodynamic therapy, Cutaneous leishmaniasis.

M-9: Evaluation of health-related quality of life in patients with type 2 diabetes mellitus through EQ-5D-3L: a multi-center study in public sector hospitals of Quetta, Pakistan.
Shahzad Ahmad. Northwest Teaching hospital.

Objective/Hypothesis: to know about the quality of life and its impact on patients living with Diabetes mellitus. **Study Design:** cross-sectional study. **Materials and Methods:** In total, 440 patients with a DMT-2 diagnosis were enrolled in this cross-sectional study from two public hospitals in Quetta, Baluchistan. There are 780 beds at the Sandeman Provincial Hospital (SPH) in Quetta, Pakistan. In the capital of Quetta, the Sandeman Provincial Hospital was established in 1939. SPH is the locals' preferable healthcare facility since it is a public healthcare facility where the majority of healthcare is decently given. Bolan Medical Complex Hospital, which has 1062 beds, was another location (BMCH). Subjects provided both verbal and written consent, and they were assured that their responses would be kept confidential and that they could withdraw from the study at any time without having any impact on the way their medical care was provided. **Results:** Overall (n=440), most of the participants (73%) were between the ages (year) of 35 and 55, and 259 (58.9%) of them were men. Most of the respondents 108 (24.5%) had a secondary level education and 117 (26.8%) were literate, however, most of the patients 49 (11.1%) had no mobility issues. More than half (61.8%) of the survey participants reported no issues with self-care. The majority of patients (41.8%) experienced some difficulty with a common activity. Patients (46.3%) reported some degree of pain or discomfort. The health-related quality of life score was shown to be significantly correlated with gender (p=0.016), marital status (p=0.003), age group (p=0.001), unemployment (p=0.001), and education (p=0.001). The mean score of time trade-off

(TTO) was 0.496 and the mean of the visual analog scale (VAS) was found to be 0.55 and affects the quality of life. **Conclusion/Recommendations:** The quality of life of patients with DMT-2 is influenced by many variables such as education, occupation, gender, and marital status. As a consequence, a greater emphasis on the primary drivers of HRQoL should be made to develop and implement applicable policies for better DM treatment and, as a result, enhanced QoL for diabetes patients in this region. According to the study's findings, people with type 2 diabetes have a low quality of life (EQ 5D 3L). Age, being a man, having an uncontrolled illness, and having concomitant conditions can make it worse. **Keywords:** Quality of life; QoL; DMT-2; Quetta; Pakistan; EQ-5D-3 L.

M-10: Minimal change disease, the leading cause of glomerulopathies in paediatric population at Peshawar.
Aimal Khan. Northwest Teaching Hospital.

Objective/Hypothesis: to know about the incidence of minimal change disease in pediatric population.

Study Design: prospective study. **Materials and Methods:** This was a prospective study carried out at the Department of Nephrology, Khyber Teaching Hospital, Peshawar from May 2021 to May 2022. Ultrasound guided percutaneous renal biopsies were carried out in patients with the findings of: 1) Nephrotic range proteinuria in children, 2) Non-nephrotic range proteinuria with evidence of hypertension/hematuria/deranged renal function or active sediments on urine microscopy, 3) Steroid resistant nephrotic syndrome in children, and 4) Children with nephrotic syndrome who were not tolerant of steroid therapy or were considered for immunosuppressive drugs. **Results:** There were 155 renal biopsies obtained in all. There were 90 male patients and

65 female patients among these. Minimal Change Disease (42.66%) was the most prevalent histopathological lesion among children, followed by

Focal Segmental Glomerulosclerosis (25.33%) and Membranous Glomerulonephritis (16.0%). Minimal Change Disease and Membranous Glomerulonephritis had the highest prevalence of nephrotic range proteinuria, followed by Focal Segmental Glomerulosclerosis. Proteinuria in the non-nephrotic range was most common in patients with Membranoproliferative Glomerulonephritis.

Conclusion/Recommendations: It is found that Minimal change disease is the leading cause in the pediatric population affected by this commonly encountered disease. Minimal Change Disease is the most common glomerulopathy in children, followed by FSGS and Membranous Glomerulonephritis. In competent hands, percutaneous kidney biopsy is a safe operation with few complications. It assists the nephrologist in determining the underlying histology for accurate diagnosis and therapy. **Keywords:** Nephrotic Syndrome, Renal biopsy, Proteinuria, Glomerulopathy.

M-12: Can the adenine analogue 6 hydroxyl amino purine inhibit the growth of cancer?
Simal kundi. Precision Medicine Lab.

Objective/Hypothesis: 6HAP, an adenine analogue, disrupts DNA synthesis and kills cancer cells. As yet, it's known to be naturally produced by two Staphylococcus epidermidis strains (M034 and M038). 6HAP has anti-tumor effects on various cancer cell lines. 6HAP sensitivity in cancer cells is due to down regulated mitochondrial amidoxime-reducing component enzymes (mARC1 and mARC2), leading to apoptosis. The downregulation of these enzyme genes and the biosynthesis of 6HAP in Staphylococcus epidermidis, however, remain largely unknown. **Study Design:** We leveraged RNA-Seq raw datasets accessible from reputable sources and these datasets

enabled us to generate graphical representations in Excel, facilitating the identification of cancer tissues exhibiting downregulated mARC1 and mARC2 genes as measured in normalized transcripts per million. Additionally, our investigation led us to the EMBL-EBI website, where we discovered a comprehensive single-cell RNA-Seq mRNA baseline encompassing 157,689 cells from head and neck cancer samples. These cells were further categorized into 29 clusters, primarily composed of oral squamous cell carcinoma, showcasing notable expression patterns for both mARC1 and mARC2 genes. **Materials and Methods:** We found RNA-Seq raw datasets of mARC1 and mARC2 gene expressions from TCGA, Human Protein Atlas, European Bioinformatics Institute, and the Open Targets Platform. For 6HAP biosynthesis pathways we used databases like BIoCyc and Metacyc We also verified the enzymes and their binding roles with 6HAP precursors using SwissDock to understand the protein-molecule interaction of these enzymes. **Results:** Our study identified the top ten cancer tissues with significant down regulation of both mARC1 and mARC2 genes, with the most pronounced decrease in liver tissue (35%). Notably, mARC2 exhibited a more pronounced down regulation compared to mARC1, aligning with prior research highlighting the critical role of mARC2 down regulation in cancer sensitivity to 6HAP. In OSCC, 28 out of 29 distinct clusters showed down regulation of both mARC1 and mARC2 genes with below-cutoff expressions. We discovered a novel pathway for 6HAP production involving the enzyme DNA formamidopyrimidine glycosylase mut M, which binds to adenine and catalyses the formation of 6HAP. Swiss Dock confirmed the binding of adenine to mut M, supporting its role in 6HAP biosynthesis in Staphylococcus epidermidis. **Conclusion/Recommendations:** This study revealed that mARC1 and mARC2 genes are consistently downregulated in various cancer tissues, particularly in OSCC. This

downregulation appears to be a critical factor in cells sensitivity to 6 HAP. Targeting these genes in cell lines could hold therapeutic promise, and on clarifying the 6HAP production pathway and conducting co-culture experiments with 6HAP and cancer cell lines to validate its therapeutic potential. **Keywords:** staphylococcus epidermidis, cancer, mitochondrial amidoxime reducing components, 6 hydroxyl amino purine.

M-18: Targeting drug resistance in colorectal cancer: a drug repurposing approach to Overcome folfox resistance.
Safoora Zia. Precision Medicine Lab.

Objective/Hypothesis: Colorectal cancer (CRC) is the third most prevalent and second most fatal cancer worldwide. Despite treatment advancements, the five year survival rate remains low. FOLFOX, the first-line treatment for advanced CRC is a common chemotherapy regimen used in clinics. However, treatment often fails due to acquired resistance, observed in 90% of metastatic patients. Therefore, a more efficient and cost- effective drug repurposing approach is needed. This study aims to identify potential repurposed drugs to overcome FOLFOX resistance as a promising strategy for better treatment outcomes. **Study Design:** Computational/Bioinformatic Analysis. **Materials and Methods:** A comprehensive literature review was done for potential repurposed drugs. Two FOLFOX resistance datasets were obtained from GEO. A differential gene expression analysis was then conducted using RStudio, followed by REFSEQs conversion to gene IDs. Top 50 drug hits were generated using L1000 database (p -value ≤ 0.05), assessed through PubChem, ChemBL, and DrugBank, giving a refined shortlist. **Results:** Among the shortlisted drugs with $\log_2FC \geq |10|$ criterion, five potential candidates were identified, and four were already FDA-approved. Vinblastine Sulfate

emerged prominent with a perturbation score (Ps) of 0.1304 in Phase III and II clinical trials for different cancers. Phorbol-12-myristate-13-acetate (PMA), with 0.1087 Ps is in active clinical trials for Leukemia. Another promising candidate, Buparlisib with 0.1087 Ps spans Phases I, II, and III trials across various cancer types. Proscillaridin A, under investigation on glioblastoma and breast cancer cell lines, had a score of 0.1087. For drugs with $\log_2FC \geq |5|$, AMSACRINE stood out which is currently in Phase IV trials for Neoplasm and Phase III trials for myelodysplastic syndrome and acute myeloid leukemia.

Conclusion/Recommendations: We identified a list of five drugs: Vinblastine, Phorbol 12-myristate 13-acetate, Proscillardin, Bulparisib, and Amsacrine. These drugs were not previously reported in the literature but have shown good perturbation scores and clinical trial paths across different cancers. However, the roles of these five drug candidates must be validated through in-vitro studies to confirm their efficacy. **Keywords:** Colorectal cancer, Repurposed Drugs, FOLFOX resistance.

M-20: Telemedicine versus in-person visits: A comparative study of Patient- Satisfaction in Post-Stroke Patients at a Neurology Unit in Pakistan.

Yusra Samin. Hayatabad medical complex Peshawar.

Objective/Hypothesis: To compare the level of satisfaction of post-stroke patients using telemedicine vs. in-person consultations at a public tertiary-care hospital in Pakistan. **Study Design:** A Descriptive, cross-sectional was conducted at the Department of Neurology, in a tertiary care Hospital, Peshawar, for six months i.e., September 2020 to February 2021. **Materials and Methods:** A Descriptive, cross-sectional was conducted at the Department of Neurology, in a tertiary care Hospital, Peshawar, for six months i.e., September 2020

to February 2021, and a total of 83 were included. The data were recorded on a previously-validated questionnaire, i.e., the Patient Satisfaction Questionnaire (PSQ18), and analyzed using SPSS 26. Tests including the Chi-square and t-test were used to fulfill research objectives. A p-value of less than 0.05 was considered statistically significant.

Results: Overall, 52 (62.8%) of the patients were male, and 31 (37.2%) were female. Ischemic Stroke (n=56, 67.4%) was the group with the highest diagnoses, followed by Hemorrhagic Stroke (n=23, 28.8%) and Subarachnoid Hemorrhage (n=4, 4.8%), respectively. Patients in the in-person visit group generally had higher scores of satisfactions than the telemedicine group in 6 out of 7 domains of PSQ18 ($p < 0.05$), i.e., general satisfaction, time spent, accessibility and convenience, financial aspects, technical quality, and communication. Other demographic variables or comorbidities revealed no significant association with patient satisfaction except for residence, in which the rural population had a particularly higher satisfaction score for in-person consults over tele-consults. ($p < 0.05$)

Conclusion/Recommendations: Contrary to much of the published literature from high-income countries, stroke patients revealed higher satisfaction scores with in-person visits than with telemedicine in our Neurology clinic. In the long term, implementing a new model like the telemedicine system in Stroke Neurology will have financial implications. Failure to recognize the priorities and preferences of different groups of patients, especially in countries like Pakistan, might lead to a failed attempt to shift the country healthcare system. **Keywords:** Telemedicine, in person, consultations, patients' satisfaction, neurology.

M-23: Pre and Post Pan Retinal Photocoagulation (PRP) macular thickness

in diabetic patients.

Syed Noor. Northwest General Hospital.

Objective/Hypothesis: To determine Pre and Post Pan Retinal Photocoagulation (PRP) macular thickness in diabetic patients. **Study Design:** Descriptive Study **Materials and Methods:** A total of 177 patients with proliferative diabetic retinopathy were included in the study in consecutive sampling method. Baseline macular thickness was measured and patients were subjected to pan retinal photocoagulation (PRP) and follow up macular thickness was measured to determine increase in macular thickness. **Results:** The mean age of the sample was 51.2 ± 7.7 years. In our study, there were 61% males and 39% females. The mean duration of DM of the study sample was $10.8 + 4.7$ years. (See table 3 for duration in categories). 32.8% were obese, 27.1% were smokers and 21.5% were hypertensive. The mean preoperative macular thickness was $224.5 + 15.6$ micrometers and mean postoperative macular thickness was $245.9 + 15.3$ micrometers. The mean increase in pre and post PRP macular thickness was $21.5 + 15.2$ micrometers. Increase in macular thickness after PRP was recorded in 35.6% of patients. **Conclusion/Recommendations:** Increase in macular thickness is significantly high in our population with PDR subjected to PRP. We recommend future studies particularly RCTs keeping into account other effect modifiers which can affect postoperative macular thickness among patients with PDR subjected to PRP. **Keywords:** Diabetes mellitus, diabetic retinopathy, macular thickness, pan retinal photocoagulation.

M-24: Incidence rate of stroke in Cerebral Aspergillosis- A meta-analysis.

Farhana Gul. Khyber Medical College.

Objective/Hypothesis: To investigate the incidence rate of stroke in patients with cerebral

aspergillosis. Study Design: Meta-analysis

Materials and Methods: This is a met-analysis study. A PRISMA flow diagram was used to review 27 different studies on cerebral aspergillosis. **Results:** The rate of cerebral aspergillosis among patients with invasive aspergillosis has been reported to be 10-15%. Since the fungus is angioinvasive in nature, stroke can be manifested as hemorrhagic infarcts or as one of the presenting symptoms of disseminated aspergillosis.

Conclusion/Recommendations: The rate of cerebral aspergillosis among patients with invasive aspergillosis has been reported to be 10-15%. Since the fungus is angioinvasive in nature, stroke can be manifested as hemorrhagic infarcts or as one of the presenting symptoms of disseminated aspergillosis. Recommendation: Early diagnosis and early intervention can be proved be helpful in reducing the incidence of stroke in such patients and thus reducing the mortality. **Keywords:** meta-analysis, cerebral aspergillosis, infection, fungus, stroke, aspergillus fumigatus, immunocompromised, subarachnoid hemorrhage.

MEDICINE POSTER PRESENTATIONS

M-2: Anaplastic Large Cell Lymphoma of the spine.

Ume hani Naeem. Hayatabad Medical Complex.

Objective/Hypothesis: To consider lymphoma in patients presenting with unexplained fever.

Study Design: Here we discussed a rare case of anaplastic large cell lymphoma (ALCL) involving the cervical and dorsal spine in a 17-year-old female. ALCL is a distinct subtype of lymphoma characterized by abnormal proliferation of lymphocytes and is divided into ALK-positive and ALK-negative subtypes. Spinal involvement in ALCL is uncommon, particularly in the cervical and dorsal regions. The patient presented with persistent fever, weakness, and delayed onset of severe neck pain. Diagnosis involved imaging, bone marrow biopsy, and lymph node biopsy. Treatment strategies for ALCL typically involve a multimodal approach, including chemotherapy, radiotherapy, and targeted therapy. However, due to the rarity of spinal involvement, treatment decisions are based on extrapolation from other ALCL cases. Prognosis is influenced by factors such as disease stage and ALK status, but specific outcomes for spinal involvement remain poorly established. This case emphasizes the need for considering lymphoma in patients with unexplained symptoms and abnormal imaging findings, and highlights the importance of further research to improve understanding and management of ALCL with spinal involvement

Materials and Methods: We used our laboratory data including peripheral smear, bone marrow biopsy specimen, MRI imaging of the spine **Results:** After taking brief history, examination and involving multidisciplinary team we diagnosed this rare case and refer this patient for treatment to oncology

department..she is under treatment and has received 3 sessions of chemotherapy so far with little improvement.

Conclusion/Recommendations: This case emphasizes the need for considering lymphoma in patients with unexplained symptoms and abnormal imaging findings, and highlights the importance of further research to improve understanding and management of ALCL with spinal involvement. **Keywords:** Lymphoma of spine.

M-3: Catching the Silent Giant: Early Stage Acromegaly Diagnosis and Clinical Implications.

Yasir Ali. Hayatabad Medical Complex.

Objective/Hypothesis: To explore the rare discuss and it's early diagnosis it's identification by almost every specialty doctors as this patient can come across every specialty **Study Design:** We collected data from patient including history, physical examination and conducted laboratory tests, imaging studies including MRI brain. **Materials and Methods:** Acromegaly is an uncommon and slowly progressive disease caused by excessive production of growth hormone (GH) and insulin-like growth factor 1 (IGF-1), characterized by a wide array of comorbidities. although the majority of cases of acromegaly are caused by a pituitary adenoma that secretes growth hormone (GH), there are rare instances where acromegaly can be attributed to the secretion of GH-releasing hormone (GHRH) from hypothalamus or from ectopic sites. The most important assays for the diagnosis and management of acromegaly are GH and IGF-1 levels. Innovative surgical techniques are employed for the treatment of pituitary tumors. However, in cases where surgery does not result in a cure or if the patient's health condition prevents surgical

intervention, the primary therapeutic approach is medical treatment using somatostatin analogs and GH-receptor antagonists. If both surgical and medical therapies fail to achieve adequate biochemical control of acromegaly, radiation therapy is considered the most effective curative method. A middle age person presented for diabetic control, on further inquiry was also complaining of headache and hoarseness of voice for the last 8 years . The patient was also complaining of increase shoe size, progressive increase in the size of his hand and feet as well as facial features that went unnoticed until recently. Serum IGF-1 level was done which was high therefore radiological investigation including MR Brain was advised which revealed pituitary macro-adenoma bulging into sphenoid and extending into the floor of the 3rd ventricle with mass effect on optic chiasm with grade-1 invasion of right cavernous sinus. Acromegaly should be suspected in patients that present primarily with signs and symptoms typical to the disease such as coarsening of the facial features, hoarseness of voice and increase in the size of hands and feet. However, only less than 15% of these patients go to a physician. Due to these nonspecific symptoms and signs, a major portion of these cases can go undiagnosed until late in the course of the disease. **Results:** He was diagnosed as case of acromegaly due to pituitary macro-adenoma based on examination and investigation. Consequently was referred to neurosurgeon for trans-sphenoidal surgery. **Conclusion/Recommendations:** After a diagnosis has been made, the main goal should be to identify the source of excess GH secretion and then manage accordingly. Physicians should also make sure to do a thorough workup of the patients to exclude the presence of any associated conditions such as malignancies (melanomas, colonic cancer, MEN1), cardiovascular compromise, respiratory complications and visual disturbances, all of which can lead to a significant rise in the morbidity and mortality. **Keywords:**

Acromegaly, case report, serum IGF-1 level, pituitary macro-adenoma

M-6: The Role of Lutetium-177 in Neuroendocrine Tumor Treatment : From Bench to Bedside Maheen. IRNUM Hospital.

Objective/Hypothesis: This poster aims to explore lutetium-177-dotatate's role in treating neuroendocrine tumors (NETs), from laboratory discovery to clinical application. It investigates its mechanism, clinical effectiveness, safety, and future potential in NET management. Study Design: Mixed methods approach **Materials and Methods:** Lutetium-177 Production: Discusses the production process and chemical transformation into lutetium-177 dotatate. Preclinical Research: Covers in vitro and in vivo experiments, highlighting its interaction with NET cells. Clinical Trials: Reviews safety and patient selection criteria. **Results:** Summarizes selectivity and tumor-reducing effects. **Conclusion/Recommendations:** Lutetium-177 dotatate's journey from lab to clinic marks a significant advancement in NET treatment. **Keywords:** Neuroendocrine tumors, lutetium-177-dotatate, peptide receptor radionuclide therapy, somatostatin receptors, bench-to-bedside, PRR

M-7: The Role of Nuclear Medicine Technologist in Radiosynovectomy Maheen. IRNUM Hospital.

Objective/Hypothesis: This poster emphasizes the indispensable role of nuclear medicine technologists in the specialized medical intervention known as radiosynovectomy. Study Design: Mixed methods approach **Materials and Methods:** The study involved radiosynovectomy, a procedure for treating inflammatory joint conditions with radioactive isotopes. Patient suitability was assessed

through medical history, allergies, and imaging. Radioactive isotopes were carefully prepared, following safety guidelines. Advanced imaging techniques guided precise injections, prioritizing patient safety. **Results:** Nuclear medicine technologists played a critical role, ensuring successful outcomes. Their expertise in assessment, radiopharmaceutical preparation, injection guidance, and radiation safety was instrumental. Collaboration among healthcare professionals and meticulous documentation further improved patient care. **Conclusion/Recommendations:** Nuclear medicine technologists are indispensable in radiosynovectomy. Their expertise, collaborative approach, and documentation enhance patient care and outcomes in treating painful joint inflammations. **Keywords:** Nuclear Medicine Technologist, Radiosynovectomy, Isotopes.

M-11: The general incidence of microalbuminuria among individuals with acute flare-ups of COPD
Shahzad Ahmad. Northwest Teaching hospital

Objective/Hypothesis: frequency of microalbuminuria in patients having an exacerbation of COPD. Study Design: cross sectional **Materials and Methods:** A cross-sectional study over a period of six months (20-09-2019 to 20-03-2020) was conducted at the department of Pulmonology, Khyber Teaching Hospital, Peshawar. Patients with COPD with acute aggravation as per “Global Initiative for Obstructive Lung Disease (GOLD)” criteria between the ages of 40 and 80 were enrolled. A total of 148 patients of both genders, i.e., male and female, were included. The frequency of albuminuria was evaluated. Chi square test was used and effect modifiers were controlled by the stratification. A p-value of ≤ 0.05 was considered significant. **Results:** Of the total, 71(48%) of the patients were male, with a mean age of 63.45 ± 12.36 years, while 77 (52%) were

female having mean age of 57.69 ± 9.28 years. Microalbuminuria was found in forty seven percent (n=71) of total study patients. The mean duration of COPD in the total study population was noted to be 3.9 ± 2.6 years. Stratification was done for varying degrees of effect modifiers like gender, age groups, smoking status, and duration of chronic obstructive pulmonary disease; however, no statistically significant difference (p-value ≤ 0.05) was found for any of them. **Conclusion/Recommendations:** An increased frequency of microalbuminuria was noted in nearly half of the patients having an exacerbation of COPD. Association for effect modifiers have not been noted statistically; however, patients of specific sets and backgrounds, such as female, ex-smokers, and having an age greater than seventy years showed frequent albuminuria in our study **Keywords:** albuminuria, acute aggravation, COPD, GOLD criteria.

M-13: Exploring Selective Toxicity: Targeting Drug-Resistant Cancer Cells for Improved Treatment.
Moosa Usman Saeed. School of Biochemistry & Biotechnology

Objective/Hypothesis: The study aims to find compounds that selectively kill drug-resistant cancer cells, offering potential treatments for multi-drug resistant cancers, either alone or in combination. **Study Design:** The effectiveness of chemotherapy is hindered by drug resistance, a significant obstacle in the treatment of cancer patients. Interestingly, drug-resistant cells occasionally exhibit heightened sensitivity (collateral sensitivity) to specific compounds that can be targeted against them. This project's goal is to discover these compounds with selective toxicity for resistant cancer cells, with the potential to be developed into effective treatments for multi-drug resistant cancers, either as standalone therapies or in combination.) **Materials and Methods:** A

study was conducted using both MCF-7 Wt (drug-sensitive) and MCF-7 gemR (gemcitabine-resistant) human breast cancer cells. The research involved quantifying the toxicity of various phytochemicals and chemotherapeutic agents towards the drug-resistant cells and their non-resistant counterparts. This quantification was carried out through the utilization of the MTT cytotoxicity assay, and the percentage of cell survival was determined by comparing it to the survival of untreated cells. The compounds examined in this study included myricetin, quercetin, baicalein, hesperetin, gemcitabine, curcumin, doxorubicin, vincristine, oxaliplatin, cytarabine, and paclitaxel. **Results:** • MCF-7 gem cells displayed collateral sensitivity towards baicalein, quercetin, doxorubicin, and paclitaxel. • In the case of baicalein, MCF-7 gem cells exhibited 17-fold greater sensitivity at 200 μ M, while for quercetin, they displayed 5-fold increased sensitivity at 100 μ M. • Among the combinations of compounds tested, the most effective result was observed when using 100 μ M baicalein in combination with 0.25 M doxorubicin or paclitaxel in the BCHM031 study involving MCF-7 GemR cells. **Conclusion/Recommendations:** The data obtained indicates that gemcitabine-resistant human breast cancer cells, specifically MCF-7 gem, display collateral sensitivity to various flavonoids and chemotherapeutic agents. • The results reveal significantly elevated levels of collateral sensitivity, an infrequently observed phenomenon. • Among the tested flavonoids, baicalein, initially discovered in Chinese skullcap, a flowering plant commonly employed in traditional Chinese herbal medicine, demonstrated the highest potency. **Keywords:** Drug resistance, cancer treatment, collateral sensitivity, selective toxicity, multi-drug resistance, chemotherapy, compound screening, cancer therapy development, drug-resistant cells, combination therapy

M-14: Assessment of molybdenum concentration level in $^{99}\text{Mo}/^{99\text{m}}\text{Tc}$ generators (PAKGEN): IRNUM Experience Irfan Ali. IRNUM Cancer Hospital.

Objective/Hypothesis: The purpose of this study is to assess the contamination level of Mo-99 in the eluted activity of $^{99\text{m}}\text{Tc}$ used for the diagnostic procedures at Institute of Nuclear Medicine, Oncology and Radiotherapy (IRNUM), Peshawar, Pakistan prior to its administration to patients. **Study Design:** As per file attached. **Materials and Methods:** The Mo-99 concentration in $^{99\text{m}}\text{Tc}$ elutes was assessed for 250 generators used within five years (From June 2018 to June 2023) at IRNUM. The Mo-99 impurity concentration was measured with Cap Intech Inc.; dose calibrator and standard canister after the elution of all these generators. **Results:** It was observed that for most of the generators (98.8%) the level of Mo-99 concentration was within the permissible range. However, for only three (03) out of 250 generators (1.11, 0.98, 1.09% respectively) the Mo-99 concentration were high, which were handled and removed using standard procedure to decrease the impurity of Mo-99. **Conclusion/Recommendations:** It was concluded that Molybdenum breakthrough test is a mandatory requirement and pre-requisite for $^{99\text{m}}\text{Tc}$ elutes on routine basis to improve the image quality and reduce the patient unnecessary dose. **Keywords:** Contamination level of Mo-99, Molybdenum breakthrough, $^{99}\text{Mo}/^{99\text{m}}\text{Tc}$ generator, Radionuclide impurities

M-16: Unmasking the mysteries: A multifaceted journey of Wegener's Granulomatosis, A clinical case report. Mahnoor Raza. Khyber Teaching Hospital Peshawar.

Objective/Hypothesis: This case highlights the fact that presentation of Wegener granulomatosis may mimic that of

Inflammatory bowel disease (IBD) which makes its diagnosis a little challenging. Our patient presented with constellation of clinical and laboratory abnormalities over several months. The findings suggested a systemic autoimmune inflammatory etiology. However, the C-ANCA positivity and other clinical features narrowed the differential to diagnosis of Wegener granulomatosis. Hence proper evaluation is a must to reach diagnosis. **Study Design:** CASE PRESENTATION: A 24 years old female known case of ulcerative colitis and chronic scleritis (Right Scleral patch grafting done) presented to outpatient department of Khyber Teaching Hospital with chief complains of generalized body aches, fever, non-blanchable rashes on extensor surfaces with large vesicular rash on metacarpophalangeal joint and recurrent oral ulcers. Upon inquiring her medical history, she was admitted in a hospital in Malakand in 2021 with chief complain of diarrhoea from past 1 year, 4-5 episodes per day followed by nausea and diffuse abdominal pain. An itchy rash over the body started 10 days back that first appeared on palms and soles and later spread to whole body. She also complained of fever that started gradually, which was high-grade in intensity and occurred mostly at night associated with rigors and chills. She suffered from burning micturition, migratory polyarthralgia and nodular scleritis. Investigations were sent, results of which showed high TLC of 12100-11200-9500- 5600. Her colonoscopy was ordered back then, which reported left sided colitis. Her C-ANCA and P-ANCA were also sent and colonic biopsy too. She was managed there with tab daltacortil, inj oxidil 1gm, tab rigix, cap eskem 40mg, alphagon E/D 2 drops BD. She responded well to the medications and was discharged. In the follow-up, her C-ANCA (Anti Proteinase-3) came out to be positive (200U/mL positive. Urine culture/sensitivity showed 25-30 RBC. While LFTs/RFTs and CBC was normal. She was admitted and managed with tab mesacol 800mg TDS, tab

Imuran 50mg BD, Inj Riisek 40mg OD, tab daltacortil 5mg 6 tabs BD and syp cosome 2TSF TDS. All the complaints she had during admission, resolved with aforementioned management. Her CRP decreased from 135.31 to 69mg/L while ESR to 112mg/L. But the patient then started having chest pain that increased on inspiration and productive cough. This was accompanied with fever. On Clinical Examination, there were bilateral wheezes and right basal crepts. Ulcerations were seen on lower limbs, skin and hands and renal punch was positive. While other systemic examination was unremarkable. Her chest x ray was ordered, which depicted cavitatory lesion in lungs. Based on her clinical features, radiological findings and laboratory investigations, she fulfilled the diagnostic criteria and was diagnosed as case of Wegener granulomatosis. She was given amuron, dexta, titan, vorif and titan for disease management. **Materials and Methods:** It is a clinical case report. **Results:** Here we report a case of 24 Years old female who presented with vague symptoms of generalized body aches, fever, non-blanchable rashes on extensor surfaces and recurrent oral ulcers. She eventually got diagnosed as a case of Wegener granulomatosis based on her clinical findings, radiological scans and laboratory findings. **Conclusion/Recommendations:** Granulomatosis with polyangitis usually manifests the non-specific symptoms of generalized systemic disease such as fever, malaise, weight loss, polyarthralgia and myalgia. However due to multisystem involvement, it presents with wide spectrum of clinical manifestations. Therefore, evaluation of a patient with suspected GPA involves complete assessment involving history, clinical examination, laboratory investigations, radiological and histopathological tests to confirm diagnosis. **Keywords:** Granulomatosis, rashes, immune, vasculitis, chest pain, arthralgia.

M-17: Photodynamic therapy in Leshmeniasis Using indigiously produced Photosensitizer and Laser Machine.
Qamar Zia. IRNUM.

Objective/Hypothesis: Photodynamic therapy (PDT) has emerged as a promising treatment for Cutaneous Leishmaniasis, offering an indigenous solution to the challenges posed by sourcing external Photo Sensitizers and Laser machines. This poster highlights the indigenization efforts undertaken at PINSTEC by scientists and engineers of PAEC, focusing on the successful production of 5ALA Photo Sensitizer and Laser machines. Additionally, we present a case study showcasing the significant improvements observed in two young patients who underwent PDT, marking a remarkable advancement in the fight against Cutaneous Leishmaniasis. **Study Design:** Photodynamic therapy (PDT) has emerged as a promising treatment for Cutaneous Leishmaniasis, offering an indigenous solution to the challenges posed by sourcing external Photo Sensitizers and Laser machines. This poster highlights the indigenization efforts undertaken at PINSTEC by scientists and engineers of PAEC, focusing on the successful production of 5ALA Photo Sensitizer and Laser machines. Additionally, we present a case study showcasing the significant improvements observed in two young patients who underwent PDT, marking a remarkable advancement in the fight against Cutaneous Leishmaniasis. **Materials and Methods:** Photodynamic therapy (PDT) has emerged as a promising treatment for Cutaneous Leishmaniasis, offering an indigenous solution to the challenges posed by sourcing external Photo Sensitizers and Laser machines. This poster highlights the indigenization efforts undertaken at PINSTEC by scientists and engineers of PAEC, focusing on the successful production of 5ALA Photo Sensitizer and Laser machines. Additionally, we present a case study

showcasing the significant improvements observed in two young patients who underwent PDT, marking a remarkable advancement in the fight against Cutaneous Leishmaniasis. **Results:** Photodynamic therapy (PDT) has emerged as a promising treatment for Cutaneous Leishmaniasis, offering an indigenous solution to the challenges posed by sourcing external Photo Sensitizers and Laser machines. This poster highlights the indigenization efforts undertaken at PINSTEC by scientists and engineers of PAEC, focusing on the successful production of 5ALA Photo Sensitizer and Laser machines. Additionally, we present a case study showcasing the significant improvements observed in two young patients who underwent PDT, marking a remarkable advancement in the fight against Cutaneous Leishmaniasis.

Conclusion/Recommendations:

Photodynamic therapy (PDT) has emerged as a promising treatment for Cutaneous Leishmaniasis, offering an indigenous solution to the challenges posed by sourcing external Photo Sensitizers and Laser machines. This poster highlights the indigenization efforts undertaken at PINSTEC by scientists and engineers of PAEC, focusing on the successful production of 5ALA Photo Sensitizer and Laser machines. Additionally, we present a case study showcasing the significant improvements observed in two young patients who underwent PDT, marking a remarkable advancement in the fight against Cutaneous Leishmaniasis.

Keywords: Photodynamic therapy (PDT)

M-21: In-hospital Outcomes of Acute ST segment elevation Myocardial infarction (STEMI) Patients Thrombolysed versus Late for thrombolysis.
Shahab Anwar. Northwest General Hospital and Research Center

Objective/Hypothesis: To determine the in-hospital outcomes of patients with acute STEMI thrombolysed versus late for thrombolysis **Study Design:** Descriptive case series **Materials and Methods:** A total of 224 patients were observed to determine the in-hospital outcomes of patients with acute STEMI thrombolysed versus late for thrombolysis. Consecutive non-probability sampling technique was used to collect data from the patients. **Results:** Age wise distribution was among 224 patients was analysed as n= 30-40 Years 61(27.2%), 41-50 Years 28(12.5%), 51-60 Years 85(37.9%), 61-70 Years 50(22.3%). The mean age was 56.95 years + 1.176 SD .Gender wise distribution among 224 patients were analysed as n= 136(60.7%) were male and 88(39.3%) were females. Below 18.5(Underweight) 64 (28.6%), 18.5– 24.9(Normal or Healthy Weight) 55(24.6%), 25.0 – 29.9(Overweight) 60 (26.8%), 30.0 and Above (Obese) 45(20.1%). Duration of Complaints among 224 patients were analysed as n= Less than or Equal to 12-24 Hours was 75(33.5%) and More than 24 Hours was 149(66.5%) Co morbidities among 224 patients were analysed as n= Diabetes Mellitus was 36(16.1%), Hypertension was 31(13.8%) Smoking History was 36(16.1%) Obesity was 42(18.8%) 9/30/23, 1:42 PM Axigen WebMail - Print Emails [https://mail.nwsm.edu.pk/ajax/print.hsp?_h=fc_aef27221ca2ba4c1dfed59db83fc5a&mails\[\]=681&fid\[\]=16778446_16778181](https://mail.nwsm.edu.pk/ajax/print.hsp?_h=fc_aef27221ca2ba4c1dfed59db83fc5a&mails[]=681&fid[]=16778446_16778181) 2/2 Dyslipidemia was 52 (23.2%), COPD was 27(12.1%). In-Hospital Outcomes among 224 patients were analysed as n= In- Hospital Mortality was 52(23.2%), left ventricular failure was 56(25.0%), Ventricular Septal Rupture was 56 (25.0%), Mitral Regurgitation was 60 (26.8%). **Conclusion/Recommendations:** Majority of STEMI patients were thrombolysed with streptokinase. Nearly one-fifth of patients did not receive any reperfusion therapy. There was inappropriately long symptom-onset to hospital

presentation as well as door-to-needle times. **Keywords:** Acute coronary syndrome, GRACE score, mortality, STEMI, streptokinase, thrombolytic therapy.

M-25: A rare entity of anterior suprapatellar fat pad impingement syndrome diagnosed on MRI: A case report.
Ayesha Amjad. Northwest general hospital and research centre.

Objective/Hypothesis: This highlights the pivotal role of imaging in the diagnostic workup of anterior knee pain. **Study Design:** Retrospective **Materials and Methods:** Computerized research of radiological cases for rarity of case. **Results:** The suprapatellar fat pad prevents friction of quadriceps tendon against femoral condyle [1]. In anterior suprapatellar (quadriceps) fat pad impingement syndrome, the cause is either a developmental anomaly or could be related to the anatomy of the extensor mechanism or it can be abnormal mechanics like repetitive microtrauma or overuse injury which results in mechanical impingement leading to oedema and enlargement of this tendon[1, 2]. MRI plays a pivotal role in the differentials of anterior knee pain. The fat pad appears oedematous, enlarged and has heterogeneous signals compared to subcutaneous fat. In addition, the oedematous fat pad protrudes posteriorly into the suprapatellar recess [3]. Mass effect may result in slightly increased joint fluid [4]. Size is an important aspect to consider when evaluating the suprapatellar fat pad, with the anteroposterior diameter being the most significant [2]. The normal thickness measures 6+/-2 mm in females and 7+/-2 mm in males [3]. We present case of a 40-year-old with intermittent left knee pain and swelling for two years with no significant past medical history. Clinical examination revealed restricted motion of the left knee with crepitus. He was provisionally diagnosed as having meniscal tear and underwent MRI which revealed anterior

suprapatellar fat pad to be oedematous, enlarged with an AP diameter of up to 11 mm and having convex borders. There was associated moderate joint effusion and exaggerated fluid in retro/suprapatellar regions and paracondylar regions. High signals on T2WI and STIR were noted within the quadriceps tendon at its insertion and anterior to patella. Overall findings confirmed anterior suprapatellar fat-pad impingement syndrome with associated joint effusion and quadriceps tendinopathy. The patient was conservatively managed with anti-inflammatories and physiotherapy.

Conclusion/Recommendations: Thus, it emphasizes the importance of considering MRI in young adults with acute knee pain.

Keywords: Anterior suprapatellar fat pad impingement syndrome, quadriceps tendinopathy, joint effusion, oedematous suprapatellar fat pad.

M-27: Unusual location and presentation of infratentorial oligodendroglioma: A case report.

Ayesha Amjad. Northwest general hospital and research Centre.

Objective/Hypothesis: This case report highlights rare location and presentation of oligodendroglioma. Study Design: Retrospective

Materials and Methods: Computerized research of radiological cases for rarity of case. **Results:** Oligodendrogliomas are rare intracranial neoplasms. They represent 4-7% of all primary intracranial gliomas [1,2]. About 90% of them are supratentorial among which most are in frontal lobes [3]. They are rarely seen in cerebellum [4, 5]. We present a rare case of infratentorial anaplastic oligodendroglioma appearing in the cerebellum. A 33-year-old man presented through OPD with right upper limb and bilateral lower limbs weakness causing gait abnormality. His past history was remarkable. He had presented two years ago with

complaints of headache, blurring of vision and diplopia for 20 days and at that time he underwent MRI brain with contrast which showed hydrocephalus with multiple supra and infra tentorial cystic lesions. The lesions were suspected to be of infective origin. VP shunt was passed for symptomatic relief. Patient lost follow up and presented now. Repeat MRI brain re-demonstrated multiple supra and infratentorial cystic lesions of variable sizes. This time possibility of high-grade glioma, metastasis or tuberculomas was given on the MRI findings. He underwent craniotomy and his histopathological examination showed anaplastic oligodendroglioma. He was further treated with radiotherapy.

Conclusion/Recommendations: Thus, it emphasizes the importance of considering oligodendroglioma even if presenting in unusual location.

Keywords: oligodendroglioma, anaplastic oligodendroglioma, cerebellar oligodendroglioma, infratentorial oligodendroglioma

M-28: Typical findings of large bowel obstruction on CT in a young adult by a rare aetiology: The rectal faecaloma: A case report.

Ayesha Amjad. Northwest general hospital and research Centre.

Objective/Hypothesis: This case highlights the need for consideration of unusual causes in young patients presenting with large bowel obstruction. Study Design: Retrospective

Materials and Methods: Computerized research of radiological cases for rarity of case. **Results:** Faecaloma means laminated mass of faeces accumulated in intestines, mostly seen in rectum or sigmoid colon [1-4]. Diagnosis is considered on CT when the focal faecal matter is equal or greater than the diameter of the intestine [5]. It is typically seen in bed bound or institutionalised elderly patients. We report a case of rectal faecaloma inducing large bowel

obstruction in a young adult. [6] A 27-year-old man was admitted in ER with abdominal pain, vomiting and constipation for the last 3 days. Laxatives were taken for constipation but there was no satisfactory relief of symptoms. On examination he was having signs of intestinal obstruction. He underwent CT abdomen and pelvis which revealed large non enhancing mass with mottled lucencies in the rectum and sigmoid colon in keeping with desiccated faecal matter. The rectal wall was thickened and enhancing with few prominent mesorectal nodes as well. Entire large bowel loops were significantly dilated, and fluid filled upto the faecaloma. These findings confirmed the diagnosis of rectal faecaloma leading to large bowel obstruction. The patient was conservatively managed with rectal evacuation which relieved his symptoms. **Conclusion/Recommendations:** Thus, it emphasizes the importance of considering rectal faecaloma even in young adults presenting with acute intestinal obstruction having history of constipation not relieved with symptomatic treatment. **Keywords:** Faecaloma, large bowel obstruction, young adults, rectal faecaloma.

M-29: A rare case of aortic coarctation leading to aneurysm of right subclavian artery branch presenting as haemothorax: A case report.

Ayesha Amjad. Northwest general hospital and research Centre.

Objective/Hypothesis: This highlights the need for consideration of unusual and fatal causes like aneurysmal leak in patients presenting with haemothorax. Study Design: Retrospective **Materials and Methods:** Computerized research of radiological cases for rarity of case. **Results:** Coarctation of the aorta, a congenital focal narrowing of the aortic lumen, accounts for 7% of all congenital heart diseases.[1] It is associated with fatal and rare complications such as aneurysms [2]. Rupture

of coarctation related aneurysm leading to extensive haemothorax is very rarely published [3]. Other non-serious anomalies such as bicuspid aortic valves, double aortic arches, left superior vena cava, pulmonary venous return anomalies, ventricular septal defects, and disturbances of cardiac rhythms are also seen with coarctation [4]. Rarely it is associated with Neurofibromatosis type 1 (NF-1) as well. Neurofibromatosis-1 vasculopathy can cause secondary hypertension and among its very uncommon causes is coarctation of thoracic aorta; and even if it occurs its mostly found in children [5, 6]. Here we report a case of subclavian artery aneurysm leading to extensive haemothorax, in a middle-aged diagnosed case of Neurofibromatosis-1, secondary to coarctation of the thoracic aorta. A 51-year-old unmarried woman was admitted with right sided stabbing chest pain for the last one day. It was accompanied with four syncopal episodes of five minutes duration. She was a diagnosed case of neurofibromatosis 1 and had secondary hypertension for last twenty years. On examination she had anaemia and respiratory failure. Her CXR showed right sided massive pleural effusion with contralateral midline shift. She underwent contrast enhanced CT chest which revealed coarctation of aorta after origin of left subclavian artery. Ascending aorta was dilated having maximum diameter of 3.9 cm as compared to the descending aorta which had a calibre of 1.6 cm. A bilobed aneurysm arising from a branch of right subclavian artery was also seen with extensive right haemothorax resulting in collapsed right lung and contralateral midline shift. **Conclusion/Recommendations:** Overall findings were consistent with a fatal complication of coarctation of thoracic aorta in a known case of neurofibromatosis 1. The patient was referred to vascular and cardiothoracic surgeons for further management. **Keywords:** Coarctation of thoracic aorta, dissection, bilobed aneurysm,

long term hypertension, neurofibromatosis 1, haemothorax, hemothorax.

M-30: Dosimetry of Lutetium-177 Dotatate for Neuroendocrine Tumors in IRNUM Peshawar.

Irfan Ullah. Institute of Radiotherapy and Nuclear Medicine.

Objective/Hypothesis: In this study, we have aimed to reflect on the dosimetry of indigenously produced Lu-177 Dotatate and its importance in planning and delivering effective, patient-tailored therapy to our patients at IRNUM. **Study Design:** Quantitative study design **Materials and Methods:** A total number of five patients were selected for this study. Among them, one patient has completed 4 cycles of Lu-177 Dotatate therapy, receiving a recommended cumulative dose of 800 mCi. Each dose of 200 mCi Lu-177 Dotatate was administered 8 weeks apart. Before therapy, all patients were imaged using ^{99m}Tc Hynic-Tate. After receiving a dose of 200 mCi Lu-177 Dotatate, various pre-therapy and post-therapy parameters were calculated for all patients using the SPECT/CT Gamma camera system to determine tumor volume and dose delivered to target organs (tumor site) and organs at risk (OARs) i.e. kidneys and bone marrow. In all cases, the doses of kidneys and bone marrow were found to be well below the tolerance doses of 40 Gy and 2 Gy respectively. For our patients, the optimized Lu-177 Dotatate activity as calculated from segmented volume from pre-therapy scan was found to be between 740 mCi to 800 mCi. **Results:** For our patients, it is too early to comment on overall survival, however, all five patients have shown effective disease control, improvement in their troubling symptoms, and quality of life. One patient with inoperable and advanced disease, who has completed 4 cycles of therapy has shown significant clinical improvement and symptomatic relief.

Conclusion/Recommendations: The

indigenously produced Lutetium-177 Dotatate therapy is found to be an effective adjuvant therapy for inoperable, advanced NETs, that with accurate dosimetry for each patient can help with disease control, improved quality of life and in turn shall help improve the progression-free survival of patients. **REFERENCES** 1. Hosono, Makoto, et al. "Manual on the proper use of lutetium-177-labeled somatostatin analogue (Lu-177-DOTATATE) injectable in radionuclide therapy." *Annals of nuclear medicine* 32 (2018): 217-235. 2. Bolch, Wesley E., et al. "MIRD pamphlet no. 21: a generalized schema for radiopharmaceutical dosimetry—standardization of nomenclature." *Journal of Nuclear Medicine* 50.3 (2009): 477-484. 3. Alnaimi, Meshari, et al. "Organs dosimetry in targeted radionuclide therapy." *Radiation Physics and Chemistry* 188 (2021): 109668. Driscoll, Brandon, et al. "Individualized dosimetry for Lu177 DOTATATE therapy—What difference does it make?." (2019): 630-630. 4. Dewaraja, Yuni, et al. "Multi SPECT/CTbased patient specific lesion and kidney dosimetry for verification of simpler approaches for treatment planning in Lu177 DOTATATE PRRT." (2019): 1626-1626. 5. Heikkonen, J., H. Mäenpää, and M. Tenhunen. "Methodological effects in kidney dosimetry in Lu 177 radionuclide therapy." (2013). 6. Jiménez-Franco, Luis David, et al. "Treatment planning algorithm for peptide receptor radionuclide therapy considering multiple tumor lesions and organs at risk." *Medical physics* 45.8 (2018): 3516-3523. 7. George, Siju C., and E. James Jebaseelan Samuel. "Developments in ¹⁷⁷Lu-based radiopharmaceutical therapy and dosimetry." *Frontiers in Chemistry* 11 (2023). **Keywords:** Lu-177 Dotatate, neuroendocrine tumors, segmented volume.

SURGERY ORAL PRESENTATIONS:

S-4 Retro sternal goiters: A new metric classification system for improved outcomes.
Hamid Mukhtar. Hayatabad Medical Complex Peshawar.

Objective/Hypothesis: To introduce a new metric classification system based on pre-operative CT scans in the management of retrosternal thyroid pathologies **Study Design:** Retrospective Study **Materials and Methods:** Our database of patient records was manually checked and patients were identified who underwent thyroidectomy in the specified time duration. The demographics, retrosternal extension of the thyroid gland, CT scan measurements and the number of sternotomies required were reviewed. All those patients who did not have a pre-operative CT scan were excluded from the study. The information was compiled and basic statistics were derived. **Results:** Out of a total of 511 thyroid surgeries, 41 patients were identified who had a retrosternal goiter (RSG) which was identified pre-operatively on a CT scan. Patient ages ranged from 30-73 years old (average 54.59). We classified the retrosternal goiters into three categories based on their length from the thoracic inlet and analyzed the association of each category with the need for a sternotomy. Grade 1 represented an RSG length of less than 3 cm (n= 15/41) from the thoracic inlet. Grade 2 measures from 3-6 cm (n= 21/41) and Grade 3 indicates RSG of greater than 6 cm (n=5/41). Our data showed that all the cases of Grade 1 RSG were managed through a conventional cervical approach (100% of patients). The majority of Grade 2 patients (66.6%) were managed through cervical approach, however, 33.3% required sternotomy. The percentage of

patients requiring sternotomy in Grade 3 was 60% **Conclusion/Recommendations:** Our new simpler retrosternal goiter classification system will be helpful in the pre-operative planning management of this difficult clinical presentation. We conclude that Grades 1 and 2 can be managed through a conventional cervical approach. For Grade 2 it is advised to inform the intra-thoracic surgeon in case his help is required. However, grade 3 may need the active involvement of an intra-thoracic surgeon. **Keywords:** Retro sternal Goiter Sternotomy Thyroidectomy

S-6: Frequency and outcome of postoperative atrial fibrillation following mitral valve replacement for mitral stenosis.
Tahir Iqbal. Northwest General Hospital and Research centre.

Objective/Hypothesis: To determine the frequency and outcome of postoperative atrial fibrillation in terms of in-hospital and 30-days mortality and morbidity aer mitral valve replacement. **Study Design:** Retrospective observational study **Materials and Methods:** Retrospective study of 186 patients with sinus rhythm undergoing mitral valve replacement for severe mitral stenosis at the Department of Cardiothoracic Surgery, NWGH & RC, Peshawar. The incidence of POAF within 07-days aer surgery and outcome in terms of in-hospital and 30-day mortality/morbidity were documented. **Results:** Results: The incidence of postoperative atrial fibrillation was 19.35% (n=36). Patients with POAF were male (p=0.02), diabetic (p=0.01), hypertensive (p=0.01), impaired LV function (p=0.00002), enlarged LA (p=0.002), pulmonary hypertension (p=0.007), previous PMBV (p<0.00001), and previous infective endocarditis (p<0.00001). In-hospital and 30-

day mortality was 6.9% and 8.60%, respectively. POAF patients had significantly high in-hospital mortality ($p=0.00006$), 30-day mortality ($p=0.00009$), prolonged ICU stay ($p<0.00001$), and prolonged hospital stay ($p=0.03$). Perioperative and 30-day stroke rates were 2.69% and 3.23%, respectively. Persistent atrial fibrillation was 22% and contributes to 30-day morbidity in the form of embolic stroke, limb ischemia and CHF. **Conclusion/Recommendations:** Conclusion: Postoperative atrial fibrillation is a common following MVR surgery and contributes to perioperative and 30-day morbidity and mortality. **Keywords:** Postoperative Atrial fibrillation Mitral stenosis Rheumatic Heart Disease Mitral valve replacement

S-10: Assessing the quality of orthopedics operation notes.

Wasim Khan. Northwest General Hospital and Research Center Peshawar.

Objective/Hypothesis: To analyze operation notes written for Orthopedics procedures carried out in department of orthopedics and trauma at Northwest General and Teaching Hospital Peshawar in accordance with Good Surgical Practice guidelines published by Royal College of Surgeons England. **Study Design:** Retrospective study **Materials and Methods:** Operation notes including both trauma and elective orthopedic surgeries carried out at the main operation theater of Northwest General Hospital and Teaching Hospital during August 2023 were assessed. A total of 63 operation notes were included in the assessment process. The notes were retrospectively audited by a single reviewer according to the Royal College of Surgeons of England Good Surgical Practice guidelines released in 2014. **Results:** During the audit, 63 operation notes were reviewed

including both elective and trauma cases. Out of 63 notes, 44 were typed and 19 were handwritten. There was 100% compliance with date and time documentation, operative procedure, post-operative instructions, and signature. 95% and 87% of operation notes include the anesthetist's name and operative diagnosis respectively. Poor compliances were observed in the documentation of assistant name (70%), Closure technique (64%), Incision details (50%), anticipated blood loss (40%), tissue details (11%), and prosthesis details (8%). All operation notes missed details about elective/emergency surgery (0%), surgical complications (0%), extra procedures (0%), antibiotic prophylaxis, and DVT prophylaxis. **Conclusion/Recommendations:** Our study concluded that most areas of operation notes need strict compliance to meet the standard. Typed notes were better as compared to handwritten notes due to poor handwriting. So, a computerized proforma for writing notes has been proposed. **Keywords:** Orthopedics, operation notes, audit, compliance.

S-11 The Effectiveness of Bogota Bag Application in Patients with Advanced Severe Peritonitis.

Javeria Bibi. Burn and plastic surgery center.

Objective/Hypothesis: The use of a Bogota bag to close an open abdominal wound proved successful in avoiding complications associated with open wounds or the ones that were closed under tension. **Study Design:** Randomized Control Study **Materials and Methods:** With approval from the institution's research committee and ethical board, this randomized control study was carried out at the Khyber Medical Hospital in Peshawar, Pakistan, from March 2020 to October 2022. Through non-probability sequential sampling, information on 100 patients from diverse age groups and both

genders was acquired. In the study, patients who underwent decompressive laparotomy, had Bogota bags placed, were admitted for a variety of surgical abdominal problems, and were later found to have severe peritonitis or to be at high risk of acquiring it during surgery. Patients who underwent surgery ranged in age from 16 to 87, and their informed consent was taken into consideration. Patients with incomplete arrival, operation, post-operative recovery, or daily progress report data in their records were omitted. The discharge information and charts of these patients, which were acquired from the record department, were used to identify patients who underwent Bogota Bag placement throughout the study period. The patients were divided into two groups, A and B, and group A was compared with group B, which includes patients who underwent Bogota bag application via nonabsorbable polypropylene 1 suture. Group A was compared with Group B which included patients who underwent the standard procedure of closure of all the abdominal layers in reverse order. Absorbable suture polyglycolic acid 1 suture was used to close the linea alba and non-absorbable polypropylene 2/0 suture was used to close the skin. Variables such as peritonitis-causing factors, rationale for employing a Bogota bag, and morbidities and mortality connected to or unconnected with the use of a Bogota bag were studied. Data was analyzed using IBM SPSS 25. Numerical variables are presented as Mean and standard deviation. For categorical data frequencies and percentages were used. Numerical outcomes were assessed between both groups using the Independent Samples T-test keeping a P value < 0.05 while the categorical outcome was assessed using the Chi-Square test keeping a p-value of <0.05. **Results:** This study was conducted on 100 patients divided in two groups. Group A patients went through abdominal closure technique while group B

patients had Bogota application technique. The mean age in group A was 39.76 ± 18.72 years while the mean age in group B was 40.44 ± 18.48 years. Regarding gender distribution there were 33 (66%) male patients in group A while 31 (62%) male patients in group B, there were 17 (34%) female patients in group A while there were 19 (38%) female patients in group B. In comparison to group A, the mean hospital stay in group B was considerably shorter. The mean hospital stay in group B was 6.40 ± 3.24 days while in group A the mean hospital stay was 8.84 ± 3.64 days ($P = 0.001$). Regarding the comparison between mortality between both groups we found that the mortality rate in group B was significantly lower than group A, the mortality rate in group B was 3 (6%) while 11 (22%) in group A ($P = 0.02$). Complications were significantly lower in group B as compared to group A, in group A 18 (36%) patients had no complications while 34 (68%) patients in group B had no complications. Infection was seen in 17 (34%) patients in group A while 6 (12%) in group B and fistula was developed in 15 (30%) patients in group A while 10 (20%) patients in group B. **Conclusion/Recommendations:** From our study we conclude that Bogota bag application is an effective technique for patients with severe peritonitis in terms of hospital stay, mortality and complications as compared to abdominal closure technique. **Keywords:** Bogota bag, open abdominal wound, advance severe peritonitis, closure technique.

S-13 Adverse Events and Complications Following Circumcision: A Focus on Penile Injuries.

Naveed Kamal. Northwest General Hospital and Research Center.

Objective/Hypothesis: This study is aimed to share the complication profile of circumcision with special focus on penile injuries at our Plastic Surgery Unit. **Study Design:** A retrospective descriptive study was carried out from 1st April 2019 to 30 June 2023 at Department of Buns, Plastic and Reconstructive Surgery, Northwest General Hospital and Research Center, Peshawar, Pakistan. **Materials and Methods:** A retrospective descriptive study was carried out from 1st April 2019 to 30 June 2023 at Department of Buns, Plastic and Reconstructive Surgery, Northwest General Hospital and Research Center, Peshawar, Pakistan. All male patients admitted with diagnosis of post circumcision complication were included in the study. Case by case findings were analyzed and patients with circumcision complications were included in the study. **Results:** A total of 95 patients presented to the department of Plastic Surgery with post circumcision complications. The mean age was 2.187 ± 1.6005 , ranging from 15 days to 9 years. Patients younger than five years were 91(95.8%) and 5 years and above were 4(4.2%). 63(66.3%) of patients presented early after developing circumcision injury while 32(33.7%) patients presented late. Out of the total, 48(50.5%) patients had medical record available while 47(49.5%) had no available record at the time of presentation to the hospital for admission. Regarding surgical procedure, doctors/specialist operated on 53(55.8%) of the patients while non-doctors/ quack carried out circumcision of 43(44.2%) patients. In terms of surgical procedure types, 45(47.4%) of patients were circumcised through traditional method including bone cutter, 15(15.8%) were circumcised using Gomco clamp, 24(25.3%) were done with Plastibell device, 7(7.4%) of the patients were operated by open technique and 4(4.2%) were with other methods.

Conclusion/Recommendations: Circumcision demands the highest level of attention and should only be carried out by authorized surgeons within strictly sterile hospital conditions. Additionally, measures should be taken by the health authorities to create awareness in general public to avoid such procedures by quacks and non-trained doctors. **Keywords:** Circumcision complications, Penile Injuries, Urethral Fistula, Penile Amputation.

S-14 Diagnostic yield of staging laparoscopy in gastric and gastro-oesophageal junctional (GOJ/GEJ) tumors in SKMCH & RC Peshawar KPK Pakistan.
Abdul Haleem. SKMCH & RC Peshawar.

Objective/Hypothesis: Primary outcome is to determine the diagnostic yield SL in peritoneal metastasis of patients with gastric and GOJ cancers. Secondary outcomes include variables like age, sex, stage of disease, operating time, length of stay and postoperative complications. **Study Design:** Retrospective Cohort **Materials and Methods:** We have retrospectively analyzed the data of 60 adult patients diagnosed with gastric and GOJ cancers with no evidence of metastasis on imaging, who underwent SL during one year time. Metastatic disease was considered provided positive histology or fluid cytology. **Results:** Out of total 60 patients; 23 had peritoneal metastasis (38.33%). Biopsy was taken from 24 patients, 13 (21.7%) came positive for metastasis. Further; 10 (16.7%) were positive on fluid cytology. 14 (23.3%) had omentoperitoneal disease, 17(28.33%) had serosal disease and 11(18.33%) had locally advanced disease. Mean total time for the staging laparoscopy was 47.7 minutes All patients operated as a day case. Procedure related complications were 5%, wound infection, urinary retention, and intra operative

PEG tube dislodgement.

Conclusion/Recommendations: In our population, there is a high incidence of positive outcome of staging laparoscopy for metastatic disease, which could be due to locally advanced disease and delayed presentation of patients due to lack of resources. **Keywords:** Staging laparoscopy GOJ/GEJ Fluid cytology Histopathology.

S-16: Micronutrient levels in patients following Bariatric Surgery, an experience from a developing country.

Izaz Ullah. Khyber Teaching Hospital.

Objective/Hypothesis: To assess micronutrient status in patients who underwent bariatric surgery and compare the difference in postoperative nutritional complications between Sleeve Gastrectomy (SG) and Roux-en-Y gastric bypass (RYGB). **Study Design:** Case Series Graphic attachments (i.e. tables, illustrations and pictures): **Materials and Methods:** This single center retrospective evaluation included 40 patients who underwent bariatric surgery: 20 each for SG and RYGB. BMI, serum iron, serum calcium, vitamin B12 and 25-OH-vitamin D were measured at 6 months post-op and retrospectively compared with preoperative levels. Deficiencies were defined as follows: Vitamin B12 <197pg/ml, 25-OH-vitamin D <50 nmol/L and for Iron, ferritin levels <15 ng/mL. Data analysis was done using paired samples-t-test and Wilcoxon signed-rank test for non-parametric variables. Student's-t-test and Mann Whitney U were also used to compare the two procedures. A p value of less than 0.05 was considered to be significant. Patients with deficiencies were prescribed supplementations accordingly and counseled by nutritionists for dietary modifications. **Results:** The mean Excess

Weight Loss (EWL) for SG was $28 \pm 12.6\%$ and $39.4 \pm 10.6\%$ for RYGB ($P=0.004$). The incidence of total micronutrient deficiencies increased following bariatric surgery ($N=42$ preoperatively vs $N=61$ postoperatively). Bariatric surgery was associated with vitamin D (62.5% preoperative vs. 85% postoperative, $P=0.012$) and Iron (42.5% vs. 57.5% , $P<0.001$) deficiencies. A higher incidence of anemia was reported in RYGB patients as compared to SG (50% vs. 20% , $P=0.047$). In addition, both hemoglobin (12.0 ± 0.8 for RYGB vs. 13.5 ± 1.3 for SG, $P<0.001$) and calcium levels (8.5 ± 0.6 for RYGB vs. 8.8 ± 0.4 for SG, $P=0.030$) were lower in patients who underwent RYGB. Furthermore, in comparison to SG, RYGB patients had lower postoperative levels of Vitamin B12 (415 ± 185.4 for RYGB vs. 564.7 ± 192.8 for SG, $P=0.017$) and interestingly, B12 levels increased in patients who underwent SG (499.0 ± 170.4 preoperative vs. 564.7 ± 192.8 postoperative, $P=0.04$).

Conclusion/Recommendations: This study demonstrates the grave issue of micronutrient deficiencies after bariatric surgeries and the need to tackle them accordingly with appropriate supplements. The high incidence of preoperative deficiencies augment the need to screen bariatric surgery candidates for micronutrient deficiencies. Furthermore, SG may be associated with improved B12 levels and decreased incidence of anemia postoperatively whereas RYGB may have better weight loss outcomes. **Keywords:** Obesity, Bariatric surgery, Postoperative nutritional complications.

S-21: Time for Acculturation: Day-Of-Surgery Admission (DOSA) In Elective Colorectal Surgery at SKMCH Peshawar.

Irfan Ul Islam Nasir. SKMCH & RC Peshawar

Objective/Hypothesis: A same day admission approach was established for colorectal patients undergoing elective surgery owing to an increase in demand for bed availability and the need for medical and logistical issues in these economically challenging times to improve hospital resource utilization and streamline surgical service provision without adversely acting the clinical outcomes. **Study Design:** Prospective study **Materials and Methods:** We defined DOSA pathway and designed an inclusion and exclusion criteria. All the patients undergoing emergency surgery, language barrier, unable to understand DOSA instructions and those who needed medical optimization were excluded. We analyzed one-year data for patients undergoing elective colorectal surgery. Data was collected in an Excel spreadsheet. **Results:** We audited the data of 286 patients meeting the inclusion criteria and operated over a period of 1-year. We divided the study into three phases. The retrospective analysis of pre implementation phase of DOSA approach comprised of 73% of the patients with pre-operative admission and 27% as day of surgery admissions, furthermore in the second phase pilot study was conducted where patients were divided into two groups .one group followed the DOSA approach (72%) and the second group transitioned into DOSA (31%) over a period of time. Once DOSA approach was found effective it was implemented on all elective colorectal patients. prospective analysis of post implementation phase was carried out with 88.5% of the patients being operated as day of surgery admission. **Conclusion/Recommendations:** This study showed that same day admission approach should be implemented in patients undergoing elective colorectal procedures to reduce hospital bed demand. There was no increase in preoperative, intraoperative, or postoperative

complications in the same-day admission patients. Same-day admission was safe and cost-effective and could be carried out as a routine admission for elective colorectal surgery patients meeting the DOSA criteria. **Keywords:** Day of surgery admission, colorectal surgery, carcinoma

S-22: Laparoscopic Gastrectomy Trends and Outcomes: A 12-Month Analysis of Surgical Practice at Shaukat Khanum Memorial Cancer Hospital And Research Center, Peshawar.

Haider Abid. Shaukat khanum memorial cancer hospital and research center Peshawar

Objective/Hypothesis: The objective of this study is to retrospectively assess the effectiveness and safety of laparoscopic gastrectomy for gastric cancer in terms of Positive resection margins along with 30- and 90-days mortality. **Study Design:** Retrospective Descriptive Cross-Sectional Study **Materials and Methods:** Between August 2022 and September 2023, a total of 24 consecutive patients with junctional, proximal and distal gastric cancer who underwent laparoscopic gastrectomy that was performed by a single surgical team. All patients were discussed in a multidisciplinary tumor board. Moreover, informed consent was taken and their clinicopathological characteristics and surgical outcomes were assessed using SPSS. **Results:** In our study, a total of 24 patients were included, with 17 (71%) undergoing total gastrectomy and 7 (21%) undergoing distal gastrectomy. The average surgical procedure time for these patients was 355 minutes. During the surgeries, the mean blood loss was 178 milliliters. Following the surgical procedures, patients stayed in the hospital for an average of

6 days. Resection margins were positive in 12.5% of cases, and wound infections occurred in 4.1% of patients. Importantly, there were no instances of mortality at either the 30-day or 90-day mark. Despite thorough staging investigations, 2(8.3%) patients were deemed irresectable. On average, we obtained 15 lymph nodes during the procedures.

Conclusion/Recommendations: In conclusion, Laparoscopic gastrectomy for gastric cancer was found to be feasible and safe from surgical and oncological perspectives. However, this study is limited by its small sample size. **Keywords:** Laproscopic gastrectomy, resection margin, minimal invasive surgery

S-23 Outcomes for esophageal cancer following Minimally invasive esophagostomy: Shaukat Khanum Memorial Cancer Hospital Peshawar experience.
Zubair Shabbir Khanzada, Shaukat khanum memorial cancer hospital and research center Peshawar

Objective/Hypothesis: We herein reported our first-year experience in consecutive patients who underwent the Minimally Invasive Esophagectomy for esophageal cancer, and evaluated perioperative outcomes and survival. **Study Design:** Retrospective Descriptive Cross-Sectional Study **Materials and Methods:** A total of 19 patients underwent Minimally Invasive Esophagectomy from August 2022 to September 2023 at Shaukat Khanum Memorial cancer Hospital and Research Center Peshawar. Patient demographics and perioperative outcomes were collected and assessed, Furthermore, 30- and 90-days mortality was determined. **Results:** In our study, 16 (84%) patients underwent a 2-

stage minimally invasive Ivor-Lewis esophagectomy, while 3(16%) patients underwent a 3-stage McKeown esophagectomy. The mean operative time for these procedures was 420 minutes. Regarding patients ASA status, all individuals fell into one of two categories: 36% were classified as ASA grade 3, while the remaining 64% were categorized as ASA grade 2. In terms of surgical complications, 89% of patients experienced grade 1 complications according to the Clavien-Dindo classification, while the remaining 11% had grade 2 complications. The average length of hospital stay for all patients was 6.16 days. Importantly, all resected margins were found to be free of tumor both distally and proximally. Among the 19 patients, 18 (94%) were diagnosed with T3 stage disease, and one (6%) patient had T2 disease. The mean lymph node yield during the procedures was 18.

Conclusion/Recommendations: Minimally invasive techniques in esophageal cancer can be safely and effectively employed, yielding satisfactory perioperative and oncological outcomes. **Keywords:** Minimally invasive esophagectomy, lymph node yield, surgical outcomes

S-27 Outcome of the Traumatic Extradural Hematoma on the Basis of Size of Extradural Hematoma. Mustafa Qazi, Reshad. NWGH.

Objective/Hypothesis: This study aimed to determine the outcome of traumatic extradural hematoma and to compare the outcome of small and large size extradural hematoma. **Study Design:** A descriptive case series was carried out in the Department of Neurosurgery, Hayatabad Medical Complex Peshawar for six months and included 188 patients. The detailed history and clinical examinations were noted through a pre-designed proforma. Patients were

followed post-operatively till the time of discharge and for either favorable outcome or unfavorable outcome according to the GOS. **Materials and Methods:** A descriptive case series was carried out in the Department of Neurosurgery, Hayatabad Medical Complex Peshawar for six months and included 188 patients. The detailed history and clinical examinations were noted through a pre-designed proforma. Patients were followed post-operatively till the time of discharge and for either favorable outcome or unfavorable outcome according to the GOS. **Results:** 73% of patients had extradural hematoma volume between 25–50 mL, while 27% patients had extradural hematoma > 50 mL. 12% of patients had Glasgow Outcome Score (GOS) scores 1–3, while 88% of patients had GOS scores: 4–5. The mean GOS was 3. Patients with favorable outcomes were 88% while 12% had an unfavorable outcome.

Conclusion/Recommendations: The size of the extradural hematoma has a strong correlation with outcome. The greater the size of the hematoma, the poorer the outcome.

Keywords: hematoma, extradural, neuro.

S-28 Outcome of Topical Epidural Methylprednisolone Versus Control in Lumbar Disc Surgery Patients. Mustafa Qazi, Shiza. Nwgh.

Objective/Hypothesis: The use of topical intraoperative methylprednisolone in lumbar disc surgery leads to significant improvement in pain relief and early resumption of daily life activities. The study determined the outcome of topical epidural methylprednisolone. **Study Design:** Experimental **Materials and Methods:** 60 patients included with diagnosed cases of the herniated lumbar disc with ASA

Grade 2 and below. Group A was for patients who had to receive topical methylprednisolone while group B was the control group where no topical methylprednisolone had been used. The outcome was measured from OLBI and VAS scores. **Results:** In Group A, the mean hospital stay was 2 days, mean OLBI score was 35%, mean VAS score was 3, mean time to resumption of ADL was 7 days, mean dose of paracetamol (per day) was 3 mg, mean dose of Ketorolac (per day) was 90mg. Whereas Group B, mean hospital stay was 3 days, mean OLBI score was 45%, mean VAS score was 5, mean time to resumption of ADL was 10 days, mean dose of paracetamol (per day) was 4 mg, mean dose of Ketorolac (per day) was 100 mg. In Group A, 91% of patients had a favorable outcome and 9% of patients had an unfavorable outcome. Whereas in Group B, 83% of patients had a favorable outcome and 15% of patients had an unfavorable outcome. There existed insignificant results in outcomes concerning diabetic/non-diabetic, and hypertension/non-hypertension

Conclusion/Recommendations: The use of topical intraoperative methylprednisolone in lumbar disc surgery leads to significant improvement in pain relief and early resumption of daily life activities as compared to without the use of topical methylprednisolone. **Keywords:** lumbar disc, surgery, methylprednisolone

SURGERY POSTER PRESENTATIONS

S-1: Incidence of Epilepsy and Drug Dependence in Patients with Post-Traumatic Contusions Managed Conservatively: A Prospective Observational Study.
Sohail Amir. Hayatabad Medical Complex Peshawar.

Objective/Hypothesis: The objective of this study was to determine the true incidence of epilepsy and drug dependence in patients with post-traumatic contusions managed conservatively.

Study Design: prospective Observational study
Materials and Methods: This prospective observational study was conducted at the Hayatabad Medical complex, Peshawar. A total of 90 patients aged 15-65 years, diagnosed with cerebral contusions and managed conservatively, were enrolled from July 2020 to December 2020. The patients were followed-up for a period of 12-18 months

Results: Among the enrolled patients, 23% developed early post-traumatic seizures (PTS) and 11% developed late post-traumatic seizures with mild to moderate brain injury. Of the patients with early PTS, 6% used antiepileptic drugs (AEDs) for at least three months during the follow-up period, while 7% of patients with late PTS used AEDs. Additionally, 8% of patients developed late PTS without any early PTS. The study findings indicated that only 3% of patients with early and late PTS actually required AEDs for at least 6 months. However, 44% of the population were using AEDs as supplementary measure to prevent seizures. This non-judicious use of AEDs is common in our country, leading to an increased risk of drug resistance and imposing a financial burden on poor patients in developing countries. Furthermore, prophylactic and excessive use of anti-epileptic drugs does not affect the occurrence of post-traumatic epilepsy (PTE).

Conclusion/Recommendations: The

incidence of early and late post-traumatic seizures observed in our study is comparable to that reported in other studies. The non-judicious use of anti-epileptic drugs is prevalent in our country, which increases the risk of drug resistance and poses financial challenges for economically disadvantaged patients in developing countries. Prophylactic and excessive use of AEDs does not have a significant impact on preventing post-traumatic epilepsy. **Keywords:** Post-Traumatic Epilepsy (PTE), Anti-Epileptic Drugs (AEDs), Post-Traumatic Contusions (PTC), Post-Traumatic Seizures (PTS), Traumatic Brain Injury (TBI), Computed Tomography (CT)

S-2: Anterior Cervical Discectomy and Fusion Surgery: Results with Zero-Profile Spacer/Cage.
Sohail Amir. Hayatabad Medical Complex, Peshawar.

Objective/Hypothesis: This study will give a proof to support the benefit of applying zero-profile cage in anterior cervical discectomy and fusion surgery in a single level. **Study Design:** Retrospective Observational study
Materials and Methods: A retrospective study of 26 patients with cervical disc disease treated with a zero-profile cage was designed and followed up for an average of 12 months in descriptive research. For arm and neck pain, the Neck Disability Index (NDI) and Visual analogue scale (VAS) scores were used to assess function. Nurick's myelopathy classification scheme based on gait impairments was also documented. **Results:** The average age of the 26 patients was 48.96 13.13 years (mean SD), with 44 percent of the patients falling into the 40–60-year age bracket. The male/female gender distribution was 21 (84%) 4 (16%) male/female. Radiculomyelopathic symptoms were detected in 11 (28%) of the patients, with radicular pain occurring bilaterally in seven (28%) of the patients and on the left side in four

(16%). At six months and one year, a radiological examination effusion was performed. The fusion had a success rate of 95 percent at six months (19 patients) and 100 percent at one year. **Conclusion/Recommendations:** A zero-profile device provides biomechanical stability and fusion rates with excellent outcomes for one- and two-level ACDFs. Advantages include low rates of dysphagia, decreased operative time, restoration of cervical lordosis and disc height, and lack of cage subsidence or screw back out. **Keywords:** Anterior Cervical Discectomy and Fusion (ACDF), Zero-Profile Cages, Cervical Spondylotic Myelopathy

S-5: Spindle cell lipoma, a rare entity in the larynx.

Hamid Mukhtar, Northwest General Hospital Peshawar

Objective/Hypothesis: To report a very rare case of spindle cell lipoma in the larynx and highlight that spindle cell lipoma may be cured by complete surgical excision. **Study Design:** Case report and literature review **Materials and Methods:** Case report and literature review **Results:** A 71 year-old female patient presented to the otorhinolaryngology outpatient department with complaints of occasional irritation and a foreign body sensation in the throat while swallowing since the last three years. She underwent a surgical procedure 20 years back for the exact same complaint and remained completely asymptomatic till three years back. On examination, the corresponding author visualized an abnormal mass arising from the aryepiglottic folds of the larynx through fiber-optic laryngoscopy. An excisional biopsy was performed through micro-laryngoscopy. Histopathological reports confirmed it as spindle cell lipoma. The patients' symptoms have subsequently improved and is currently doing well. **Conclusion/Recommendations:** Spindle cell lipoma very rarely occurs in the larynx and can

be cured by complete excision. **Keywords:** Spindle Cell lipoma Larynx Endoscopy.

S-7: Frequency of Acute Kidney Injury after On-Pump Coronary Artery Bypass Grafting Surgery.

Tahir Iqbal, Northwest General Hospital Peshawar

Objective/Hypothesis: The objective of the study was to find out the frequency of acute kidney injury after on-pump coronary artery bypass grafting surgery (on-pump CABG). **Study Design:** Descriptive Case Series **Materials and Methods:** The study was conducted at Department of Cardiothoracic surgery NWGH & RC for a period of 06 months. Total of 116 patients were observed to find out the frequency of Acute Kidney Injury after On-pump Coronary Artery Bypass Grafting Surgery (on-pump CABG). Sampling technique was non-probability consecutive sampling.

Results: There were 19 (16.45%) patients out of 116 showed AKI according to KDIGO criteria after on-pump CABG surgery. Male patients were 47.4% (n = 55) and Female 52.6% (n = 61). Mean age was 54.56 years \pm 6.495SD. Age group of 40-45 years showed high AKI i.e. 28 (24.1%). Mean peak-value sCr was 1.16mg/dL \pm 0.246 SD. 18.1% (n = 21) patients were obese. Controlled diabetics and non-diabetics were 34.5% (n = 40) and 65.5% (n = 76) respectively. Similarly, 29.3% (n = 34) and 70.7% (n = 82) were controlled hypertensive and non-hypertensive respectively. Female gender developed AKI more than male (73.7% vs 26.3%; P value < 0.04). The distribution of AKI among obesity, diabetes and hypertension showed a significant higher incidence of AKI (47.6%, 37.5% and 32.4% respectively) among these patients. **Conclusion/Recommendations:** Our study revealed that AKI was present in 16.4% patients after on-pump coronary artery bypass grafting

surgery. AKI was more common in female gender, older age group and patients having obesity, diabetes and hypertension. **Keywords:** Acute Kidney Injury, On-pump Coronary Artery Bypass Grafting Surgery (On-Pump CABG). KDIGO criteria

S-8: Frequency of common extra hepatic biliary tract and vascular anomalies in patients undergoing laparoscopic cholecystectomy.

Muhammad Bilawal Khan. Hayatabad Medical Complex, Peshawar

Objective/Hypothesis: To determine the frequency of common extra hepatic biliary tract and vascular anomalies in patients undergoing laparoscopic cholecystectomy **Study Design:** Cross sectional study. **Materials and Methods:** A total of 65 patients of both gender with cholelithiasis on ultrasound were included in the study. All patients who meet inclusion criteria were assessed in detail by taking proper history, clinical examination and routine investigation. History was taken regarding age, gender, diabetes mellitus, and hypertension. Height and weight was measured and BMI calculated. In Laparoscopic cholecystectomy, attention was given to anomalies. Under general anesthesia all the surgeries were performed by the same surgeon and using the same technique of critical view of safety for laparoscopic cholecystectomy. **Results:** Age range in this study was from 18 to 50 years with mean age of 40.107 ± 3.95 years, mean weight 82.153 ± 5.34 Kg, mean height 1.620 ± 0.07 meters and mean BMI was 31.528 ± 3.76 . Female gender was dominant with 64.6% patients. Long cystic duct was seen in 7.7% patients, Short cystic duct 9.2%, Duct of Luschka 3.1%, Moynihan hump anomaly 3.1% and Accessory cystic artery was 1.5%. **Conclusion/Recommendations:** Abnormal anatomy of extra-hepatic biliary tract was found to be 24.6%. The most common abnormality was short cystic duct. Therefore one must be

careful as variations are there in the anatomy that if are not tackled well, could result in morbidity and even mortality. **Keywords:** Laparoscopic cholecystectomy, extra hepatic biliary tract, vascular anomalies

S-12: Synchronous Cervical Plexus Schwannoma: Experience of a Rare Presentation and literature Review.

Hamza Shahid. Northwest General Hospital Peshawar

Objective/Hypothesis: To report a rare presentation of Synchronous Cervical Schwannoma which to our knowledge has not been reported in literature with literature review. **Study Design:** Case report and literature review. **Materials and Methods:** Case report and literature review. **Results:** Individual case report **Conclusion/Recommendations:** Synchronous Schwannomas of Cervical plexus is a very rare presentation that has not been previously reported in literature. Surgical excision remains the main stream treatment of management of such tumors. **Keywords:** Synchronous Schwannomas of Cervical plexus Intracapsular nucleation

S-15: Fertility Restoration After Bariatric Surgery, A Case Series Conducted On Post Bariatric surgery Patient Operated In Khyber Teaching Hospital Peshawar.
Ziaullah. Khyber Teaching Hospital

Objective/Hypothesis: To describe the clinical characteristics of women who undergo bariatric surgery for obesity. To assess the impact of bariatric surgery on fertility outcomes in women **Study Design:** Case Series **Materials and Methods:** This s was a case series, conducted on post bariatric surgery patients whom underwent bariatric surgery for reason of

primary infertility from May 2017 to Jun 2022, in department of General Surgery, Khyber Teaching Hospital, Peshawar. The medical records of 23 eligible participants was reviewed to collect demographic and clinical information, including age, gender, ethnicity, education level, occupation, income, type of bariatric surgery, time since bariatric surgery, weight and height before and after bariatric surgery, comorbidities, medications. A structured questionnaire was used to collect information on post-surgery fertility and reproductive health, including current attempts to conceive, length of time trying to conceive, number of pregnancies, history of miscarriage or ectopic pregnancy, history of abortion, other pregnancy related complications and any fertility testing. Descriptive statistics were used to summarize the demographic and clinical characteristics of the study population. Qualitative data on association between bariatric surgery and fertility restoration will be analyzed thematically. **Results:** The participants' ages ranged from 25 to 38 years, with a mean of 29.70 years (SD = 3.522). The preoperative BMI (Body Mass Index) ranged from 35.29 to 73.60 kg/m², with a mean of 50.3448 kg/m² (SD = 9.10591). The time since surgery ranged from 21 to 37 months, with a mean of 29.96 months (SD = 4.866). Regarding the surgical procedures, 14 participants (60.9%) underwent sleeve gastrectomy, while 9 participants (39.1%) underwent gastric bypass. The most common comorbidity was polycystic ovarian syndrome, (5 participants, 21.7%), followed by diabetes mellitus and hypertension (3 participants each, 13.0%), depression and hypothyroidism (2 participants each, 8.7%), and endometriosis and fibroids (1 participant each, 4.3%), no comorbid, were found in 6 (26.1%) participants. Normal pregnancy was reported by 12 participants (52.1%), while 4 participants (17.3%) experienced miscarriages. 6 participants (26.6%) reported infertility, and one participant (4.3%) had an ectopic pregnancy. Among pregnant women various

pregnancy-related complications were following. Hyperemesis gravidarum was reported by 73.9% of participants, while preeclampsia was reported by 13.0%. Gestational diabetes mellitus (GDM) was reported by 39.1% of participants, and anemia was present in 60.9% of participants. **Conclusion/Recommendations:** This case series provides compelling evidence of the positive impact of bariatric surgery on fertility restoration. This series includes 23 patients who underwent bariatric surgery for primary infertility. 17 out of 23 patients successfully conceived after bariatric surgery. These findings are suggestive of crucial role of weightless surgery in individuals struggling with obesity related infertility. The significant increase in conception rates observed in this study highlight the potential benefits of weight loss achieved through bariatric surgery. **Keywords:** Obesity, Infertility, Bariatric surgery,

S-17: Laparoscopic Versus Open Pancreatico-duodenectomy For Pancreatic Tumors: A comparison Of Outcome Profiles.
Ziaullah. Khyber Teaching Hospital, Peshawar.

Objective/Hypothesis: To determine the outcome profile of patients undergoing Pancreatico-duodenectomy in a developing country. **Study Design:** Cross-sectional. **Materials and Methods:** This was a retrospective study, conducted in Khyber Teaching Hospital, Peshawar. Patients of either sex, aged 50–70 years, with a diagnosis of resectable periampullary (distal cholangiocarcinoma, or duodenal, ampullary or pancreatic head) cancer were eligible. Data was collected through proforma specifically designed for this study. Data analysis was done using SPSS version 25. Quantitative variables was presented as mean and standard deviation. Qualitative variables were presented as

frequency and percentages. The study was approved from IREB Khyber Medical College. **Results:** In this study, we conducted a comparative analysis of 24 patients who underwent Pancreatico-duodenectomy, with 12 patients in the Laparoscopic Pancreatico-duodenectomy (LPD) group and 12 patients in the Open Pancreatico-duodenectomy (OPD) group. Among them, 70.8% (n=17) were male, and 29.2% (n=7) were female. All study participants were in the age group of 50 to 70 years. The conversion rate of Laparoscopic Pancreatico-duodenectomy was 8.3% (n=1). Intraoperative blood loss and the need for transfusion were lower in the LPD group compared to the OPD group, while the operative time was significantly shorter for OPD. The length of hospital stay was shorter, and postoperative recovery was better for LPD compared to OPD. However, postoperative complications were comparable in both groups. **Conclusion/Recommendations:** Despite the shorter operative time for OPD, the overall benefits of LPD make it a promising approach for eligible patients. However, careful patient selection and surgeon expertise are crucial to mitigate the need for conversion to open surgery during LPD. Importantly, postoperative complication rates were similar between the two groups, emphasizing the importance of weighing the benefits and potential risks when choosing the surgical approach for Pancreatico-duodenectomy. Further studies with larger sample sizes and longer follow-up periods are warranted to validate these findings and guide clinical decision-making. **Keywords:** Malignancy, Periampullary Carcinoma, Pancreatico-duodenectomy.

S-18: Institutional Based Frequency of Different Types of Neoplasia of Female Genital Tract. Ziaullah. Khyber Teaching Hospital Peshawar

Objective/Hypothesis: • To find out the frequency of different types of neoplasia of

female genital tract. • To correlate age with type of neoplasia of female genital tract • To find out the geographical distribution of neoplasia of female genital tract **Study Design:** Retrospective chart review **Materials and Methods:** This is a retrospective study to determine frequencies of different gynecological neoplasia from 1st Jan. 2014 to 31 Dec. 2018. The data was collected through Histopathological records of pathology lab of PMC and NWH. All relevant data was recorded and analyzed using the SPSS 19.0 software package. P-values for different variables were calculated using the Chi Square. P-value equal to or less than 0.05 was considered significant. **Results:** A total of 1039 female patient cases of all age groups were included in this study. Uterus was the commonest organ affected (83.6%) followed by ovary (8.9%). While fallopian tube was the least affected organ. Among the benign neoplasia leiomyoma was the commonest lesion followed by endometrial polyp. Endometrial carcinoma was the commonest among malignant neoplasms. There were 948 benign cases and 91 were malignant. The incidence of neoplasia was highest among the age group of 41 to 50 and lowest among 20 and younger. We received more cases from Peshawar (33%). In which benign cases were 90.7% and malignant were 9.3%. The highest numbers of malignant cases were from Kabul 23.4% followed by Dir upper 13.3%. **Conclusion/Recommendations:** It is concluded that leiomyoma was the most common benign tumour of female genital tract while Ovarian carcinoma was the most common malignant tumour in our local population. The study results show an increase in incidence with old age. **Keywords:** Neoplasia, Gynecological cancer, Genital tract.

S-19: Munchausen syndrome. Komal Hassan. Northwest General Hospital Peshawar

Objective/Hypothesis: Munchausen syndrome is unconscious manipulation or aggravation of disease due to personality disorder. The commonest form is cutaneous manifestations in the form of ulcers and non-healing chronic wounds. In plastic surgery thus the diagnosis could be quite easy after having experience with a few such patients. **Study Design:** Experimental research **Materials and Methods:** All records of patients diagnosed with Munchausen syndrome were retrieved from mains dating from November 2016 to November 2021. They were analysed with demographic characteristics, wound conditions and previous treatments received. **Results:** A total of 42 patients were included in the study. There was male to female ratio of 1:10 and an average age of 27.4. Loss from follow up, refusal to surgery or abandonment of ultimate planned treatment was discovered in 7 patients. The rest of the patients consistently improved with restriction from manipulation of the wounds. **Conclusion/Recommendations:** Non healing wounds and ulcers have always been a challenge to general and plastic surgeons alike. Munchausen Syndrome is one such differential diagnosis, which should always be in the back of the treating surgeon's mind. Young age, female gender, lack of concern or pain to the examination, signs of healing at the wound margins, polymicrobial growth from culture swabs and negative histology should be pointers towards this difficult diagnosis. Psychiatric help should always be sought side by side. **Keywords:** Munchausen syndrome

S-20: Delayed Superficial Inferior Epigastric Artery flap; A robust reconstructive option for penile shaft defect, A case report and Literature review. Naveed Kamal, Northwest General Hospital Peshawar.

Objective/Hypothesis: To report full thickness skin defect of penile shaft and its reconstruction using versatile delayed Superficial inferior epigastric artery (SIEA) flap. **Study Design:**

Case Report and Literature review **Materials and Methods:** A case study is aimed to report a unique case of large full thickness skin defect of penile shaft and its reconstruction using versatile delayed Superficial inferior epigastric artery (SIEA) flap. **Results:** Superficial inferior epigastric artery (SIEA) flap is robust, easy, effective solution in such scenarios, especially in centers where microvascular free tissue transfer cannot be performed due to limited resources. Moreover, it can be a savior in case of failing free flap. Nevertheless, large number of cases are required to have a deeper insight on the use of this approach. **Conclusion/Recommendations:** Abstract Penile reconstruction has been a diverse and challenging field in plastic surgery. Penile skin defects may result from traumatic injuries and necrotizing infections. (1) Existing research recognizes the critical role of reconstructive options which includes skin grafting, local pedicle flaps such as scrotal flaps and free tissue transfer. (2–6) However, this study is aimed to report a unique case of large full thickness skin defect of penile shaft and its reconstruction using versatile delayed Superficial inferior epigastric artery (SIEA) flap with good outcomes. A safe, easy and robust option in difficult scenarios. **Keywords:** Penile Reconstruction, Penile Injuries, SIEA Flap

S-24: Adjuvant Chemotherapy versus Surveillance in Stage II Colon Cancer: A comparative Analysis at Shaukat Khanam Memorial Cancer Hospital and Research Center.

Riaz Ahmad. Shaukat Khanam Memorial Cancer Hospital and Research Center, Hayatabad

Objective/Hypothesis: The aim of our study is to compare disease-free survival and overall survival in stage II colon cancer patients receiving adjuvant chemotherapy to individuals who just had surgery. **Study Design:** The

Institutional Review Board (IRB) of Pakistan's Shaukat Khanum Memorial Cancer Hospital & Research Centre granted its approval to the study. Patients from 2017 to 2021 were included considered in the retrospective analysis. Over a time, frame of two months, data was compiled. A nonprobability sampling technique was applied. The data was examined in more detail using SPSS version 26. **Materials and Methods:** The Institutional Review Board (IRB) of Pakistan's Shaukat Khanum Memorial Cancer Hospital & Research Centre granted its approval to the study. Patients from 2017 to 2021 were included considered in there prospective analysis. Over a time, frame of two months, data was compiled. A nonprobability sampling technique was applied. The data was examined in more detail using SPSS version 26. **Results:** Total number of patients with Colon stage II cancer for the duration of 4 years was 246, among which 106 (43%) received adjuvant chemotherapy and 140 (57%) underwent surgery. Among the 106-adjuvant chemotherapy patient, 24(22.6%) were having dMMR (High MSI), 36(34%) with pMMR (MSI stable) where as in 46 (43.3%) of patients MSI was not done. 1 patient among the total showed lymphovascular invasion, 12 patients had less than 12 lymph nodes present on the specimen extraction, and 7 patients had obstruction/perforation. The mean for disease free survival and overall survival for patients having stage II disease with high risk features who had chemotherapy is almost the same who just had surgery for stage II colon cancer. **Conclusion/Recommendations:** Adjuvant therapy treatment in stage II colon cancer is guided by clinic-pathologic risk factors and MMR status. A review of the risks vs. benefits of adjuvant therapy and the agent selection is necessary because the absolute benefit from adjuvant therapy in stage II disease is minimal. The findings of this study indicate that patients with stage II colon cancer and high-risk characteristics benefit from adjuvant therapy. Further research is required to determine the

precise effect of high-risk factors in colon tumors in the early stages. **Keywords:** Colon stage II cancer, Adjuvant chemotherapy, disease free survival, Overall survival

S-25: Clinical significance of tumor regression grade to assess pathological complete response following neo-adjuvant chemo-radiotherapy in locally advanced rectal cancer patients treated at Shaukat Khanum Memorial Cancer Hospital and Research Center, Peshawar.
Riaz Ahmad, Shaukat Khanum Memorial Cancer Hospital and Research Center, Peshawar

Objective/Hypothesis: The primary aim of our study is to identify patients with complete pathological response and to retrospectively correlate it with Magnetic Resonance tumor regression grade. The secondary purpose is to evaluate the disease free and overall survival of the patients. **Study Design:** The study was approved by Institutional Review Board (IRB) of Shaukat Khanum Memorial Cancer Hospital & Research Centre, Pakistan. The retrospective study has taken inconsideration of patients from 2019 to 2023. Data was collected in a span of 2 months. Non probability sampling technique was applied. The data was further analyzed in SPSS version 26. **Materials and Methods:** The study was approved by Institutional Review Board (IRB) of Shaukat Khanum Memorial Cancer Hospital & Research Centre, Pakistan. The retrospective study has taken inconsideration of patients from 2019 to 2023. Data was collected in a span of 2 months. Non probability sampling technique was applied. The data was further analyzed in SPSS version 26. **Results:** 54 patients post-surgery showed the TONOMO status among which the MR-TRG for the patients were as following; MR-TRG1 5(9.3%), MR-TRG2 14 (25.9%) MR-TRG3 25 (46.3%) MR-TRG4 6 (11.1%) and MR-TRG5 in 4 (7.4%). Recurrence was seen in 04 patients.

Out of them 3 had MR-TRG 3 while 1 patient had MR-TRG 5. 1 patient having MR-TRG3 got expired due to myocardial infarction. **Conclusion/Recommendations:** Our study shown that the TRG response following preoperative CRT is a critical significant predictive factor affecting patient outcome and survival. MR-TRG can be used to identify patients with complete clinical response and surgery can be avoided or delayed at least for some time. MR-TRG system should be implemented for the prognosis of rectal cancer treated preoperatively with CRT. MR-TRG can be used to identify patients with complete clinical response and to defer the surgery for an active surveillance. **Keywords:** MR-TRG, tumor regression, complete pathological response, Laparoscopic rectal surgery

S-26: Peri-operative Outcomes of Laparoscopic Rectal Carcinoma Surgeries at a High Volume Setup. **Hussain Jan Abbasi, Shaukat Khanum Memorial Cancer Hospital and Research Centre**

Objective/Hypothesis: To assess perioperative outcomes of rectal cancer patients undergoing Laparoscopic surgery at a high volume setup. **Study Design:** Retrospective Descriptive study **Materials and Methods:** It is a retrospective study of prospectively maintained data. Data from April 2021 to August 2023 of all the patients who underwent Surgery for Rectal Carcinoma was included in this study. Analysis was done using SPSS version 26. Quantitative variables were expressed as mean whereas Qualitative variables were reported in the form of frequencies and percentages **Results:** From April 2021 to August 2023, 170 patients underwent Laparoscopic surgery for Rectal Cancer, of which 115(68%) received sphincter preservation surgery and 55 (32%), abdominoperineal resection. According to location, the tumors in 68 (40%) individuals were found in the lower rectum, 67 (39.5%) in

the mid rectum, and 35 (20.5%) in the upper rectum. The surgical time was 255 minutes (about 4 and a half hours), mean blood loss was 55 ml (about 1.86 oz.), and mean lymph node yield was 18. The patient spent an average of 6 days in the hospital during their whole stay. 5 patients had complications from anastomotic leak, and there were no 30- or 90-day mortalities reported.

Conclusion/Recommendations: Minimally invasive approach (Laparoscopic) for rectal cancer treatment is an effective approach in terms of positive perioperative outcomes and low rates of post-operative complications. Hence, Laparoscopic technique should be frequently carried out for rectal cancer patients undergoing surgery. **Keywords:** Rectal cancer, Abdominoperineal resection, sphincter preserving surgery, minimally invasive

S-29: Orbital Hydatid Cyst: An Interventional Case Series. **Tajamul Khan, Northwest School of Medicine**

Objective/Hypothesis: To find out the demographics, presentation, and outcome of surgical treatment in patients of orbital Hydatid cyst. **Study Design:** Interventional case series. **Materials and Methods:** It is a retrospective case series where record of 12 cases of orbital hydatid cyst was evaluated and analyzed. These patients were admitted in “Orbit and Oculoplastics” department of Khyber Teaching Hospital Peshawar and Northwest General Hospital 2, Pakistan between 2009 to January 2023. After detailed history and examination, each patient underwent imaging study (B-Scan, CT Scan and/or MRI Orbit), chest X-Ray, abdominal ultrasound and complete blood examination. Pulmonologist and general surgeon were also consulted. Depending upon presumptive diagnosis of orbital hydatid cyst on imaging studies, all patients underwent orbitotomy and cyst extirpated. All cysts ruptured during removal and field irrigated with hypertonic saline. The cyst walls were sent for

histopathological examination and results came positive for hydatid cyst in all cases. Postoperative follow-up of the patients was between 03 months and one year. Nine out of eleven patients came from Afghanistan which is a waraffected area and patients could not come back for long term regular follow-up. Various variables including age, gender, preoperative and postoperative amount of proptosis, visual acuity, extraocular movement, pupillary reaction and surgical techniques were recorded and analyzed using SPSS – Version 25. Mean with standard deviations were derived for numerical variables like age, amount of proptosis and visual acuity (in decimals) and frequencies were calculated for categorical variables like gender and pupillary reaction. Paired samples t-test was applied to calculate p-value to compare preoperative and postoperative proptosis and visual acuity. **Results:** In the period from 2009 to January 2023, twelve cases of orbital hydatid cysts were admitted and operated in our department. Male to female ratio was 1.4:1. The mean age of the patients was 19.08 ± 16.9 years and 9 out of 12 patients had age 20 years or below. All patients presented with moderately progressive unilateral painless proptosis. Mean amount of proptosis was 26 ± 2.98 mm in the affected eye, while mean difference of proptosis between the affected and non-affected eye was 7.25 ± 2.05 mm. Mean visual acuity in the affected eye was 0.22 ± 0.32 decimal at presentation. Nine patients (75%) had relative afferent pupillary defect (RAPD) with swollen optic discs and one (8.3%) had afferent pupillary defect (APD) with no perception of light. Fundus was not visible in this case due to hazy media. Rest 2 (18.2%) eyes had normal pupillary reaction. Imaging study of all patients was performed including MRI in 9 (81.8%) cases. Preliminary diagnoses of hydatid cyst was made on peculiar features on MRI and other imaging studies in all cases. In 11 (91.66%) cases cyst was intraconal and in 1 (8.33%) it was extraconal. All patients underwent surgical orbitotomy to

excise the cyst, the approach depending upon cyst location. At one week postoperatively mean proptosis improved to 19.82 ± 2.14 mm from 26.00 ± 2.98 mm (P value = .000) and mean visual acuity improved to 0.28 ± 0.17 decimals (P value = 0.513). Mean proptosis at last follow-up was 19.17 ± 1.4 mm (P value = 0.000) while difference of proptosis between affected and unaffected eye improved to 0.91 ± 0.14 mm from 7.25 ± 2.05 mm (P value = 0.000). All patients took Albendazole 10 mg/Kg for 12 weeks. The mean visual acuity at last follow up in the affected eye improved to 0.46 ± 0.21 decimals (P value = 0.037). All of our patients had isolated orbital involvement except one (8.3%) case in which a hydatid cyst was found concomitantly in the right lung. The excised cysts were sent for histopathology and all were confirmed to be hydatid cysts. One cyst from the old man (case no. 11) was calcified. **Conclusion/Recommendations:** Although rare, orbital hydatid cyst should be considered in differential diagnosis of unilateral proptosis, especially in children. Imaging studies including B-scan, CT-scan and MRI can give presumptive diagnosis of hydatid cyst in more than 90% of cases. Treatment of choice is surgical excision and postoperative results are excellent, provided surgical excision is done earlier followed by oral Albendazole for 12 weeks. **Keywords:** Orbital Hydatid cyst, Proptosis, Orbitotomy, Albendazole.

S-30 Outcomes of Coronary Artery Bypass Grafting (CABG) in patients with low ejection fraction. Mubeen Ali: Department of Pharmacology, Northwest School of Medicine.

Objective/Hypothesis: To identify the characteristics and outcomes of the patients who had a low ejection fraction (<40%) that underwent Coronary Artery Bypass Grafting. **Study Design:** Retrospective. **Materials and Methods:** Our database of patients who underwent Cardiac Surgery was reviewed.

Patients who underwent Coronary Artery Bypass Grafting between December 2018 and February 2023 were identified. The basic demographics of the 904 patients found were taken from the database. The preoperative ECHO information was gathered, and those with ejection fractions of below 40 were highlighted. Demographics, comorbidities, and variables pertaining to post operative outcomes were taken from both our database and the Electronic Medical Records. The data was compiled, and basic statistics were derived using SPSS version 26. **Results:** Out of the 904 patients who had the Coronary Artery Bypass Grafting procedure, 52 patients (5.7%) had an ejection fraction of less than 40%. The average age of the patients was 57.6 years (S.D 9.04), with ages ranging from 31 to 75 years old. The majority (84.6%) were male. When looking at the patient characteristics, 43 patients were hypertensive, one had a history of smoking, and 38 were diabetic. Looking at the NYHA classification of their symptoms: 3 patients had Class 1, 26 patients had Class 2, 3 patients had Class 3 and 4 patients had Class 4 symptoms. Eight patients had Left Main Stem disease (of more than >50%). Two of the procedures were done Off Pump, while the remaining were put on Cardiopulmonary Bypass during the procedure. Five patients underwent Coronary Endarterectomy during the procedure. Two patients required Intra-Aortic Balloon Pump placement. Post operatively, the mean extubation time was 13.7 hours (ranging from 6-72 hours), Only one patient needed reintubation. None of the patients had to be reopened, and we had a 100% survival rate. **Conclusion/Recommendations:** 5.7% of our CABG patients had low ejection fractions (<40%). We display excellent survival, owing to our careful patient selection and excellent hospital care.

PAEDIATRICS ORAL PRESENTATIONS

P-1: Correlation of Troponin I and Echocardiogram in Children with Myocarditis: A Retrospective Study. **Muhammad Kamran, Northwest General Hospital Peshawar**

Objective/Hypothesis: Myocarditis, an inflammatory condition of the myocardium, presents a significant health concern in pediatric populations. Detecting and monitoring myocardial injury in children with myocarditis is crucial for timely intervention and improved patient outcomes. This study aims to investigate the correlation between troponin I levels and echocardiographic findings in pediatric patients diagnosed with myocarditis. The primary objective is to determine the strength and significance of the relation between troponin I levels and echocardiographic parameters in pediatric myocarditis patients. Secondary objectives include evaluating the diagnostic utility of troponin I as a biomarker for myocardial injury in this population and assessing the predictive value of echocardiographic findings in relation to clinical outcomes. **Study Design:** Retrospective **Materials and Methods:** The research design encompasses a retrospective analysis of medical records of pediatric patients (age range: 1 month to 192 months) admitted in Northwest General Hospital and Research Center Peshawar with suspected or confirmed myocarditis over a specified period (Jan 2015 - July 2023). Troponin I levels and echocardiographic data, including left ventricular dimensions and ejection fraction, were collected and statistically analyzed to

explore potential associations. Data was retrieved from the hospital database and was analyzed using SPSS25. **Results:** The study groups consisted of 48 patients with confirmed/suspected myocarditis. The mean age was 27 months (1–146 months), and 68.75% (n = 33) were male while 31.3% (n=15) were female. When patients were classified according to the clinical severity of the disease on the basis of Echo, 17 (35.42%) patients were having normal Echocardiogram, 16 (33.33%) patients were having severe LV dysfunction, and 10 (20.83%) patients were having moderate LV dysfunction while 05 (10.42%) patients were having mild LV dysfunction. On the basis of troponin I levels there were 14(29.2%) patients having troponin I levels in between 10-100 ng/ml, 12 (25%) having troponin I levels in between 101-200ng/ml, 07 (14.58%) having troponin I levels in between 201-500 ng/ml, 03 (6.25%) having troponin I levels in between 501-1000 ng/ml, 07 (14.58%) having troponin I levels in between 1001-2000 ng/ml, while 04 (8.33%) having troponin I levels greater than 2000 ng/ml. ANOVA showed no statistically significant variation among troponin I levels and echocardiogram with P value of 0.055.

Conclusion/Recommendations: Our conclusion was that both troponin I levels and echocardiogram should be done in patients with acute myocarditis/suspected myocarditis as troponin I will aid in timely diagnosis of the disease while echo will aid in assessing the severity of the disease as both are correlated to each other. **Keywords:** Pediatric Myocarditis, Myocarditis in Children, Troponin I levels, Echocardiogram.

P-2: Exaggerated physiological jaundice and exchange transfusion.

Maria Himayat, Northwest General Hospital Peshawar.

Objective/Hypothesis: To determine multiple factors causing exaggerated physiologic jaundice requiring exchange transfusion, To know the incidence of exchange transfusion in exaggerated physiologic jaundice and its various causes so that in future physiologic jaundice may not be ignore that can put the infant at developing bilirubin inducing encephalopathy **Study Design:** retrospective case series **Materials and Methods:** STUDY SETTING: nursery department of northwest general hospital STUDY DURATION: January2020 to Jan 2023 SAMPLE SIZE :20 cases ANALYSIS: SPSS 25 version results showed in the form of table ,graphs ,and pie charts. **Results:** Out of 163 cases with exaggerated physiologic jaundice admitted over period of 3year ,20 cases (14.7%) had required exchange transfusion .mean bilirubin level on arrival was 26.52 ± 7.7 which was reduced drastically to 14.62 ± 2.6 .frequency of exchange transfusion was common in male 13cases(61.9%)as compared to female7cases(33.3%).mostly infant were presented on 5day of life and exclusively breast fed16case (76.2%) with no other underlying co morbidity making the breast fed jaundice the common etiological factor of exaggerated physiologicjaundice.7cases(33.3%)had low birth weight and 3cases(14.3%) were premature .our study concluded that breast fed jaundice was commonest etiological factor, followed by low birth weight and prematurity. **Conclusion/Recommendations:** Our study concluded that physiological jaundice may exaggerate to exchange level of various factors are not identified in timely manner and hence it

may require exchange transfusion leading to increased mortality and morbidity in neonates. **Keywords:** Hyperbilirubinemia, exaggerated physiologic jaundice, exchange transfusion

P-3: Clinical Outcomes Associated with Red Blood Cell Transfusions in Pediatric Critical Care.

Bibi Zohra, Northwest General Hospital Peshawar.

Objective/Hypothesis: The study aims to identify potential complications and understand the clinical outcomes associated with red blood cell (RBC) transfusions in pediatric critical care settings, considering factors such as patient age, underlying conditions, transfusion thresholds, and potential outcomes **Study Design:** Retrospective observational study **Materials and Methods:** We retrospectively reviewed the charts of patients (age > 01 month - <16 years) who visited the pediatric department of Northwest General Hospital Peshawar, a tertiary care referral hospital, and got admitted in pediatric ICU and had undergone packed cells transfusion during their stay in pediatric ICU. Data was obtained from January 2020 to July 2023. Patients were identified through hospital database searches for all children who had undergone packed cells transfusion during their stay in pediatric ICU. The identified patients were further screened and selected, and after applying exclusion criteria resulted in a cohort of 105 patients. Study was conducted using a structured data collection form, to gather information from pediatric patients in the Intensive Care Unit which consists of basic patient information, such as age and gender, clinical data like reasons for admission and various critical aspects of patient care in the Pediatric Intensive Care Unit (PICU) was assessed. This included evaluating the need for inotropic support or mechanical ventilation, examining cases of surgical interventions, determining the underlying reasons for Packed

Cell Volume (PCV) transfusions, keeping track of the frequency of PCV transfusions, measuring the volume of blood transfused by evaluating pre and post transfusion laboratory value. These comprehensive evaluations allowed. To gain a holistic understanding of the patients' clinical conditions and treatment interventions, contributing to a thorough analysis of their outcomes in the PICU. The exclusion criteria were: Patients weighing less than 3 kilograms were excluded, as were those with a post-conceptional age of fewer than 40 weeks. Additionally, individuals admitted with acute bleeding or hemorrhagic shock were not considered for analysis. We also excluded cases with severe chronic illnesses, as these conditions could introduce significant confounding variables. Patients with unavailable or incomplete medical records, were also excluded. **Results:** Out Of the 105 subjects with a mean age of 2.5 ± 1.3 years, transfused at (mean) hemoglobin of 7.48 of which 65 (62%) of the patients were male. Mean pediatrics risk of mortality as 68.5% while 33 (31.5%) treated and discharge. Major admitting diagnosis included pneumonia 22 (21%), sepsis 18 (17.1%), post COVID MISC 18 (17.1%), metabolic disorders 10 (9.5%), renal pathology 9 (8.6%), neurological cases 8 (7.6%), measles with complication 5 (4.8%), cardiovascular 5 (4.8%), malignancies 5 (4.8%), Gastro cases 3 (2.9%) and blood disorders 2 (1.9%). 78 (74.3%) of the transfused cases required mechanical ventilation, 9 (8.6%) were on CPAP and 18 (17.1%) just required nasal prongs oxygen. Risk of mortality score, need for inotropic support and mechanical ventilation were associated with mortality ($p < 0.05$). **Conclusion/Recommendations:** • Patients receiving blood transfusion in pediatric intensive care unit has significantly higher mortality. • Invasive ventilation is also a risk factor of mortality among these patients. **Keywords:** RBC transfusions, Pediatric intensive care unit, Mechanical ventilation, Mortality.

P-4: Frequency of Meningitis in Children (Age 06 Months-60 Months) presenting with Fever and First Episode of Seizure.

Aizaz Raheem. Northwest General Hospital Peshawar

Objective/Hypothesis: To find out the frequency of acute meningitis (bacterial + viral/aseptic) among children (06 – 60months old) with 1st episode of febrile seizures at a tertiary care hospital and the utility of lumbar puncture as diagnostic tool in such patients.

Study Design: Retrospective Cross-sectional study. **Materials and Methods:** A total number of 145 children who presented with 1st episode of febrile seizures, aged 06 – 60months were included in this study. Data regarding age, gender, residential area, family history of seizures/febrile seizures, vaccination status of patients, type (simple/complex) of seizure, meningeal signs and lumbar puncture status was taken for each child. Cerebrospinal fluid (CSF) was analyzed to find out the frequency of meningitis among children presenting with fever and first attack of seizure. **Results:** Mean age of children was $20.04 \text{ months} \pm 16.278$ and median of 12 months. There were 101 (69.70%) male children and 44 (30.30%) female children. there were 53 (36.6%) children having positive family history of seizures/febrile seizures. 103 (71%) children were belonging to urban areas and rest of the others were from rural areas. Meningitis was found in 73 (50.30%) children, among them 39 (26.9%) were found to be acute bacterial while 34 (23.4%) were of acute viral meningitis cases.

Conclusion/Recommendations: Frequency of meningitis among children presented with febrile seizures is high. Acute bacterial meningitis was diagnosed in 26.9% children presenting with 1st episode of acute febrile seizure. And lumbar puncture should be performed in patients between ages 06 – 12 months as meningitis incidence was high for

this age group and in those as well who are partially vaccinated or unvaccinated. **Keywords:** Febrile Seizures, Bacterial Meningitis, Viral/Aseptic Meningitis, Lumbar Puncture, Cerebrospinal Fluid.

P-5: Spectrum of renal histopathology in children – a retrospective study of renal biopsy in tertiary care hospital of KPK, Syed Sajid, Institute of Kidney Diseases, Hayatabad

Objective/Hypothesis: The objective of this study is to enlighten the spectrum of renal histopathology and immunofluorescence on renal biopsy in children presenting with renal diseases. **Study Design:** retrospective study **Materials and Methods:** This study was done in Institute of Kidney diseases (IKD), Peshawar. It was retrospective study and data was retrieved from records of patients from January 2022 till Dec 2022 after getting approval from institutional review board. Sample size was calculated by open epi sample size calculator and estimated sample size was 100 taking prevalence of kidney diseases in children was 10%. Children of both sex, aged up to 16 years and who got admitted IKD in day care or ward and renal biopsy was done in native kidney were included. Patients with incomplete data, non-conclusive results, no of glomeruli less than five and renal transplant were excluded. Data of each patient was recorded on specific preform and included name, age, sex, indication for renal biopsy, investigations including serum albumin, cholesterol, urea, creatinine, complement level including C3 and C4, hepatitis B and C serology, ANA, anti-ds DNA Ab findings of renal biopsy including light microscopy and IMF were recorded. Data was analyzed by SPSS 20. Chi square test was applied for comparison of groups and p value < 0.05 taken significant. **Results:** There were total of 150 patient as 94 (62.7%) were male and 56 (37.3%)

were female. Age ranged from 2 years to 16 years with mean age of 8.78 ± 3.84 years. Serum creatinine value ranged from 0.2 to 16.5 mg/dl with mean creatinine of 1.5 ± 2.07 mg/dl. The most common indication with clinical diagnosis was nephrotic syndrome in 111 (74%) followed by acute kidney injury 25 (16.7%) patients. Out of 111 patient with clinical nephrotic patient, 74 patient were steroid resistant nephrotic and 37 () patients were steroid dependent. Among histology the most common variant was focal segmental glomerulosclerosis (FSGS) while on Immunofluorescence the most common finding was IgM nephropathy. **Conclusion/Recommendations:** Apart from steroid resistant and steroid dependent nephrotic syndrome, the most common indication of renal biopsy in children in acute kidney injury. The most common histology is FSGS but IgM nephropathy is also not uncommon. **Keywords:** Renal biopsy, children, FSGS, IgM nephropathy, Acute Kidney Injury

P-6: Clinical Manifestation and Outcome of Myocarditis in Multisystem Inflammatory Syndrome in children (MIS-C) Following COVID, Muhammad Hamza, Northwest General Hospital, Peshawar

Objective/Hypothesis: 1. to identify the frequency of Myocarditis in multisystem inflammatory syndrome (MIS-C) patients MISC patients 2. To determine the echocardiographic findings of patients with myocarditis secondary to MIS-C3. To correlate laboratory evidence of cardiac injury with the hemodynamics status of patients. **Study Design:** Retrospective cohort study. **Materials and Methods:** STUDY SETTING: The study was conducted in the Pediatric department of Northwest General Hospital, Peshawar. Data from 29 out of 188 patients diagnosed with MIS-C were retrieved from hospital records. STUDY DURATION: This study was conducted for approximately 6-month duration SAMPLING TECHNIQUE: Non-probability

consecutive sampling DATA COLLECTION: Data was collected by filling the enclosed Pro forma designed for this study. DATA ANALYSIS: Data was entered into SPSS version 23 for analysis and presentation. **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-Commonly present with the classic presentation of shortness of breath, there is a wide range of patients between the ages 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%. The mean of Troponin I among patients was 1086 ± 231.58 . Echo findings of patients. Show decreased ejection fraction with a mean of 37.37 ± 2.654 ... 89.7% of patients required ICU admission during their hospital stay in accordance with the serious nature of the disease. 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 require Intensive care and monitoring. The disease equally affects both genders and the raised levels of Troponin I correlate with the clinical course. The decrease ejection fraction on Echocardiographic findings provide direct evidence of decrease 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

P-7: Spectrum of diseases in patients presenting to the pediatric ICU in NWGH; a tertiary health care center in Peshawar: A retrospective study.

Saud Sadiq, Northwest General Hospital, Peshawar.

Objective/Hypothesis: To determine disease trends presenting in patients in a tertiary healthcare center and determine the effect of COVID on the system-wise disease spectrum **Study Design:** Retrospective Cross-sectional study **Materials and Methods:** A total number of 414 children who were admitted into the P-ICU, aged 02months-15years were included in this study with a total disease count of 666. The Hospital database was used to identify patients and collect data regarding their identification number, criteria for admission as well as their respective disease ICD code. **Results:** A total number of 122 different diseases were identified. Pneumonia was the most frequent diagnosis with 117cases followed by sepsis and encephalitis/meningitis with 63 and 47 cases respectively. COVID (37) and measles (34) brought up the top 5. Upon system-wide distribution of diseases, respiratory and infectious conditions took 28% and 26% respectively. 37 cases (6.28%) of COVID cases were recorded which affected the spectrum accordingly by reducing other disease percentage of the spectrum [Pneumonia (20 to 16.74%)].

Conclusion/Recommendations: Pneumonia was encountered frequently in the P-ICU raising concerns over-immunization and the immune status of children. Overall, respiratory and infectious etiology predominated, with more than 50% of the cases. This voiced a need for better control of infections and prevention of airborne of other diseases; however, the total number of admissions to the PICU almost doubled post-COVID. **Keywords:** Disease Spectrum, Pneumonia, Sepsis, COVID, Pediatric ICU, infectious Etiology

OBSTETRICS AND GYNAECOLOGY ORAL PRESENTATIONS

OG-3: Efficacy of balloon tamponade in the management of Primary Postpartum Hemorrhage.

Maimoona Qadir. Khyber Teaching Hospital.

Objective/Hypothesis: To evaluate the success of uterine balloon tamponade in those patients suffering from postpartum hemorrhage where medical treatment has failed **Study Design:** Cross sectional study **Materials and Methods:** This study was conducted in Gynae Department of Khyber Teaching Hospital, Peshawar from 1st January 2022 to 31st December 2022. All patients with primary postpartum hemorrhage, in 15-45 years age range, who delivered vaginally after a full-term pregnancy were included. Those having history of caesarean section, uterine anomalies, preterm labor, morbidly adherent placentas, placental abruptions, placenta previas and retained products were excluded. All the patients where the cause of PPH was uterine atony were first managed with pharmacological treatment, which if failed then uterine balloon tamponade was inserted. Tamponade was removed after 24-48 hours. **Results:** The mean age was 26.02±4.42 years. 9.72% women had past history of PPH. Majority of our study population was grand multigravidas (61.57%) and the most prevalent age group was 26-35 years age group. 87% women responded to medical treatment and UBT was applied in the rest. The UBT success rate was 89.2% whereas it failed in 10.8% women where laparotomies were conducted. The higher response rate was noticed in grand multigravidas (50%) and in 26-

35 years age group (46%). It failed in three patients who had no history of PPH and was successful in those with coagulopathies.

Conclusion/Recommendations: The response rate to Uterine balloon tamponade is higher in patients with postpartum hemorrhage due to uterine atony. Before embarking on surgical procedures with many possible complications, uterine balloon tamponade should be used.

Keywords: Postpartum hemorrhage, Balloon Tamponade, Placental Abruption, Placenta Previa, Uterine Atony

OG-4: Effect of environmental temperature on eclampsia: An experience at tertiary care hospital.

Naheed Akhtar. Khyber Teaching Hospital.

Objective/Hypothesis: To understand the relationship between environmental temperature and occurrence of eclampsia in patients visiting Khyber teaching hospital Peshawar **Study Design:** Cross sectional study **Materials and Methods:** We conducted a retrospective analysis of data collected over a 12-month period, noting the frequency of eclampsia in patients delivering at Khyber teaching hospital Peshawar. **Results:** Total of 5330 deliveries were conducted during the study period. Age ranged between 16-45 years with a mean age of 30.5 years. Total 2110(39.6%) belonging to age group 16- 20 years, 2280(42.8%) in 21-30 years and 940(17.6%) belong to maternal age of 31-45 years. There were 197 cases of eclampsia with a frequency of 3.7%. The prevalence of eclampsia varied slightly by the season of delivery and was found to be highest in the winter months 64(3.2%), followed by 45(2.2%) in spring, 60(3.0%) in summer and 28(1.4%) in fall **Conclusion/Recommendations:** A slight reduction in the incidence of eclampsia was noted in fall as opposed to winter. **Keywords:** Eclampsia, environmental temperature.

OG-5: Association of polyhydramnios with fetal anomalies presenting to HMC.

Saima Ayub. North west general hospital and research center.

Objective/Hypothesis: To determine the frequency of common fetal anomalies among women with polyhydramnios presenting to a tertiary care hospital of Peshawar. Study Design: Cross sectional study conducted in department of OBGYN HMC from 20 August 2020 to February 20,2021. **Materials and Methods:** A total of 139 patients with polyhydramnios were included in the study by non-probability consecutive sampling technique. All the women were subjected to history and obstetrical examination and ultrasound for diagnosis of polyhydramnios. All were followed through ultrasound till delivery of baby to determine the common fetal anomalies like gastrointestinal, CNS, cardiovascular and musculoskeletal. **Results:** In this study mean age of patients were 32+_1.23 years. A total of 14(10.07%)fetuses were found to have congenital abnormalities,29%were having CNS anomalies,29%gastrointestinal ,21%of musculoskeletal system and 21%with cardiovascular anomalies.

Conclusion/Recommendations:

Polyhydramnios is associated with congenital fetal anomalies of nervous, cardiovascular, gastrointestinal and musculoskeletal system and is a risk factor. **Keywords:** Polyhydramnios, congenital anomalies, central nervous system, musculoskeletal.

BASIC SCIENCES ORAL PRESENTATION

BS-1: Clinical Pharmacology and Therapeutics Audit.

Sarwat Jahan, Salman Zahir. Northwest School of Medicine.

Objective/Hypothesis: Innovations for clinical pharmacology and therapeutics undergraduate teaching **Study Design:** Audit **Materials and Methods:** An audit was conducted in northwest school of medicine regarding clinical pharmacology and therapeutics **Results:** Curricular innovations will be discussed in the audit **Conclusion/Recommendations:** The recommended innovation need to be followed **Keywords:** Clinical pharmacology, therapeutics, basic pharmacology

BS-2: PERCEIVED BARRIERS TO TIMELY COMPLETION OF POST-GRADUATE RESEARCH PROJECTS IN PUBLIC HEALTH: A CROSS SECTIONAL STUDY IN DISTRICT, PESHAWAR.

Kamran Akbar. KMU IPMS

Objective/Hypothesis: To identify the barriers impending the timely completion of research among postgraduate students of MPH in district Peshawar. **Study Design:** Descriptive Cross-sectional study (Institutional based survey) **Materials and Methods:** This study was conducted at a public sector university (Khyber Medical University) and a private sector university (Sarhad University of Science and Technology) in Peshawar. It focused on Master of Public Health (MPH) students who had not completed their thesis by the end of the fourth semester. A total of 71 scholars were sampled from a pool of 260 participants. The study was

approved by the relevant ethical review boards, and data analysis was performed using SPSS Version 20.0. **Results:** The results of the study were based on 71 participants who were Master of Public Health (MPH) students, with an average age of 30.65 ± 0.591 (ranging from 24 to 43 years). Among the participants, 54 (76.1%) were male and 17 (23.9%) were female. None of the participants were able to complete their research work within two years. Out of the total, 1.4% of students were enrolled since 2018, while a significant proportion of 93.0% were from the 2019 batch and still struggling to complete their research. Similarly, 5.6% of the scholars enrolled in 2020 were supposed to graduate in 2021 but had not yet obtained their degree. Lack of competent supervisors was identified as a major issue, with 45% of participants reporting this concern. Institutional factors were cited by 69% of scholars as the main causative factor for non-completion of research, while 17% reported personal barriers. Infrequent meetings of the Board of Studies and Research (BOSAR)/Academic and Ethical Review Board (ASRB) were also highlighted as an issue, with 73% of participants in agreement. In summary, the study found that MPH scholars faced challenges in timely completion of their degrees, including lack of competent supervisors, institutional factors, and infrequent BOSAR/ASRB meetings. Furthermore, 63% of scholars lacked technical writing skills. **Conclusion/Recommendations:** In conclusion, this study reveals that Master of Public Health (MPH) students encounter challenges in completing their research work within the designated timeframe. Barriers include a lack of competent supervisors, institutional factors, and infrequent BOSAR/ASRB meetings. Recommendations include strengthening supervision, providing institutional support, enhancing technical

writing skills, implementing regular progress monitoring, and facilitating collaboration and networking opportunities. Implementing these recommendations will improve timely completion of research work and enhance the quality and impact of MPH programs. **Keywords:** Timely Completion: It means the completion of research process within in the regular time period (within two year/ till the end of 4th semester). Barriers: The factors that influencing or affect the research activities BOSAR: Board of studies and research ASRB: Academic and study review board

BS-3: Influence of different duration of acute exercise on brain derived neurotrophic factor levels in association with depression and anxiety in pre-diabetic population.
Shaista Nosheen. NWSM

Objective/Hypothesis: 1.To quantify the effect of different duration of acute exercise on BDNF levels, depressive and anxiety scores in a prediabetic population 2.To find out the correlation of BDNF expression with depressive and anxiety scores in relation to different duration of acute exercise Study Design: Investigational lab study with cross over design. **Materials and Methods:** A total of 25 subjects were recruited according to inclusion criteria (Male; n= 17/ Female; n=8). Each volunteer visited the lab four times during this protocol, each time at least 7 days apart. On the first day of protocol and after the last day of performing exercise weight, BMI, waist to hip ratio was measured. Following an isocaloric meal, exercise was begun at the right timing and 70 %intensity starting from 15 minutes and gradually increasing at each visit till 30 min, 45 min and 60 min. Blood samples were taken at fasting, before exercise and after 30 and 60 minutes of exercise. The HAMD-D and HAM-

A were filled at every point of blood sample drawn and RPE at the end of exercise. Data was analyzed through SPSS version 25 or above. Quantitative variables were expressed with mean and standard deviation. **Results:** At all the intervals of the visits the mean BDNF levels, anxiety, and depression scores showed no significant change ($p > 0.05$) except at visit 1 for BDNF levels. There were no significant differences present between either gender on each visit. A paired T-test was used to assess the difference in mean BDNF levels, depression, and anxiety scores at all intervals between the start and end of protocol. The mean BDNF levels at visit 1 i.e., is the start of the study was 13681 ± 2401 pg/ml, while at visit 4 i.e, is the end of the study; it was 15255 ± 2227 pg/mL. When mean concentrations for both visits were compared, significant difference was observed ($p=0.0295$). The mean depression score at the start of the study was 11.18 ± 0.58 , and at the end of the study it had decreased to 10.41 ± 0.54 . When comparing the mean concentrations between both visits, significant difference was observed ($p = <0.001$). The mean anxiety score at the start of the study was 16.50 ± 16.50 , and at the end of the study it had decreased to 15.68 ± 15.93 . A significant difference was observed when the mean concentration of start and end of study were compared. ($p = <0.001$). The Pearson correlation test showed very low positive to low positive correlation between BDNF, depression and anxiety at all visits except at visit 3 i.e., 45 minutes exercise protocol showing that increase in BDNF will lead to deterioration in the state of depression and anxiety. **Conclusion/Recommendations:** In this study we concluded that there was no significant effect on BDNF levels, depression, and anxiety scores at each visit in relation to the different duration of acute exercise except significant change was seen in BDNF levels at visit 1 i.e, 15 minutes exercise protocol.

However, significant difference was seen between BDNF levels, depression, and anxiety scores between first and last visit at all intervals. Moreover, a positive correlation was seen between BDNF, depression and anxiety except at 45 minutes protocol which showed a negative correlation. **Keywords:** Neurotrophins – Brain derived neurotrophic factor – Diabetes - Exercise - Duration of exercise – Depression – Anxiety

BS-11: THE (IN)COMPLETE LANDSCAPE OF BREAST CANCER IN PAKISTAN.

Zainab Jahan. Precision Medicine Lab

Objective/Hypothesis: Breast cancer (BC) is the most common cancer among women in the world with incidence rising every year. In 2020, according to GLOBOCAN Pakistan had 25,928 breast cancer cases, estimated using data from India. In order to obtain comprehensive insights into the epidemiology, risk factors, and disease burden of breast cancer in Pakistan, we embarked on this systematic review. We aim to bridge the data gap and provide clinicians and policymakers a reliable and comprehensive snapshot of BC in Pakistan. **Study Design:** Systematic Review **Materials and Methods:** A systematic review was carried out between October 2022 to February 2023 using two principal databases, PubMed and Google Scholar with the broad keywords “Breast Cancer” and “Pakistan”. A total of 548 papers were reviewed and 80 papers were shortlisted from which relevant data were extracted and analysed using Numbers on MacOS Ventura. Mean values and SD were calculated using the percentages in data. **Results:** Out of the selected 80 studies, 71 were hospital-based and 9 were

population-based studies. Karachi had the highest (n=26) followed by Lahore (n=20), and Islamabad (n=10) conducted in Pakistan. The average age at diagnosis was 47.84 ± 7.94 (n=59), Grade 3 and stage 3 dominated patient status at time of presentation with average percentages of 36.8 ± 14.0 and 36.9 ± 13.3 (n=24) and (n=23) respectively. In clinical subtypes, ER+ dominated with an average of 51.65 ± 18.33 (n=14). The average number of patients diagnosed with a painless lump was 65.4 ± 16.04 (n=4). Out of the 21 studies which reported menopause status, pre-menopausal women averaged at 50.6 ± 13.5 . Tumor size was found to be significant with an average of 77.0 ± 28.0 (n=14). Among risk factors, the average number of women taking oral contraceptive pills was 27.66 ± 14.66 . The average number of patients with family history of breast cancer was 20.0 ± 11.66 (n=15).

Conclusion/Recommendations: Despite the inclusion of eighty papers, one drawback of our systematic review is the insufficiency of data. The existence of several missing values, reliance on mode values and the absence of age ranges and unavailability of raw data. This reminds us that establishing cancer registries is essential to fill this gap and by doing so we will be able to develop unique national BC treatment and prevention guidelines tailored to the unique needs and challenges. **Keywords:** Breast Cancer AND Pakistan

BS-12 Drug repurposing against differentially expressed candidates from ovarian cancer transcriptomes.

Muhibullah Ghafoorzi. Bacha Khan Medical College.

Objective/Hypothesis: Ovarian cancer metastasis is a critical challenge in cancer treatment. This research aimed to identify pivotal genes, proteins, and pathways that drive metastasis in ovarian cancer, with a focus on

repurposing existing drugs to inhibit these pathways involving metastasis. The objectives include expanding a comprehensive dataset of matched primary and metastatic ovarian cancer gene expression profiles, performing differential transcriptomic analysis, pinpointing key pathways linked to the shift from primary to metastatic tumors, and exploring existing potential drug candidates for pathway inhibition. **Study Design:** Comparative in-silico analysis **Materials and Methods:** The study followed a two-phase approach. In Phase 1, we analyzed gene expression changes in primary and metastatic ovarian tumors, identifying DEGs genes using dedicated pipelines in R v4.3.1 to process distinct 3 microarray and 4 RNASeq datasets. In Phase 2, we validated hypotheses, identified altered pathways, and repurposed drugs. **Results:** We identified 100 differentially expressed genes (DEGs) from a total of 27,985 from the microarray dataset, while RNAseq data revealed 585 DEGs from amongst 25,550 genes. KEGG pathway analysis led to the identification of top 10 pathways, three of which were common between the DEGs from both RNAseq and microarray datasets i.e. Malaria, TGF Beta, and PPAR signaling – as significant in the context of ovarian cancer metastasis. Drug interaction analysis using the STRING database, revealed interactions among 14 out of 17 key genes, with VCAM1 standing out as a central hub protein. Drug repurposing efforts using the PANDRUG database highlighting 37 potential drug candidates. **Conclusion/Recommendations:** This study underscores three shared pathways, with the presence of VCAM1 in the Malaria pathway, along with its interactions in cancer-related proteins, suggests the potential repurposing and use of anti-malarial drugs for treating metastatic ovarian cancer. In the next phase, we aim to undertake an in vitro antimalarial drug

screening against ovarian cancer cell lines to validate our in silico findings. **Keywords:** (gene expression) AND (Ovarian Cancer) (Batch-normalization) AND (ovarian cancer) ((Differentially expressed gene*) AND (ovarian cancer)) (bioinformatic* analysis) AND (ovarian cancer) (gene expression dataset*) AND (ovarian cancer) (negative control gene*) AND (ovarian cancer) (primary tumor) AND (ovarian cancer) (metast*) AND (ovarian cancer) (Transcriptomic analysis) AND (ovarian cancer) Gene expression analysis of matched ovarian primary tumors and metastases clinically annotated data for the ovarian cancer matched primary and metastatic ovarian cancer (Drug repurp*) AND (Ovarian Cancer) (((omics) AND (primary)) AND (metastatic)) AND (ovarian cancer) (((rna seq) AND (primary)) AND (metastatic)) AND (ovarian cancer)

BS-15: Studying the role of fusobacterium nucleatum in oral squamous cell carcinoma by learning from colorectal cancer.
Hassan Ijaz. Precision Medicine Lab.

Objective/Hypothesis: Various microorganisms such as *F. nucleatum*, *P. gingivalis*, and *E. coli* play a significant role in the onset of cancers. *F. nucleatum* is a gram-negative, opportunistic bacteria known to create favorable conditions for colorectal cancer (CRC) and possesses a potential risk in breast, oesophageal, and Head and Neck Squamous Cell Carcinoma. This study aims to identify factors in OSCC and CRC interacting with *F. nucleatum*, indicating overlapping mechanisms between them, in the onset of cancer. **Study Design:** Computational Analysis **Materials and Methods:** Two datasets for *F. nucleatum* (Fn) cocultured with CRC and for OSCC versus Control Samples were assessed from GEO. The differentially expressed genes were obtained for both using RStudio. The Fn-

interacting host genes were highlighted and all datasets were mapped on a Venn diagram to identify common genes. Their ProteinProtein Interactions were analysed using STRING and Cytoscape. **Results:** IFI27 gene was observed as the only common gene across all three groups in comparison. A total of fifteen common genes were seen to be interacting with IFI27. IFI27 protein interaction networks were analyzed using KEGG pathway enrichment analysis, and pathways indicating a possible link with carcinogenesis were observed. IFI27 was interacting with three genes present in pathways for Human Papilloma Virus, which is being explored as a possible risk factor for OSCC. Further analysis identified three interacting genes in JAK-STAT signalling pathway, which is dysregulated in cancers. Three genes in PD-L1 expression and PD-1 checkpoint pathways, five interacting genes in viral carcinogenesis, and five genes in pathways in cancer were seen to be interacting with IFI27. **Conclusion/Recommendations:** The presence of IFI27 gene in all three groups creates a strong likelihood that it is affected by *F. nucleatum* in cancers. This indicates a potential mechanistic link between *F. nucleatum* and OSCC by way of the gene IFI27 and its interactions with other genes, warranting further experimental validation. **Keywords:** Fusobacterium Nucleatum, Oral Squamous Cell Carcinoma, Colorectal Cancer, Gene Expression

BS-17: Frequency of fat, mass and obesity (FTO) gene polymorphism among diabetics and pre-diabetics and association of FTO-genotypes with the obesity and diabetes mellitus.

Munir Hussain. Khyber Girls Medical College.

Objective/Hypothesis: To determine the frequency of FTO gene SNP, rs9939609 among

diabetics, pre-diabetics and healthy controls and its association with obesity and diabetes mellitus. **Study Design:** A cross sectional descriptive study. **Materials and Methods:** Study was conducted from March to December 2022. Non-probability consecutive sampling technique was followed. Total 300 patients from tertiary care hospitals of Peshawar were enrolled in the study. Blood samples were obtained following informed consent. Subjects were assessed for HbA1c and lipid profile. Patients were divided into diabetics, pre-diabetics and healthy controls on the basis of HbA1c. Their FTO-rs9939609 status was established using direct Sanger's sequencing. BMI, gender, age, HbA1c and lipid profiles were compared among all the three groups by one way anova. Chi square test was used to assess the association of FTO genotypes with risk of obesity and type 2 DM. **Results:** Out of 300 subjects, 277 could be sequenced. FTO-rs9939609 genotyping showed no significant association with T2DM or obesity. Significant differences of age, BMI, HbA1c and lipid profile were found among all the groups. **Conclusion/Recommendations:** Both pre-diabetics and diabetics had higher HbA1c and abnormal lipid profile. However, the FTO-rs9939609 showed no significant correlation with obesity and diabetes among all three groups. **Keywords:** Type 2 diabetes mellitus, obesity, HbA1c, lipid Profile, FTO gene.

BS-18: 6-Hydroxy flavone rescue ethanol-induced apoptotic neurodegeneration via activation of p-Akt signaling pathway in the developing mice brain.

Amin Jan. Northwest School of Medicine.

Objective/Hypothesis: To investigate the potential use of 6-hydroxy flavone to reduce ethanol induced neurodegeneration in the developing mice brain of PND-7 mice **Study Design:** Experimental study **Materials and**

Methods: A total of 20 post-natal day 7 mice were included in this experimental study from Mar. 2023 to Jun. 2023 at NMMRC, Peshawar. PND-7 mice were randomly distributed into four groups, a control group, an EthOH group, EthOH + 6-HF group and 6-HF group. Ethanol was administered subcutaneously at a dose of 5mg/kg to EthOH group. 6-HF was injected at a dose of 30mg/kg after ethanol administration to EthOH + 6-HF group and 6-HF group mice. After 4 hours 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 ≤ 0.05 was considered statistically significant. **Results:** Significant differences in p-Akt levels along with BAX, Bcl-2, Caspase-3 and PARP-1 proteins were observed in the brain homogenates of PND 7 mice in various groups. Post hoc tukey test revealed significant decrease ($p < 0.001$) in the p-Akt along with significant increase ($p < 0.001$) in the BAX, Bcl-2, Caspase-3 and PARP-1 levels in EthOH group as compared to control group mice. However, significant increase ($p < 0.05$) was observed in p-Akt level along with significant retrieval ($p < 0.001$) in BAX, Bcl-2, Caspase-3 and PARP-1 expression level in EthOH + 6-HF group as compared to EthOH group.

Conclusion/Recommendations:

Administration of 6-HF significantly improved ethanol induced neuro-degeneration in brain of the PND-7 mice **Keywords:** Ethanol; 6-hydroxy flavone; Neurodegeneration; p-Akt signaling pathway; Caspase-3

BS-19: Assessment of growth retardation among transfusion dependent thalassemia patients in Peshawar, KP.

Adil Zareef. Northwest School of Medicine.

Objective/Hypothesis: The objective of current study is to analyze and assess the association of multiple transfusions with growth retardation particularly in thalassemia children of Peshawar, Pakistan. **Study Design:** We conducted a cross-sectional study on transfusion-dependent thalassemia children and adults who were visiting the Fatimid Foundation for treatment. **Materials and Methods:** This descriptive cross-sectional study was carried out at Fatimid foundation Peshawar. Transfusion-dependent thalassemia children and adults who of all age groups and both genders were enrolled into the study. The participants were divided into four categories based on their age (0-5, 5.1-10, 10.1-15, 15.1-20 years) for standardized quantitative assessment and measurement of growth patterns. **Results:** We analyzed a total of 93 thalassemia major children, including 55 males and 38 females, with a mean age of 10.86 ± 5.72 years. The mean age of their first transfusion was reported as 8.13 ± 5.78 months. We found a low mean BMI of 16.38 ± 1.82 in both males (16.24 ± 1.96) and females (16.58 ± 1.59). Only 14 (15.1%) cases had a normal BMI, while 79 (84.9%) patients had a BMI lower than 18. The mean ferritin level in study patients was 4179 ± 2811 , and only two patients had normal serum ferritin levels. Furthermore, we observed that 66 (71%) children were below 50th percentile of growth chart, 23 (24.7%) children were below 90th percentile, and only 4 (4.3%) children were above 90th percentile. We also classified the sample population into patients with normal stature ($N = 44$) and short stature ($N = 49$). **Conclusion/Recommendations:** In conclusion, our study highlights the importance of managing iron overload in thalassemia patients to prevent growth retardation. The results emphasize the need for early intervention and regular monitoring of transfusion dependent thalassemia patients to

prevent long-term complications. **Keywords:** Transfusion-dependent thalassemia major patients, Ferritin level, Iron overload, Growth retardation.

BS-26: Factors Affecting Occupational Therapists' Sense of Belongingness in a Multi-professional Clinical Environment.
Nazish Abdul Qadir. Institute of Physical Medicine and Rehabilitation, KMU

Objective/Hypothesis: To identify the factors affecting belongingness of Occupational Therapists working in a multi professional clinical environment. **Study Design:** Single Case **Study Materials and Methods:** It is a Qualitative-single case study. Ten Occupational Therapists were selected to participate in online semi-structured interviews using purposive sampling. The Interview guidelines were based on an integrative framework of belongingness. The interviews were recorded and transcribed for analysis. Data analysis was carried out manually following Clark and Braun's six steps of thematic analysis. **Results:** Five themes further classified into eleven subthemes emerged from the analysis. Professional Competency, Inter-Professional Collaborations, and Self Motivations mediate belongingness. Furthermore, Struggles with Professional Identity and organizational barriers and obstacles cultivate a sense of belongingness in a multiprofessional clinical environment. **Conclusion/Recommendations:** Occupational Therapists' skills, effective communication, a safe learning environment, and others' knowledge of their services, required resources, and opportunities contribute to providing nurturing ground for belongingness. The findings might suggest solutions for employers, team leaders, and medical educators for effective interdisciplinary team interactions **Keywords:** Belongingness, Occupational

Therapists (MESH term), Multi-professional team.

BS-31 MULTI DRUG RESISTANT CARBAPENEMASE PRODUCING BACTERIA ON THE RISE.
SAMAN HUSSAIN. Northwest School of Medicine.

Objective/Hypothesis: To determine the occurrence of multi drug resistant gram negative pathogens including carbapenamases isolated from different patient's specimens at North West General Hospital, Hayatabad. **Study Design:** Cross-sectional study **Materials and Methods:** In this study, Disc Diffusion method on Mueller Hinton agar was employed to test the antibiotic resistance of gram negative Enterobacterials isolated from various clinical specimens collected from 1st October 2022 to 30th September 2023. **Results:** A total of 2757 Gram negative bacilli/rods were isolated from patient seen in Northwest General Hospitals Hayatabad during one year period from October 1, 2022 to September 30, 2023. Analysis of the data revealed three distinct antibiotic resistance patterns; 1. Enterobacterales resistant to only one or two classes of antibiotics: 37.1% 2. Enterobacterales resistant to multiple classes of antibiotics which included Amp-C, other Cephalosporinases and Extended Spectrum β -Lactamases (ESBLs) producers (52.6%) 3. Enterobacterales resistant to Carbapenems and other classes of antibiotics (10.3%). A total of 2757 Gram negative bacilli/rods were isolated from patient seen in Northwest General Hospitals Hayatabad during one year period from October 1, 2022 to September 30, 2023. Analysis of the data revealed three distinct antibiotic resistance patterns; 1. Enterobacterials resistant to only one or two classes of antibiotics: 37.1% 2. Enterobacterales resistant to multiple classes of

antibiotics which included Amp-C, other Cephalosporinases and Extended Spectrum β -Lactamases (ESBLs) producers (52.6%) 3. Enterobacteriales resistant to Carbapenems and other classes of antibiotics (10.3%).

Conclusion/Recommendations: This study showed that the rate of carbapenemase producing Enterobacteriales are steadily increasing in Peshawar. The present data in conformity to Enterobacteriales resistance pattern in Pakistan and the rest of the world. It is worrying that only 37% of Enterobacteriales infection can be treated with 1st line antibiotics such as Co-amoxiclav, Co-trimoxazole and quinolones. This study also revealed that 52% of the Gram negative pathogens are multi-drug resistant necessitating the use of carbapenems putting selective pressure on carbapenems. The remaining 10% of study isolates may be treated with expensive and nephrotoxic antibiotics such as colomycin if susceptible. Currently, effective Infection Prevention & Control (IPC) is the key strategy for dealing with this global public health threat **Keywords:** Carbapenemases, Mueller-Hinton agar, Compliance, Resistance.

BASIC SCIENCES POSTER PRESENTATIONS

BS-4: Histopathological Effects of ethyl pyruvate in LPS-induced mice model of Parkinson's disease. Rabia. NWSM.

Objective/Hypothesis: 1) To investigate the effects of ethyl pyruvate on dopaminergic neuron loss in LPS-induced mice model of Parkinson's disease 2) To investigate the effects of ethyl pyruvate on motor deficits in LPS-induced mice model of Parkinson's disease
Study Design: Laboratory based experimental study
Materials and Methods: sample size: 24 male balb-c mice (according to formula $n=DF/k+1$) **study duration:** 6 months experimental groups: control group, LPS group, LPS+EP group, EP group IHC performed for dopaminergic neurons analysis ELISA performed for TNF-alpha levels Pole behavior test performed Image-J software used for IHC image analysis
Results: 1) ethyl pyruvate reduced the dopaminergic neuron loss in LPS-induced model of Parkinson's disease 2) ethyl pyruvate reduced the behavioral deficits in LPS-induced model of Parkinson's disease
Conclusion/Recommendations: Ethyl pyruvate has the ability to ameliorate the dopaminergic neuron loss as well as behavioral abnormalities in Parkinson's disease Model.
Keywords: Parkinson's disease, glial cells, ethyl pyruvate, substantia nigra, lipopolysaccharide (LPS), bradykinesias, inflammation

BS-6 Medication Non-Adherence among Type 2 Diabetic Patients in Peshawar. Muhammad Faizan Qadir. NWSM.

Objective/Hypothesis: This study aimed at determining antidiabetic medication non-adherence rates in Peshawar. **Study Design:** This descriptive cross-sectional study was conducted at Northwest General Hospital and Research Centre. The study included two hundred and ten patients with T2DM via consecutive sampling. Data regarding sociodemographic, anthropometric, and clinical characteristics, medication factors, and non-adherence were collected using a pretested and structured questionnaire. **Materials and Methods:** Treatment adherence was assessed by the Morisky Medication Adherence Scales (MMAS-8), license and permission to use the scale, was requested and granted. **Results:** The study included participants with a mean age of 51.48 ± 11.73 years, with the majority (55%) falling within the ≥ 51 years age group, and 58.57% of them were female. Non-adherence with antidiabetic medication was observed in approximately 45% of patients based on the MMAS-8 scale (score < 6), while 25.70% of patients demonstrated high adherence (score 8), and 29.50% were considered moderately adherent (score 6–7). Several factors were found to be significantly associated with non-adherence. These factors included busy work schedules, longer treatment duration, fear of antihyperglycemic medication, and pain associated with injections. Additionally, age, monthly family incomes, fasting and random sugar levels, treatment cost, regimen complexity, knowledge deficit regarding therapy, disease progression (feeling worse or better), and the decision to omit medications also showed significant associations with non-adherence
Conclusion/Recommendations: The study findings revealed a considerable proportion of patients demonstrating low adherence to antidiabetic medication. Factors such as work schedules, treatment duration,

fear, and pain contributed significantly to non-adherence. The findings underscore the importance of addressing these factors to improve medication adherence and ultimately enhance diabetes management outcomes in the Peshawar population. **Keywords:** Diabetes, Medication regimen, Morisky Medication Adherence Scales (MMAS-8)

BS-7 AN UNDER DIAGNOSED ENTITY: TYPE 3C DIABETES.

Laila Khan Shinwari. NWSM.

Objective/Hypothesis: The primary objective of this case series is to enhance our understanding of Pancreatic Diabetes (Type 3c Diabetes) as an under-diagnosed and critical health entity. **Study Design:** This study is a retrospective case series **Materials and Methods:** This study is a retrospective case series that investigate the pathophysiology of four patients attending the outpatient endocrine department of Northwest general hospital and research center located in Peshawar Khyber Pakhtunkhwa. The study was conducted during the year 2019 to 2022. The description of four cases is given below. **Results:** The case series presents four cases of patients with 3C diabetes. These cases show how exocrine pancreatic disorders can cause type 3c diabetes as a result of its underlying cause. In case 1, the patient developed type 3c diabetes because of CA pancreas tail and body and chronic pancreatitis. In case 2, the patient reported acute pancreatitis and was later given a diabetes diagnosis. Similar scenarios occurred in cases 3 and 4, when pancreatitis, hypertriglyceridemia, and hyperlipidemia were all linked to type 3 c diabetes. **Conclusion/Recommendations:** The under-diagnosis of Type 3C diabetes is primarily due to the lack of awareness of the disease among healthcare professionals and the

diagnostic criteria for Type 2 diabetes not differentiating between the two. Improving the diagnosis and management of Type 3C diabetes can lead to improved patient outcomes and quality of life. Early diagnosis and management of the underlying pancreatic disease can prevent or delay the onset of Type 3C diabetes, leading to improved patient outcomes and quality of life. **Keywords:** Diabetes, underdiagnose entity, Type 3C diabetes, Acute pancreatitis disease.

BS-8 Fahrs disease ; a case of 46 years old with typical presentation. Osama Akhtar, NWSM.

Objective/Hypothesis: Awareness regarding miss diagnosis and clinical signs and symptoms of fahrs disease **Study Design:** Case report **Materials and Methods:** Case report **Results:** Diagnosis of fahrs disease **Conclusion/Recommendations:** Early diagnosis, prevention of miss diagnosis. Labs and imaging required for diagnosis and treatment options **Keywords:** Fahrs disease Farhs syndrome Bilateral Striato pallido dentate calcinosis Pdgfrb and pdgfb gene

BS-9 Investigating the effect of cisplatin on co-cultured candida albicans and patient-derived oral squamous cell carcinoma cells. Easha Noor, Precision Medicine Lab.

Objective/Hypothesis: Candida. albicans, a yeast species commonly found in the oral cavity, has raised intriguing questions about oral cancer. Literature has shown a higher prevalence and greater diversity of yeast in oral cancer patients, with C. albicans playing a pivotal role. Moreover, it can convert alcohol into the carcinogen acetaldehyde through the CaADH1 mRNA gene. We studied the impact

on the cell viability of co-cultured *C. albicans* with Oral squamous cell carcinoma cell line in the presence of cisplatin and acetaldehyde.

Study Design: The experiment comprised a 12-well plate experimental setup, run in duplicates along with 3 control groups: OSCC only, *C. albicans* only, and a co-culture of OSCC and *C. albicans*. The experiment setups contained co-culture with cisplatin and acetaldehyde, respectively, **Materials and Methods:** OSCC cells A2-32 were grown in MEM, FBS, HC, EGF, and pen/strep at 37°C and 5% CO₂. At ~70% confluence, 1.5 x 10⁵ cells per well were established within the 12-well plate experimental setup. Cisplatin and acetaldehyde were used at a concentration of 40 µg/ml and 222 µM, respectively. Cell counts were recorded at 12 and 24 hours using a Hemocytometer. **Results:** Results of both replicates were similar with a difference of <10%. It was observed that the cell viability percentage in the co-culture with the cisplatin group was comparable to that of the group containing *C. albicans* and cisplatin. This may be attributed to the resistance of *C. albicans* towards the administered concentration of cisplatin as found from the control setup, which was potentially too high for OSCC cells and could have resulted in cell death. In contrast, in the second experiment, the co-culture with acetaldehyde displayed a significantly higher viability percentage (~ 27% high) compared to the control group of co-culture only. **Conclusion/Recommendations:** Our findings suggest that *C. albicans* can resist cisplatin up to a concentration of 40 µg/ml and have no significant impact on the progression of OSCC. However, high levels of acetaldehyde in oral candidiasis patients may accelerate OSCC progression. More research and automated cell viability counting are needed to establish a link between OSCC and *C. albicans*. **Keywords:** oral squamous cell carcinoma, *C. albicans*, oral

candidiasis, chemotherapy, cisplatin, and acetaldehyde.

BS-13 Investigating the role of chemokines and chemokine receptors in the metastasis of breast cancer subtypes. Maryam Fayyaz, Precision Medicine Lab, Peshawar; Khyber Medical College, Peshawar.

Objective/Hypothesis: Breast cancer is the most frequently diagnosed cancer globally with over 2.3 million new cases (2020) and comprises 4 subtypes; Luminal A, Luminal B, HER2-enriched, and Basal. Each subtype shows distinct metastatic precedence to various organs including the bones, lung, liver, and brain. Our objective was to identify the chemokines and chemokine receptors that may be involved in the organotropism of breast cancer metastasis in each subtype. Chemokines cause directional migration of a cell harboring a chemokine receptor, and available evidence suggests their possible role in metastasis. **Study Design:** It is a comparative study. **Materials and Methods:** RNA-seq data of breast tumors (GSE202203) and normal breast (GTEx) was analyzed for differentially expressed genes (DEGs) using Limma Package of R (p-value|2). The DEGs were filtered for chemokine receptor-specific genes. DEGs for metastasis-prone tissues were identified using DESeq2. RNA-seq data for this purpose was taken from GTEx and the dataset GSE99671. **Results:** The most significantly upregulated chemokine receptors in breast tumors were CCR1, CCR2, CCR4, CCR5, CCR8, CX3CR1, CXCR3-6. Interestingly, each receptor was differentially expressed among the subtypes as well. In the organs prone to metastasis, the brain showed significant overexpression of CCL25, CCL1, and CCL27 when compared to the breast, bone, liver, and lungs. Similarly, CCL1,

CXCL12, CCL8, CCL25, CCL3, CXCL11, CCL7, CCL14, CCL22, CXCL9, and CCL5 were overexpressed in the bones. CCL16, CCL15, CXCL13, CXCL2, CXCL6, CCL25, and XCL2 showed enhanced expression in the liver. In the lungs, CXCL17, CCL11, CCL18, CXCL5, CXCL3, CCL17, CXCL1, CCL20, CCL7, and CCL13 were the most overexpressed.

Conclusion/Recommendations: Our way forward is to map out the interactions between chemokines secreted by the metastasis-prone sites in each subtype and the upregulated receptors on tumors. Upon confirming their metastatic role via literature search, we can shortlist these chemokine-receptor pairs based on differential expression across the subtypes to understand their involvement in metastatic organotropism of the subtypes. **Keywords:** Breast cancer subtypes, chemokines, chemokine receptors, metastasis, organotropism

BS-14 Attitudes and Perceptions Regarding ChatGPT Among Medical Students in Private and Public Sector Medical Colleges of Peshawar, Pakistan. Mehtab Ali Shan, CHS, RMI.

Objective/Hypothesis: To determine the level of familiarity and usage of chat GPT among medical students in public and private sector medical colleges of Peshawar. To assess the attitudes and perceptions of medical students regarding the usefulness and effectiveness of chat GPT in their educational practices. To find out the factors influencing the acceptance of chat GPT among medical students in Peshawar.

Study Design: Cross-sectional Descriptive study **Materials and Methods:** Material and methods: Cross-sectional Questionnaire-based study, with a sample of 200 medical students.

from first to final year from two private (RMC, NWMC) and two public (KMC, KGMC) colleges in Peshawar. The data will be taken by systematic random sampling. The analysis will be done by SPSS 26. **Results:** We had 168 total participants of which 45.8% (n=77) were males and 54.2% (n=91) were females. The students had a very low perception or mostly neutral viewpoints regarding ChatGPT's use as a learning tool. Most students disagreed that it could replace current teaching methods (disagree 38.7%; mean 2.91). The most positively perceived use of ChatGPT was a tool to save time when studying (45.8% agree; mean=3.33). The students perceived it could streamline their work (60.1% agreed; mean 3.68). And its usefulness for practicing history taking had a low perception (42.3% agreed; mean 3.23). Students had a high perception of the use of ChatGPT in helping them prepare for theory examinations (47% agree; mean 3.29), but they found it less useful for OSPE examinations (39.3% agree; mean 3.15).

Conclusion/Recommendations: In summary, ChatGPT emerges as a potent asset for various aspects of education and research. Compared to the rest of the world students of Peshawar seem to have a more reserved view of its ability to replace our current methods of teaching, learning, research and other fields. There also seems to be a lack of awareness or perhaps technological illiteracy among medical students, limiting their use of new AI technology in their routine lives. This could be improved by holding seminars, teaching groups, and workshops. More widespread use of AI will save students time, improve their quality of learning and develop better concepts to become better doctors. The integration of AI, including ChatGPT, into research holds great promise but also necessitates vigilant oversight and ethical evaluation by relevant committees.

Keywords: ChatGPT AI Chatbot medical education

BS-20 From Collaboration to Competence: Exploring the Collaborative Learning Activity for Scholarly Skills (CLASS) Approach in Medical Education for First-Year Students.

Susan Kakakhel. Northwest School of Medicine.

Objective/Hypothesis: The primary objective was to evaluate the effectiveness of CLASS interventions in enhancing scholarly skills in Physiology among first-year MBBS students. The secondary objective was to quantitatively evaluate the impact of peer evaluations in enhancing the critical thinking of first-year MBBS students. **Study Design:** Cross sectional. **Materials and Methods:** Study Design: A quasi-experimental design involving 143 first-year MBBS students was employed. They were organized into 12 groups with 12 students each, with one student lost to follow-up. **Study Settings:** The research was conducted at the Northwest School of Medicine. **Population:** The study included first-year MBBS students enrolled in the Physiology course at Northwest School of Medicine. A purposive sampling technique was used and all students Intervention: Students received the "Anemia" topic 2-3 weeks before the activity and studied it collaboratively, using relevant Physiology textbooks and authenticated online resources. **Poster Creation:** Each group created a poster summarizing their understanding of anemia within the context of Physiology. The posters incorporated key physiological concepts related to anemia, its etiology, pathophysiology, diagnostic methods, and management strategies. **Poster Display:** On the activity day, groups showcased their posters in a designated

area for peer evaluation and feedback. **Peer Evaluation:** 12 students were randomly selected out of each group for peer evaluation. Peers evaluated posters using specific criteria, such as clarity of physiological concepts, accuracy of information, logical organization, creativity, and visual appeal within the context of Physiology. Reflection and Feedback: Students reflected on the group activity, assessed the effectiveness of the CLASS intervention, and provided comments on their learning experience, scholarly skills, and collaborative processes. **Ethical Considerations:** Informed consent was obtained from all participants. Data were anonymized and securely stored to protect participant confidentiality, following institutional review board guidelines. Data collection included self-reflection and peer evaluation scores, analyzed using a standardized questionnaire. The questionnaire comprised two halves. In the first one, Students reflected on the group activity, assessed the effectiveness of the CLASS intervention within the Physiology course, and provided comments on their learning experience, scholarly skills, and collaborative processes. In the second half, Posters were evaluated by the peers using specified criteria, such as clarity of physiological concepts, accuracy of information, logical organization, creativity, and visual appeal within the context of Physiology. Likert scale was used for ordinal variables, and nominal for gender. Frequencies and percentages were calculated for each activity during this CLASS session. Descriptive statistics such as mean and range were calculated for the entire CLASS activity. The aspects assessed in the questionnaire were; • Significant enhancement of critical thinking, information synthesis, and presentation skills. • Improved teamwork, research skills, active engagement, and problem-solving abilities. • Effective communication and self-directed

learning were cultivated. Regarding poster evaluations: • Effective communication of key concepts related to anemia. • Visually appealing and engaging posters. • Well-organized and easy-to-follow content. • Visual aids and graphics enhanced topic understanding. • High-quality and professional posters. **Results:** CLASS intervention yielded impressive results, as students achieved a commendable mean score of 36.06 out of 40, indicating a high level of performance. Among these students, 100(70%) were males and 43(30%) females. Furthermore, a significant majority of participants (71.3%) strongly concurred that the CLASS activity substantially improved their critical thinking and analytical skills. It further underscored the positive impact of the CLASS activity on effective communication and presentation of ideas, with a substantial majority (65%) strongly agreeing with this notion. Post peer evaluation of the posters, it was evident that the content of the posters received positive feedback, being perceived as well-organized and easy to follow, with a third of peers (33.3%) strongly agreeing on this aspect. Additionally, the visual aids and graphics employed in the posters played a pivotal role in enhancing the understanding of the topic, with half of the participants (50%) strongly agreeing.

Conclusion/Recommendations: This research demonstrates the positive impact of CLASS interventions within the Physiology curriculum in enhancing scholarly skills and overall learning outcomes among first-year MBBS students. The findings underscore the importance of collaborative learning activities in promoting critical thinking, teamwork, and self-directed learning in medical education. This study contributes to the literature on innovative educational practices in medical education, particularly within Physiology programs, and highlights the potential benefits

of the CLASS framework. Keywords: CLASS Collaborative Learning Activity for Scholarly Skills.

BS-21: Exploring the Nexus of Self-Esteem, Locus of Control, and Quality of Life in Drug Addiction Rehabilitation: A Cross-Sectional Study.

Waqar Ali, Haseeba Mukhtar, Bilal Afzal, Northwest School of Medicine.

Objective/Hypothesis: 1. To assess the levels of self-esteem, locus of control, and quality of life in patients referring to drug addiction rehabilitation centers. 2. To determine whether self-esteem and locus of control predict the quality of life in patients referring to drug addiction rehabilitation centers. **Study Design:** Descriptive Cross Sectional **Materials and Methods:** We conducted a cross-sectional descriptive correlational study over six months, focusing on patients seeking recovery in four private drug rehabilitation centers in Peshawar: two branches of the Dost Foundation, Umeed Foundation, and Zahid Foundation. Utilizing the WHO sample size calculator, we determined a sample size of 141 participants. We employed randomized convenience sampling to recruit participants who met the following inclusion criteria: individuals aged 18 or older, currently receiving treatment at drug addiction rehabilitation centers, diagnosed with drug addiction or substance use disorder, able to communicate in the study language, and providing informed consent. **Results:** The mean scores for DUQOL, DR-LOC and Self Esteem were 66 +/- 7, 24.15 +/- 2.5 and 23.14 +/- 2.3 respectively. The minimum and maximum scores for DUQOL were 51 and 79, 17 and 30 for DR-LOC and 16 and 28 for the Self Esteem respectively. There was a positive Pearson's correlation (0.059) between the DUQOL and

DR-LOC, and between DR- and Self Esteem (0.077), while the DUQOL and the Self Esteem were negatively correlated (-0.016). According to the findings of the One Way ANOVA test, there was a significant association was seen between age and Self Esteem (F=1.765), age and Locus of Control (F=0.567) and between educational level and Self Esteem (F=1.168)

Conclusion/Recommendations: This study provides valuable insights into the intricate interplay between self-esteem, locus of control, and quality of life among individuals undergoing drug addiction rehabilitation which are promising for refining treatment strategies and improving the well-being of the recovering patients. **Keywords:** DUQOL: Drug user quality of Life DR-LOC: Drug related Locus of control Self Esteem Score.

BS-22 Comparison of Susceptibility between Conventional First Line Antibiotic Co-Trimoxazole and Newer Antibiotics in Recurrent Uncomplicated Urinary Tract Infections.

Muhammad Saleh Faisal. Khyber Medical College, Peshawar.

Objective/Hypothesis: This study aimed to assess the antibacterial effectiveness of Co-trimoxazole and compare it with commonly prescribed antibiotics like Levofloxacin, Nitrofurantoin, and Fosfomycin. **Study Design:** Cross-sectional study. **Materials and Methods:** This cross-sectional study was conducted in Mardan Medical Complex, Mardan, and the Postgraduate Medical Education Department of Khyber Girls Medical College, Peshawar from April 2022 to September 2022. Both male and female patients, above the age of 15 years with recurrent uncomplicated urinary tract infections were included in the study. The samples were inoculated onto CLED (Cystine-Lactose-

Electrolyte-Deficient) Agar, a differential culture medium. The grown bacteria were identified, using Gram staining and BIOMÉRIEUX® API® 10S kits. Minimum inhibitory concentrations (MIC) were determined by the Agar dilution method; as per standard protocol. The results were compared among Co-trimoxazole, Levofloxacin, Nitrofurantoin, and Fosfomycin using statistical tests. **Results:** A total of 680 samples were received, of which 158 samples were culture-positive. The gender distribution of females and males was 63.3% and 36.7%, respectively. A predominant proportion of the patient cohort manifested within the age range of 21-40 years, with the subsequent highest representation observed in the 41-60 year age group. The isolated organisms were E. coli (74.1%), Klebsiella (10.8%), Pseudomonas (5.1%), Enterococci (6.3%), Proteus species (2.5%), and Citrobacter (1.3%). Based on MIC analysis, 77.2% of isolates were found to be sensitive to Cotrimoxazole, 52.5% to Levofloxacin, 86.7% to Nitrofurantoin, and 90.5% to Fosfomycin. When comparing antibiotics, Cotrimoxazole displayed significantly higher effectiveness against the isolates compared to Levofloxacin (p-value 0.004). However, in comparison to Nitrofurantoin and Fosfomycin, Co-trimoxazole exhibited lower effectiveness, with respective p-values of 0.000 and 0.007. **Conclusion/Recommendations:** In our study cohort, the bacterial isolates showed appreciably higher susceptibility to Co-trimoxazole compared to Levofloxacin (a Fluoroquinolone). However, it remained inferior to the susceptibility rates observed for Nitrofurantoin and Fosfomycin. Given the guideline that antibiotics exhibiting resistance levels surpassing 20% should be avoided for empirical therapy, the presence of a 22.8% resistance rate to Co-trimoxazole discourages

its consideration as an empirical antibiotic option. However, it can be preferred over Levofloxacin in recurrent uncomplicated UTIs. **Keywords:** Urinary tract infections, Drug resistance, Culture and sensitivity, Minimum inhibitory concentration

B-23 Does Time lapsed after meals affect serum Irisin and Cholesterol levels in Prediabetic population?

Fazeelat Hajra Kareem. Khyber Girls Medical College, Peshawar.

Objective/Hypothesis: exercise done after different time lapsed after meal has effect on serum Irisin Levels And cholesterol levels
Study Design: Clinical **Materials and Methods:** This prospective study included a total of 25 Prediabetic participants. Blood samples were collected before and after every exercise session, in which Human Irisin hormone levels (determined through ELISA), as well as cholesterol levels, were measured. The levels of Irisin and cholesterol were evaluated with respect to different timings i.e. 30 min, 60min, 90min and 120min after meal. Data collected was analyzed through SPSS-22.
Results: Out of 25 participants 22 completed the study. Mean age of participants was (34.5 ± 4.14 years) while height was (170.3 ± 7.13cm). HbA1c was (5.84 ± 0.14). Irisin hormone levels were found to raise significantly from baseline after every exercise session. Cholesterol levels post exercise were significantly reduced. In first 3 visits serum Irisin was released significantly (p0.05 value was observed. Post hoc analysis show significant increase in Irisin levels in exercise done 30min after meal.
Conclusion/Recommendations: Exercise done at 30min lead to a statistically significantly increase in Irisin hormone levels and decreased cholesterol levels. According to our study best

time to exercise is 30 min after taking meal. **Keywords:** Irisin, Prediabetes, Exercise, diabetes mellitus, dyslipidemia.

BS-27: Chest X-Ray detection AI (Artificial Intelligence) model.

Syed Hassan Boo Muhammad Jaffry. Nowshera Medical College.

Objective/Hypothesis: Chest X-ray abnormality detection via (Computer Vision) Neural Networks Study Design: Development and training of Convolutional Neural Network for diagnosing diseases in Chest X-Ray
Materials and Methods: Technologies Used: Python == 3.10.11 Tensorflow == 2.9 Pandas == 1.5.3 Scikit-Learn == 1.2.2 numpy == 1.22.4 matplotlib == 3.7.1 jupyter notbook
DATA: We used the NIH [1] database, which includes about 121000 tagged images of chest X-rays from 14 different illness types. The collection includes a total of 112120 images, of which 60361 chest X-rays had no findings. The remaining chest X-rays in the collection are classified into various disease classes, some of which may have multiple labels and others of which may only be associated with a single disease. The distribution of X-rays among the different illnesses is depicted in the accompanying graph. **Results:** We conducted a Receiver Operating Characteristic (ROC) test to evaluate our model's performance. The resulting ROC curve yielded an area under the curve (AUC) value of 0.723, indicating strong discriminative ability.

Atelectasis:	0.716500553709856
Cardiomegaly:	0.8350877192982458
Effusion:	0.8698623253944328
Infiltration:	0.4343105320304017
Mass:	0.7047991071428572
Nodule:	0.6246556473829201
Pneumothorax:	0.8720588235294118
Consolidation:	0.7582644628099173
Emphysema:	0.6580459770114943
Fibrosis:	0.7028740490278952
Pleural_Thickening	

Conclusion/Recommendations: Our research

has demonstrated Convolutional neural networks (CNNs), when trained with relevant data, have a substantial potential for use as an effective tool for diagnosing chest X-rays. The results highlight how AI models can efficiently help medical personnel identify different chest diseases, improving diagnostic accuracy and improving patient care. The strong performance of CNNs, as seen in this study, emphasizes the transformative impact that machine learning may have on the area of radiology and opens up a promising path for more effective and trustworthy medical diagnostics. To properly utilize AI in healthcare, future efforts should concentrate on improving these models further, enhancing datasets, and addressing ethical issues. **Keywords:** Artificial intelligence (AI), Neural Networks, Chest X-ray detection

BS-28 Serum microRNAs as a Diagnostic Biomarker for Breast Carcinoma.
Haqeeqa Saleem. Precision Medicine Lab.

Objective/Hypothesis: In 2020, there were 2.3 million women diagnosed with breast cancer and 685,000 deaths globally. This disparity reflects a combination of factors that are difficult to parse such as late stage diagnosis. Early diagnosis is essential to minimizing the mortality rate of breast cancer patients which can be achieved through liquid biopsy. The objective of this study is to investigate the potential of serum miRNAs as an early-stage diagnostic biomarker for breast cancer. **Study Design:** Quantitative Data **Materials and Methods:** A computational approach was used to identify deregulations of miRNAs in breast cancer patients, datasets were downloaded from the GEO database. The dataset GSE22981 was processed and filtered to remove low-quality data. The expression levels of miRNAs were analyzed using RStudio and classified as up/downregulated. Lastly KEGG enrichment analysis was performed on the significant

miRNAs using miRNet. Results: Levels of a total of 1134 circulating miRNAs were assessed from women with early stage breast cancer and matched healthy controls. Their expression levels were filtered using a p-value of less than 0.005 and $\log_2FC \geq |2|$. This resulted in a panel of 7 differentially expressed miRNAs (DEMis), including 2 novel miRNAs. The upregulated miRNAs were hsa-miR-299-3p, hsa-miR-199-5p, hsa-miR-485-3p, hsa-miR-378a-3p, and HS_243.1. The downregulated miRNAs were hsa-miR-143 and HS_169. miRNA-gene interactions and KEGG enrichment analysis showed that hsa-miR-378a-3p was involved with 42 genes, hsa-miR-485-3p with 24 genes, and hsa-miR-299-3p with 19 genes. **Conclusion/Recommendations:** The findings suggest that deregulation of miRNAs may play a role in the development and progression of cancer. The study identified a panel of 7 circulating miRNAs that were differentially expressed in breast cancer patients. However, to validate the diagnostic score of these miRNAs, their levels need to be tested in blood samples from our local early-stage breast cancer patients using qRT-PCR. **Keywords:** breast carcinoma, diagnostic biomarker, serum miRNAs.

BS-29: Novel IRF2BPL gene mutation manifesting as a broad spectrum of neurological disorders: a case report.
Wardah Javed Khan. Northwest School of Medicine.

Objective/Hypothesis: Our aim is to present this novel case report and aid in expanding the knowledge surrounding the phenotype of this mutation. **Study Design:** Case report **Materials and Methods:** Abstract: Background: IRF2BPL (interferon regulatory factor 2-binding protein-like) gene is an intronless gene present ubiquitously in the human body, including the brain. Pathogenic variants lead to neurodegeneration and present

with phenotypic features of a neurological disorder, including dyslexia, dyscalculia, epilepsy, dystonia, neurodevelopmental regression, loss of motor skills and cerebellar ataxia. Case: We present a case of a 9-year-old boy who was brought to the emergency department with generalised tonic-clonic seizures and mild hypotonia. A history included neurological regression. After insignificant lab and imaging results, the patient underwent genetic testing, revealing a novel pathogenic mutation in the IRF2BPL gene (heterozygous variant), which had never been reported in the literature before. An autosomal dominant loss of function mutation was demonstrated, denoting in DNA as NM_024496 c.911 C>T, which results in premature protein termination (p.Glu494).

Results: N/A

Conclusion/Recommendations: Our case highlights the importance of early recognition of the neurological symptoms associated with various IRF2BPL gene mutations so that a timely multidisciplinary management approach. **Keywords:** Keywords: DYSLEXIA; EEG; EPILEPSY; MENTAL RETARDATION; NEUROGENETICS.

BS- 30: Learning Styles of undergraduate Medical, Dental and Health Professions Students in Peshawar, Pakistan. Nazish Abdur Qadir. Second floor, Academic Block, Khyber Medical University, Hayatabad Phase 5, Peshawar.

Objective/Hypothesis: This study aimed to explore the learning styles among the undergraduate medical, dental and health professions students in Peshawar, Pakistan. **Study Design:** cross-sectional study **Materials and Methods:** This cross-sectional study was carried out from February 2020 to March 2020 at three private and public institutes/colleges of Peshawar, namely Khyber girls medical college, Rehman college of Dentistry and Institute of Physical Medicine and

Rehabilitation. Convenience sampling was used in the selection of colleges/institutes. Learning styles were assessed by using the VARK questionnaire. A total no of 263 students from the first and fourth year of five disciplines (Medicine, Dental, Physical therapy, Occupational Therapy, and Speech-language pathology) participated in the study. The data were analyzed using the Statistical Package for the Social Sciences (SPSS) software, version 22. Frequency and percentages were calculated for different modes of learning with descriptive analysis. **Results:** Out of the 263 students, 7 were bimodal, 68 were trimodal, 188 were quadrimodal and none of the participants were reported as unimodal learners **Conclusion/Recommendations:** The major findings of our study are that undergraduate students of medical, dental and health professional education in Peshawar, Pakistan prefer the multimodal style of learning. This finding calls the adoption of mixed teaching strategies with multisensory activities that may help to improve and enrich the learning of undergraduate medical, dental and health professional students. **Keywords:** Learning styles, undergraduate medical students, health profession students, Learning Preferences, VARK, Multimodal

STUDENTS ORAL PRESENTATIONS

ST-2 FREQUENCY AND RISK FACTORS OF POSTSURGICAL SITE INFECTIONS IN PATIENTS VISITING TERTIARY CARE HOSPITALS IN DISTRICT PESHAWAR.

Manahil Saeed Khan. Khyber Medical College.

Objective/Hypothesis: To find surgical site infection (SSI) frequency and risk factors in patients admitted to tertiary care hospitals.

Study Design: Descriptive cross sectional

Study Materials and Methods: This survey was conducted from October 2021 to March 2022 using a non probability consecutive sampling technique. 130 patients were selected who went through surgery. Data was collected using a questionnaire that was developed and validated by the researchers and analyzed using SSPSS-23. The analyzed data was presented in form of frequencies, percentages, tables, and bar charts. **Results:** Frequency of SSIs in Peshawar was 30%. 42% males and 23% females got SSIs. 31% on whom emergency surgery was performed got SSIs while 28% patients got infected on whom elective surgery was performed. 33 % on whom laparoscopic surgery was performed got infected while 29% patients on whom open conventional surgery was performed got infected. 27 % non-smokers got SSIs while 62 % smokers got SSIs. The frequency of SSI among the non- hypertensive patients was 29 % while in hypertensive patients it was 33%. In non diabetic patients the frequency of SSIs was 28 % while it was 40% in diabetics. **Conclusion/Recommendations:** Our study has found that the frequency of SSIs in Peshawar is 30%, which is much higher than

that of other countries. SSIs are also different in different ages. Our study showed that males are more prone to SSIs than females. The patients who went through emergency surgery has been performed are at a higher risk of getting SSIs. People who had laparoscopic surgery are more prone to SSIs. Smokers are more prone to SSIs as compared to non-smokers. Hypertensive patients are more prone to SSIs than non-hypertensive. Diabetics are more prone to SSIs as compared to non-diabetics. **Keywords:** Infections, Post surgical, Tertiary care hospital

ST-4 Awareness of Medical Professionals and Progress of Selected Hospitals of Peshawar Regarding UN SDG Goal 3.

Junaid Sultan, Rehman Medical College.

Objective/Hypothesis: a) To know whether medical professionals are aware of the SDGs and their willingness to implement it in their setting ward/clinics. b) To check whether Objectives are given by the government to the hospitals and to what extent are they met. **Study Design:** CROSS-SECTIONAL STUDY DESIGN **Materials and Methods:** This cross-sectional study was carried out focusing on hospitals both in the public and private sector (HMC, RMI and NWGH). A questionnaire of 11 items was developed, also medical directors were inquired from by applications to request SDG status of their hospitals. a Convenience sample of 120 medical professionals was obtained. Data collected was analyzed in Microsoft Excel and SPSS version 26. **Results:** 53.4 percent of the medical professionals had prior knowledge of the SDGs; the rest had no knowledge of these goals. 17.2 % of the former were educated on SDGs by the government. 75 percent of the participants agreed that public awareness can help fast track achievement of the goals, however only 10 % believed that they

observe the focus and attention for SDG implementation. Only 29.7 percent of the health professionals pointed out that the improvement in maternal and neonatal mortality rate is because of implementation of SDGs or government policies regarding SDGs.

Conclusion/Recommendations: There is a lack of awareness in medical professionals regarding SDGs and no directions are provided to hospitals regarding SDGs implementation by the Government or its Department of health.

Keywords: SDG, SDG goal 3, SDG 3 in Pakistan

ST-5: Frequency and distribution of co-morbidities in protein energy malnutrition children admitted in nutrition unit DHQ hospital, district DI khan, Pakistan.

Fawad Ahmad, Gomal Medical College Dera Ismail Khan

Objective/Hypothesis: To determine

frequency and distribution of co-morbidities by type, age groups and gender in PEM children

Study Design: Cross sectional Study

Materials and Methods: Data for diagnosed PEM cases was retrieved from Nutrition Unit DHQ Hospital DI Khan for which non-probability consecutive sampling technique was used. Research variable was type of comorbidities while demographics variables were age groups and gender. Association of gender and age groups with the presence or absence of co-morbidities in PEM children were found using Chi Square test.

Results: Out of 400 participants, most frequent co-morbidity was gastroenteritis(GE) in 157(39.3%) patients in which females were 87(55.41%) and males 70(44.58%). 101(64.33%) were in 1–5-year age group and 56(35.66%) in under 1 year. Second to GE was pneumonia with 84(21%) patients in which females were 45(53.57%) and males 39(46.42%). Pneumonia in 1-5 year affected

61(72.61%) and 23(27.38%) patients were less than 1 year. Anemia affected 74(18.5%) patients in which females were 45(60.81%) and males 29(39.18%). 58(78.37%) patients were in 1-5 years and 16(21.62%) in less than 1 year. Other co-morbidities were seen in small number of patients. Difference in age groups were statistically significant at p-value of 0.005006 (0.05).

Conclusion/Recommendations: Most common comorbidities were GE, pneumonia and anemia and their prevalence was higher in females and 1–5-year age group. **Keywords:** Co-morbidities, Protein Energy malnutrition, gastroenteritis

ST-10 Differentially expressed genes in recurrent classical hodgkin lymphoma and exploring the potential for repurposed drugs.

Ahad Ali Nazir, Rehman Medical College

Objective/Hypothesis: Lymphomas, originating in the lymphatic system, have a specific subtype Classical Hodgkin Lymphoma (cHL) with a relapse incidence of 10%–30%. This study aims to address the absence of targeted therapies and increased risk factors associated with current medications of relapsed cHL. The objectives were identifying available datasets of relapsed cHL in addition to a comparative analysis of Differentially Expressed Genes (DEGs) in relapsed cHL and enlisting the repurposed drugs for its treatment. **Study Design:** Dry Lab analysis **Materials and Methods:** Upon systematic literature search on PubMed using four keywords; DEGs, cHL, Relapsed cHL, and Drug repurposing, 16 relevant articles were identified. Datasets were sourced from TCGA, cBioPortal, and GEO followed by stringent filtering. DEGs were identified using the limma package (p 0.001,

log FC > 2.5). Gene Ontology analysis utilised DAVID, and drug repurposing was aided by DGIdb. **Results:** A total of 165 articles were relevant followed by screening based on titles and abstracts, yielding 16 full-article reads. Databases (TCGA, cBioPortal, GEO) were explored, and after strict filtering, 3 datasets (GSE12453, GSE20011, GSE17920) with 157 samples were selected. DEGs were identified by comparing Unidentified Relapsed cHL and Unidentified cHL labels using R and the limma package post-normalization. The identified 54,676 DEGs were filtered by p-value and log (fold change), yielding 1065 DEGs. As a result, top five DEGs emerged: SPARCL1, LUM, PRKACB, S100A4, GUCY1B1, and HNMT. Out of 65 identified drugs by DGIdb, top 5 were chosen on the basis of Query and Interaction Scores and they are listed as Bosutinib, Nilotinib, Adenosine triphosphate, Ponatinib and Flumatinib. **Conclusion/Recommendations:** This study identified top 5 significant DEGs with potential of treating Relapsed Classical Hodgkin Lymphoma. Drugs that could be specific for these DEGs, enhancing clinical relevance were enlisted. These findings offer innovative therapies, emphasising DEG modulation as a strategy in Hodgkin Lymphoma. Further experimental validation of these findings is crucial for advancing the treatment options. **Keywords:** Differentially expressed genes, Classical Hodgkin Lymphoma, Relapse, Drug repurposing, Gene ontology analysis, TCGA, cBioPortal, GEO, Limma package, Query score, Interaction score.

ST-14 CAUTI - Not Getting a Breakthrough. Rabia Anwar, Khyber Girls Medical College.

Objective/Hypothesis: To compare the effectiveness of Silicone catheter versus Alloy

catheter in preventing CAUTI in patients with prolonged catheterization of more than 2 weeks **Study Design:** Randomized Clinical Trial **Materials and Methods:** Study Setting: Urology IKD in Peshawar. Study Duration: from Jan to April 2023. Sample Size: 80 patients calculated by WHO formula Sampling Technique: Lottery method by last digit of hospital MR number Inclusion **Criteria:** Patients that required prolonged urethral or supra-pubic catheterization for the first time and had negative Culture sensitivity. Exclusion **Criteria:** Patients who had a known source of infection that could potentially lead to UTI like ureteral stent etc. Data Collection Procedure: They were divided into two Group A (Control) with silicone catheters & Group B with alloy-coated catheters. Data was collected on Proforma and analyzed using SPSS. **Results:** The mean age of the patients was 42 years (20-86). 50 patients were male and 30 were female. Other biophysical data were comparable in both groups. 38 out of 40 patients in Group A and 36 out of 40 patients in Group B showed positive urine and tip of catheter culture & sensitivity after removal of catheter (p 0.629). **Conclusion/Recommendations:** There is no significant difference in effectiveness between silicone and alloy coated catheter in preventing CAUTI in patients requiring prolonged catheterization. **Keywords:** CAUTI, Urethral catheter, Urinary tract infection

ST-16 The Management of urolithiasis in Children with Renal Failure, A Multicentric study.

Wajiha Ali, Northwest School of Medicine.

Objective/Hypothesis: To determine the efficacy and safety of surgical management of pediatric renal stones associated with renal failure at Institute of Kidney Disease Hayatabad

Medical Complex Peshawar. **Study Design:** DESCRIPTIVE STUDY **Materials and Methods:** It is a descriptive study conducted in department of Urology at Institute of Kidney Diseases Peshawar from March 2021 till December 2022. We included all patients below 13 years irrespective of the gender. Total of 480 children with urolithiasis, who had acute or chronic renal failure were included in the study by non-probability consecutive sampling technique. All the preoperative, per-operative and post-operative data was collected on structures proforma and was analyzed on SPSS. **Results:** 345 (72 %) were male while 134 (27.8 %) were female. Mean stone size was 18 mm \pm 7. The mean age of the patients was 8.2 \pm 4.2 years. Right side was involved 264 patients (55%). 480 presented with acute and chronic renal failure, 1.4% with unilateral nonfunctioning kidneys, and 0.8% with pyonephrosis and perinephric abscess. Management of 480 patients was divided in to initial relief of obstruction by percutaneous nephrostomy and double j stents followed by definitive management in the form of, percutaneous nephrolithotomy PCNL IN 288, Open stone surgery in 56 Ureteroscopy in 69 and ESWL in 67 patients. Results of treatment showed that 72% of patients either recovered their renal functions or become dialysis free at the end of follow up period. Overall complete stone clearance after 6 weeks postoperatively was achieved in 460 patients' treatment. **Conclusion/Recommendations:**

Complications of renal calculi in children bears significant problem even in the era of modern treatment. Renal failure associated with stones in children can be successfully treated initially by decompression. The magnitude of disease can be prevented by public education and organizing courses for family physicians as well as opening new stone clinics in the rural areas of the country equipped with modern

treatment facilities. **Keywords:** Urolithiasis Renal failure Staghorn stones PCNL (Percutaneous nephrolithotomy) chronic renal failure

ST-36 Unlocking Potential: Exploring the Perceptions of Students and Faculty Regarding Medical Mentorship Program.
Sara, Khyber Girls Medical College.

Objective/Hypothesis: To explore the faculty's and student's perceptions of the Medical Mentoring Program at Khyber Girls Medical College. **Study Design:** Qualitative study **Materials and Methods:** A qualitative study (phenomenology) was conducted at Khyber Girls Medical College and Hayatabad Medical Complex. Depending on the saturation of data, five Focus Group Discussions have been conducted with students, and six In-depth Interviews have been conducted with faculty. The sampling technique was purposive sampling. FGDs and IDIs were audio recorded, transcribed verbatim, analyzed, and themes were identified. **Results:** Four themes were developed from FGDs: evolving into a better version of oneself, opportunities, progressing together, and recommendations. Three themes were developed from IDIs i.e., strengthening each other, obstacles in the way, and refining the mentorship experience. **Conclusion/Recommendations:** An effective mentorship program is crucial for fostering bonding between students and teachers, and hence for the self-improvement of mentees.

Keywords: Keywords: Mentorship, mentors, students, medical college

St-38: Assessment of knowledge and skills of healthcare workers in neonatal resuscitation in the city of Peshawar, Pakistan.
Sarib Zahoor. Khyber Medical College Peshawar.

Objective/Hypothesis: We hypothesize that the level of knowledge and skills among healthcare workers in neonatal resuscitation is suboptimal and not well retained. **Study Design:** This study was conducted to gain insights into the knowledge and skills possessed by healthcare professionals, including doctors and nurses, working in the Gynecology and Pediatrics departments across a diverse set of 13 hospitals, encompassing both public and private institutions situated in Peshawar, Pakistan. **Materials and Methods:** An analytical cross-sectional study was conducted from 7 February 2022 to 10 March 2023 on 120 healthcare workers including doctors and nurses in the Gynae and Paeds departments of various hospitals in Peshawar, Pakistan. A questionnaire was devised and simple convenience sampling technique was used for data collection. Data entry and analysis was done using SPSS statistics version 27. The participants were categorized based on their performance, with distinctions made between those who correctly answered more than 80% of the questions, those who fell within the range of 50-80%, and those who scored less than 33%. Mean and standard deviation was calculated for age and Chi-square test was applied to find the association of different factors with knowledge and attitude of healthcare professionals. P value < 0.05 was considered to be significant. The healthcare professionals recruited for this study included HOs, TMOs, PGRs, Professors, Registrars and Nurses. However, healthcare professionals who were reluctant to give consent and those who left few questions or the whole form blank were excluded from the study, ensuring the reliability and validity of the obtained data. **Results:** Our findings indicate a notable deficiency in the knowledge and skills of healthcare professionals concerning neonatal resuscitation protocols in Peshawar, Pakistan. Out of the 120 participants, only 29% demonstrated a high level of competence by correctly answering

more than 80% of both knowledge-based and skill-based questions. Conversely, a substantial proportion of participants exhibited suboptimal performance, with 22.5% scoring less than 33% in their knowledge assessment and 36.7% scoring less than 33% in their skills assessment. A majority of the respondents, accounting for 58.5% of the total, fell within the intermediate range, scoring between 50-80% on the questionnaire, reflecting an average level of knowledge in neonatal resuscitation protocols and procedures.

Conclusion/Recommendations: In conclusion, this study highlights a concerning gap in the knowledge and skills of healthcare workers regarding neonatal resuscitation protocols in Peshawar, Pakistan. Despite the critical nature of this area in healthcare, a significant portion of the participants demonstrated suboptimal performance in both knowledge and skills assessments. With only 29% of healthcare workers answering more than 80% of questions correctly, there is a clear need for targeted training and educational interventions to enhance their proficiency in neonatal resuscitation. **Keywords:** knowledge, neonatal resuscitation, healthcare worker.

ST-47 Perceptions of teachers in medical colleges regarding ChatGPT use in academics; A qualitative study. Muhammad Shayan, Khyber medical college, MBBS.

Objective/Hypothesis: To explore the perceptions of teaching faculty of medical education regarding the use of ChatGPT, its impacts on medical education, and its future in clinical diagnosis. **Study Design:** It is a qualitative type of study which is conducted in 2 private and 2 public sector medical colleges in Peshawar city. In-depth interviews were conducted with 20 teachers who were selected on Purposive Sampling Technique. **Materials and Methods:** The interviews obtained were then thematically analyzed to identify important themes and subthemes. The data

obtained was then triangulated. **Results:** The study uncovered several salient themes from the analysis. The teachers shared their knowledge and intentions of using ChatGPT and revealed that it was easier to use as compared to other search engines. Regarding the benefits of using ChatGPT, participants found ChatGPT a time and cost-saving tool. Despite these benefits, some participants drew concerns that it reduces the cognitive abilities of students and prompts them for plagiarism and cheating. The participants also stated coping strategies for the risk posed by ChatGPT which are global awareness about its rightful use and limiting its usage. The participants expressed contrasting views when asked about the fate of ChatGPT in future medicine.

Conclusion/Recommendations: This qualitative study provides valuable insights into the perceptions of teachers in medical institutions about the use of ChatGPT. While findings provide benefits and the risks it poses, it also gives coping strategies to mitigate these risks. **Keywords:** Artificial Intelligence, ChatGPT, medical teachers, cognitive abilities, plagiarism, in-depth interviews, qualitative study, thematic analysis.

St-51: Quality of Life In Patients With Hemophilia: A Cross Sectional study in Peshawar, Pakistan.

Arshmaan Jawad. Khyber Medical College.

Objective/Hypothesis: Patients with hemophilia have a low quality of life. **Study Design:** This was a cross-sectional analytical study which analyzed the quality of life of patients (QOL) with hemophilia and its associated factors. **Materials and Methods:** The quality of life of patients with hemophilia (PWH) was assessed using the pre-validated five-dimensional questionnaires; EQ-5D-5L for adults and EQ-5D-Y for adolescents which have five domains: mobility, selfcare, activity,

pain and anxiety alongside a visual analogue scale (VAS). An index value for the EQ-5D-5L was calculated using an internationally representative value set. Data analysis was conducted using SPSS version 25. **Results:** A total of 102 hemophilia patients completed the study, with 81(79.4%) being adults and 21(20.6%) being adolescents. The cumulative sample consisted primarily of hemophilia A patients (89.2%), with a mean age of 21 years. Majority of the patients had severe hemophilia (52%) and received on-demand clotting factor concentrate (CFC) therapy. The mean EQ index value for adults was 0.436; those who had hemophilia type B and higher monthly incomes had significantly higher index values indicating better overall health. The mean EQ VAS score for our sample was 56.99, with patients on prophylactic therapy and higher incomes reporting higher values. Joint deformities showed negative correlations with both the scales, however severity of hemophilia did not show such correlations. The two scales showed a positive correlation with each other signifying their consistency.

Conclusion/Recommendations: This study provides an extensive account of the QOL of PWH and its various determinants. PWH suffer from chronic health issues which have a significant negative impact on their QOL. Concrete steps are needed to improve their QOL such as the provision of prophylactic treatment and establishment of hemophilia centers in every district. **Keywords:** Hemophilia, Quality of Life, Bleeding Disorders.

ST-53 PROTOZOAN AS IRRITATING BUG OF THE GUT. Muzammil Ahmad Shah, Saidu Group of Teaching Hospital Swat.

Objective/Hypothesis: The aim of this study was to evaluate the possible association of protozoan parasites with IBS. The detection of these pathogens in IBS cases may offer new insights into the pathogenesis and management of this complex disorder. **Study Design:** Cross-sectional prospective study. **Materials and Methods:** This is a cross-sectional prospective study conducted at the Department of Medicine Saidu Group of Teaching Hospital Swat for a one-year duration. The study included 189 IBS adult patients fulfilling the Rome IV criteria. The diagnosis of IBS was ascertained by an experienced Medical Specialist at (SGTH). Patients who did not agree to sign an informed consent were excluded from the study. **Results:** The study was conducted on 189 subjects, out of which 123 were males (65.08%) and 66 were females (34.92%). Among 189 subjects, 112 (59.26%) were present to us with loose motion, 24 subjects (12.70%) with constipation, and 53 subjects (28.04%) with mixed type. Five different types of protozoa were isolated from 189 patients' stool, among them *Taenia Saginata* (104 subjects =55.02%) was the most prevalent protozoa isolated from Stool R/E followed by *Ascaris lumbricoides* (44 subjects =23.28%), *Hymenolepis nana* (17 subjects =8.99%), *Entamoeba histolytica* (13 subjects =6.89%), *Giardia lambda* (11 subjects =5.82%). **Conclusion/Recommendations:** Irritable bowel syndrome is a complex, multifaceted, and heterogeneous problem rather than a single entity. As the true pathogenesis of IBS is under investigation, we can only assume the role, if any, played by the protozoa in this condition. However, all IBS patients should undergo routine parasitological studies to exclude protozoan organisms as clinical symptom agents. **Keywords:** Irritable bowel syndrome, loose motion, constipation, Rome IV criteria, *Taenia saginata*, *Ascaris lumbricoides*,

Hymenolepis nana, *Entamoeba histolytica*, and *Giardia lambda*.

ST-57: Drug repurposing for head and neck squamous cell carcinoma (HNSCC) using protein domain interactions. Fatima Rizwan, Precision Medicine Lab.

Objective/Hypothesis: This study ventures into identifying key protein domains intimately involved in the evolution of HNSCC and elucidating the molecular processes underlying their activity. To compile a list of drugs employed for other cancer types that target domains similar to those implicated in HNSCC. To predict potential protein-domain interactions using bioinformatics tools and databases leading to drug repurposing. These goals were pursued in order to get valuable knowledge about the underlying molecular mechanisms. **Study Design:** Bioinformatics analysis. **Materials and Methods:** Protein-protein interaction data for the products of 65 genes was retrieved from the STRING database (version 12.0). Network visualisation and analysis was undertaken in Cytoscape 3.10.0. After clustering analysis using MCODE, we found 28 proteins to be significantly clustered. Pfam IDs from UniProt helped map domains, cross-referencing the 3DID database. We also checked COSMIC for mutations in our 28 genes. Our approach integrates literature review and computational tools for potential therapeutic insights. **Results:** Our study identified 28 genes out of 65, the proteins encoded by 28 genes had 259 domains, where most mutations were identified in *Ank_2*, *Ank_5*, *Creb_binding*, *NOD*, *NODP*, *Notch*, *P53_TAD*, *PI3_PI4_kinase*, *PI3K_C2*, *PI3K_P85_iSH2*, *PI3Ka*, *Pkinase*, *Ras*, *SH2*, *zf-TAZ* domains of proteins encoded by 11 genes. Furthermore, *Ank_2* and *NODP*

were the most common mutated domains in NOTCH3, NOTCH2, NOTCH1 and NFKBIA genes. Once we anchored our targets, we screened through the actionability data from the COSMIC database and prioritized 9 drugs and 2 combinations against MAP2K1, PIK3CA and HRAS regardless of the indication. Noteworthy observations encompassed the drug Voxelotin, originally designated for hemopoietic and follicular lymphoma, demonstrating high structural similarity to Domain PI3K's interactors. Similarly, Mirdametinib, an established inhibitor of Domain Pkinase-associated pathways in non-small cell lung carcinoma, neurofibromatosis type 1 cancer, and colorectal carcinoma, emerged as a potential candidate for HNSCC treatment. Furthermore, TAS- 117, Capivasertib and Bimirasilib exhibited strong potential as therapeutic options. Two drug combinations spotted include Cetuximab + Cisplatin and Cisplatin + Docetaxel + Everolimus which are already in use for upper aerodigestive tract carcinoma. **Conclusion/Recommendations:** Our initial study highlights the relevance of the discovered genes and the domain networks they are connected to. Candidates beyond phase 2 development rather than FDA-approved medications make up the suggested drug list. Future research will validate interactions using molecular docking and binding experiments and evaluate their effects on cellular functions involved in HNSCC. **Keywords:** HNSCC (Head and Neck Squamous Cell Carcinoma) Protein domains Molecular processes Drug repurposing Protein-domain interactions.

ST-58 A survey on consultation skills of doctors in tertiary care hospital of Peshawar. Nizam Ud Din, Northwest School of Medicine.

Objective/Hypothesis: To find out the current consultation skills of doctors in Northwest Teaching Hospital, Peshawar. To assess in which age group these skills are more practiced and in which group they are mostly neglected. To assess in which gender they are practiced or neglected. To find further ways through which the current consultation skills of doctors can be improved. **Study Design:** observational cross-sectional study **Materials and Methods:** Study Population/Settings This study was conducted in a tertiary care hospital of Northwest. **Sampling Technique:** convenient sampling technique **Sample Size:** Since we are using the Census method, so all the consultants working at Northwest hospital are included. **Study Duration:** Feb 2022-Aug 2022 (06 months) **Inclusion Criteria:** All consultants working at Northwest hospital were included **Exclusion Criteria:** All those consultants who are not willing to participate or those who were absent during the data collection were excluded from this study. **Results:** The overall consultation mean score is 24.8 SD (4.27) out of 32 items. The gender distribution was shown to be male consultant in majority 25 (78.1%) and 7 (21.8%) female consultants. Male doctors had mean score of 25.00 with SD(4.40) and female had mean score of 24.14 with SD (4.01) and the p value was 0.646 The mean age of study participants was 53.97 years with SD (11.90) with a range of 34– 74 years (minimum and maximum). The age group below 50 had a greater score of 26.92 with SD (2.53) and the age group above 50 had score of 23.36 with SD (4.66) with a p value of 0.018 **Conclusion/Recommendations:** The overall consultation skills were good . The younger doctors scored higher than their older colleagues.it can due to high burden on the older consultant or being less energetic than the younger doctors. There was no significant difference found between genders. There were some factors in which the consultants were lacking behind during their practice, very few of them were able to follow & fulfill them, the

included factors are Make a personal connection during visit Avoid directive or leading questions Acknowledge waiting time. Discuss lifestyle issues or prevention strategies

Keywords: Consultation SEGUE FRAMEWORK **Additional Comments :** Recommendations Educate the Medical student regarding consultation skills at medical schools and postgraduate levels via LCFs, workshops, and online training sessions. The government needs to take steps such as establishing the primary & secondary health care institutions to minimize the burden on these physicians of tertiary health care. The physicians need to listen to the perspective of their patients attentively and cooperate them in their psychological and therapeutic treatment as well.

STUDENTS POSTERS PRESENTATIONS

ST-3: Emotional and Behavioral problems and role of social support among the students of Medical and Dental Colleges; Gauging the perspectives of students on factors off acting such Mental Health Issues, Muhammad Hassan Wahid, Peshawar Medical College.

Objective/Hypothesis: 1.To measure the frequency of emotional and behavioral problems and Social support among students. 2. To correlate Emotional and Behavioral problems with social support. 3. To explore the understanding of students on factors contributing towards emotional and behavioral problems. **Study Design:** It is a sequential explanatory mixed-method study design. In first phase, quantitative part is completed and in second phase qualitative part is completed as per the objectives. **Materials and Methods:** Methods: This mix method study design was conducted from Oct 2022 to February 2023 and included students of Medical and Dental institutes of Peshawar. Participants completed the questionnaires comprising of Strength and difficulty questionnaire (SDQ) and Multidimensional Scale of Perceived Social Support (MSPSS). Students also interviewed for their perspective. The Quantitative data were analyzed using SPSS v.25 and the interviews transcripts were analyzed by thematic analysis. **Results:** Results: The mean age of the sample (n=1060) was 21.86 ± 1.53 years. One third of the students has emotional and behavioral problems (n=316, 30%) and have high social support (n=631, 59.5%). Chi square test

showed female have significantly more social support and have less emotional and behavioral problems (p=0.000). Pearson correlation showed a significant negative correlation between SDQ and MSPSS (p=0.000). On thematic analysis, 190 codes were generated which converged into 25 categories and finally 6 themes emerged. 1. Emotional and behavioral problems 2. Psychological need/support 3. Personality grooming/development 4. Social support/coping strategies 5. Awareness programs 6. Family/friends role.

Conclusion/Recommendations: Social support was high among students that's why only one third of the students suffered with emotional and behavioral problems. Students are using different coping strategies but need timely psychological support. **Keywords:** Emotional and Behavioral problems, Perceived Social Support, coping Strategies, Students perspectives on mental health issues

ST-6: Prioritizing Mental Health: A Cross-sectional Investigation of Depression Prevalence and Risk Factors among Medical Students in Peshawar, Nida Ali, Ayaz Gul, Khyber Medical College, Peshawar

Objective/Hypothesis: 1) To Find out prevalence of Depression among medical students in Peshawar 2) To find put prevalence of Depression among male and female medical students of Peshawar 3) To identify risk factors associated with Depression **Study Design:** Original Article **Materials and Methods:** A cross-sectional study was conducted from April to June 2023, involving medical students from seven colleges in Peshawar. Stratified sampling was employed to distribute surveys among the

students. The study collected data on socio-demographic characteristics, prevalence of depression, and associated risk factors. The sample size was determined based on the expected prevalence of depression. **Results:** Out of 400 distributed questionnaires, 324 were returned (response rate: 81%). The participants' mean age was 21.70 ± 1.65 years, with 46.6% males and 53.1% females. The prevalence of depression, as assessed by the Hospital Anxiety and Depression Scale (HADS), was 19.4%, and 26.2% were borderline cases. Factors significantly associated with depression included female gender, positive family history of insanity, gender discrimination in medical school, negative effect of studies on mental health, and lack of family and friends' support. **Conclusion/Recommendations:** This study reveals a high prevalence of depression among medical students in Peshawar, Pakistan. It emphasizes the need to address risk factors and establish support systems to minimize the impact of depression on students' well-being and academic performance. Further interventions are necessary to enhance mental health support and improve the overall quality of medical education. **Keywords:** Medical student depression, Depression prevalence, Risk factors for depression, mental health in medical students, Academic performance and depression, Impact of studies on mental health, Peshawar, Pakistan

ST-7: Exploring Factors Associated with excessive daytime sleepiness (EDS) in Medical Students: An Analysis Using the Epworth Sleepiness Scale (ESS), Zahoor Ahmad Khan, Northwest School of Medicine

Objective/Hypothesis: This study aims to examine the prevalence of EDS and its associations with various sleep-related factors, including demographic characteristics, sleep habits, stress management, physical activity, and mental health status, among medical students. **Study Design:** Analytical cross-sectional study **Materials and Methods:** A cross sectional study was performed on total of 323 Medical students from all years of various medical colleges of Peshawar. The Epworth Sleepiness Scale (ESS) was used to assess EDS, while self-report questionnaires were employed to collect demographic data and various factors that can influence EDS, questions regarding attentiveness while lectures, wards and doing homework were also asked **Results:** Findings revealed 69.03% had 5-8 hours of sleep, 24.15% slept 8 hours. Daytime naps were common (44.58%). Stress was occasional or frequent for 61.92%, rare or none for 38.2%. Only 23.53% had mental health issues. 52.63% managed stress, 47.63% did not. 13.62% used no caffeine, 55.42% had 1-2 times/day, others more. Only 29.41% exercised vigorously; most were less involved. ESS scores correlated positively with daytime naps and stress, negatively with sleep duration. Effective stress management, moderate caffeine, and exercise are also negatively correlated with ESS scores. ESS scores also correlate positively to difficulties staying awake during classes, homework, and wards. **Conclusion/Recommendations:** This study emphasizes the link between EDS and sleep-related factors in college students. It highlights the importance of healthy sleep habits, stress management, and physical activity to reduce EDS and enhance well-being. **Keywords:**

Excessive Daytime Sleepiness, medical students, Epworth Sleepiness Scale (ESS)

ST-8: Factors Associated With Dengue In Tertiary Care Hospitals In Peshawar During 2022. A Case control Study, Waleed Ahmad, Kabir Medical College

Objective/Hypothesis: To identify the clinical, and socioeconomic risk factors associated with dengue in order to provide an early diagnosis and preventive therapy. **Study Design:** case-control study **Materials and Methods:** A case-control study was designed during December 2022. A total of 89 dengue cases and 181 controls participated in this investigation. Cases and controls were matched for sex, age, and socioeconomic status in a ratio of 1:2. Clinical, and socioeconomic risk factors such as chronic disease history, previous dengue diagnosis, type of transport, presence of collected water near residence, use of mosquito nets, covering of containers, use of ac and ventilation were inquired. Data analysis was performed through SPSS version 26 to estimate the association between clinical and socioeconomic risk factors and the presence of dengue. **Results:** Of the 270 patients, 89 (32.96%) were clinically diagnosed with dengue of which, 54 (60.7%) were male and 35(39.3%) were female. Urban location ($P = 0.014$), presence of dengue patients within the neighborhood ($P < 0.001$), outdoor activities ($P = 0.006$) travelling in a car ($P = 0.034$), presence of swampy water near residence ($P = 0.005$) and poor sewage system ($P = 0.014$) were associated with dengue. **Conclusion/Recommendations:** urban location and outdoor activities are important

risk factors for dengue. Travelling in a car, presence of swampy water near an individual's place of residence, improper sewage system and neighbors suffering from dengue may increase a risk for this entity. Targeting dengue awareness, a cleaner environment and effective preventive measures may be promising in dengue prevention. **Keywords:** Dengue, Cases, Controls, Preventative measures, Tertiary care hospitals

ST-9: Determining The Frequency of Burnout among Postgraduate Trainees of a Tertiary Care hospital In KPK, Pakistan, Navira Fatima, Khyber Girls Medical College, Peshawar

Objective/Hypothesis: To determine the frequency of burnout among postgraduate trainees of a tertiary care hospital in KPK, Peshawar. **Study Design:** Cross Sectional Study Design **Materials and Methods:** A Cross-sectional study with convenience was conducted among senior postgraduate trainees in general departments of HMC, Peshawar. Self-assessment questionnaires were distributed to collect data, and a sample size of 105 was recorded. Burnout was measured using the Copenhagen Burnout Inventory (CBI) scale. IBM SPSS Version 20 was employed for data analysis. Graphs, figures, and tables were made using MS Excel Version 2010. **Results:** In our study, 99 postgraduate trainees actively participated with a response rate of 94%. Data was analyzed through Descriptive Statistics. All three dimensions measured through CBI (personal burnout, work-related burnout and patient-related burnout) were documented as being severe compared to international

statistics. A higher prevalence of burnout was observed in females in contrast to males. Highest mean of total burnout was observed in the gynecology department.

Conclusion/Recommendations: Severe burnout was proved to exist among the respondents of our study. This can be attributed to long work hours with low compensation, a highly competitive environment, and patient overload. In this regard, there should be an active awareness of burnout syndrome among doctors. It is an issue of special concern, and an effort should be made regarding improving doctors' health and reducing stress within the workplace. Policy makers need to be informed about the issue and recommend relevant and pertinent burnout prevention for doctors.

Keywords: Burnout syndrome, CBI, Postgraduate trainees, Residents, Stressors, Patient care, Healthcare.

ST-11: Exploring Motivational Factors Influencing Medical Students Engagement in Research Activities, Shah Fahad, Northwest School of Peshawar

Objective/Hypothesis: 1. to investigate and pinpoint the driving forces behind medical students' participation in research activities. 2. Effects of mentorship and the research environment on the involvement of medical students in research.

Study Design: A cross-sectional descriptive study was conducted among medical students from NWSM, Jinnah Medical College, Rehman Medical College, and Pak International Medical College over a 6-month period from May to November 2023. A sample size of 368 participants was determined using a 95% confidence level and a 5% margin of error. Data were collected through a

structured questionnaire consisting of demographic information, Likert scale items, and factors influencing students' engagement in research. Data analysis included descriptive statistics and pattern recognition.

Materials and Methods: A cross-sectional descriptive study was conducted among medical students from NWSM, Jinnah Medical College, Rehman Medical College, and Pak International Medical College over a 6-month period from May to November 2023. A sample size of 368 participants was determined using a 95% confidence level and a 5% margin of error. Data were collected through a structured questionnaire consisting of demographic information, Likert scale items, and factors influencing students' engagement in research. Data analysis included descriptive statistics and pattern recognition.

Results: Results indicates the majority of respondents (48.9%) fall within the 21 to 23 age group, with a nearly equal gender split (53% male, 47% female). Furthermore, 59% of respondents are affiliated with NWSM College. When examining students' engagement in research education, the results demonstrate a consistently high level of motivation across various factors, including motivation for contribution, presentation, publication, career, satisfaction, and curiosity. The mean scores for these factors range from 3.60 to 3.96. In contrast, the analysis of motivational factors related to mentorship and the research environment reveals a moderate level of motivation. The mean scores for college mentorship, mentor impact, supervisor impact, and research environment fall in the range of 1.52 to 2.59. Notably, the presence of a mentor receives a relatively low rating.

Conclusion/Recommendations: This study highlights the significant role of motivational

factors, mentorship, and the research environment in encouraging medical students' engagement in research activities. The findings underscore the importance of fostering a supportive research environment and providing mentorship to enhance medical students' research involvement. **Keywords:** Medical students Research activities Motivational factors Mentorship Research environment Academic engagement Career prospects Research training Critical thinking skills scientific publications

ST-12: Ergonomics: A Key to Surgeon's Well-being and Work-Related Musculoskeletal Disorder Prevention, Qandeel Murtaza, Khyber Girls Medical College

Objective/Hypothesis: to find the frequency of work-related musculoskeletal disorders among surgeons of Hayatabad Medical Complex, to determine their knowledge of prevention of musculoskeletal disorders, to find the attitude towards ergonomics and to assess the practice of ergonomic principles among surgeons **Study Design:** Descriptive Cross-sectional study **Materials and Methods:** It was a descriptive cross-sectional study conducted on surgeons of six different specialties of Hayatabad Medical Complex Peshawar from April 2022 to September 2022. Universal sampling was used and data was collected from 210 surgeons by using a semi-structured, self-administered questionnaire. Data was analyzed by using SPSS version 20. To find the relation and association between different independent variables chi-square was used. **Results:** Among 210 participants, 180 (86.2%) of them were

suffering from work-related musculoskeletal disorders (WRMSDs) and females were affected more than the males. Obstetricians and gynecologists had a higher frequency than other specialties. The most common symptom was pain. The most common sites of the body that involved were lower back (54.7%) and neck (46.4%). Common risks for these disorders were working in standing position for long time, working for prolonged period without taking breaks, bending neck and back to have a better view of the area and maintaining a fixed neck posture. Most of the participants had average/moderate knowledge of ergonomic principles (48.1%) and 47.1% of them had negative attitude, 32.9% had neutral and 20% had positive attitude towards the application of ergonomic principles. The practice of ergonomic principles among surgeons was not adequate. 57% of the participants sometimes applied these principles. Only 24% of them responded that they were taught ergonomic principles in residency or fellowship. **Conclusion/Recommendations:** The frequency of WRMDs among surgeons especially in females is very high. Lower back and neck is most common affected site due to wrong posture, prolonged standing in one posture and bending of neck and back. Knowledge about ergonomic is adequate but the attitude and practice of ergonomic principles is not adequate. These can cause serious health effects among surgeons. So there should be awareness programs regarding importance of ergonomics in surgery and proper training should be given to the surgeons **Keywords:** Work-Related Musculoskeletal Disorders, Musculoskeletal Disorders, Ergonomics, Workplace, Knowledge, Attitude, Surgeons

ST-13: Knowledge of Nutritional supplements among University students of Peshawar, KP Pakistan, Bushra Noor, and Khyber Medical College

Objective/Hypothesis: 1) to find out the prevalence of Nutritional supplements among University students. 2) To find out reasons behind Nutritional supplements use 3) To know the knowledge regarding supplements **Study Design:** Descriptive cross-sectional study **Materials and Methods:** We conducted a descriptive cross-sectional study on university students residing in Peshawar, KP Pakistan, six months after obtaining approval from IREB. We used convenient sampling to collect data through self-administered structured questionnaires distributed among the students. The sample size was approximately 383, determined using the WHO sample size calculation formula. Our selection criteria included students aged 18-25 years who were willing to participate. For data analysis, we used mean and standard deviation for quantitative variables and employed the Chi-square test to stratify categorical variables with a significance level of $P < 0.05$. **Results:** Our research shows that among university students in Peshawar, 58.5% use dietary supplements. Among the students surveyed, 41.17% of males and 70% of females reported using dietary supplements, with a higher prevalence among females. The reasons for using dietary supplements varied, with 34.46% using them to improve their diet, 19.84% to treat medical conditions, 20.89% to enhance their immune system, and 7.89% for weight management. Additionally, some students believed that dietary supplements were essential for their

health (71.28%), while others did not consider them essential (18.02%). The majority of participants agreed that dietary supplements have beneficial effects, such as improving cognitive ability, preventing illnesses like cancer and osteoporosis, aiding in recovery from fatigue, enhancing athletic performance, promoting skin and hair health, building muscle mass, improving appetite, providing stamina and energy, and maintaining normal vision. However, opinions were more mixed concerning other potential effects, such as the role of vitamins and minerals in preventing chronic diseases or promoting weight loss or weight gain. **Conclusion/Recommendations:** Studying university students' knowledge of dietary supplements is crucial for promoting wellness, improving health, and enhancing academic performance. Implementing evidence-based educational programs can empower students to make informed choices and address misinformation, reducing potential adverse effects and optimizing overall wellbeing. **Keywords:** Knowledge, Nutritional supplements, University students, Peshawar

ST-15: Role of Age, BMI, Diabetes Mellitus and Lifestyle in Development and Prognosis of Colorectal Carcinoma in Khyber Pakhtunkhwa Province of Pakistan, Aisha Binte Nawaz, Khyber Girls Medical College

Objective/Hypothesis: To find the association of Age, BMI, Diabetes Mellitus and Lifestyle with Colorectal cancer among Pashtuns **Study Design:** Case-Control Study **Materials and Methods:** Study Population: Pashtuns, age 18 years and above admitted in KTH. Sampling Technique: non-probability convenient

sampling. Sample Size was calculated using Open-Epi i.e. 78; 36 cases and 36 controls Participants were interviewed a Validated Self-structured Questionnaire. Data analysis was done through descriptive analysis, Chi-square, Odds Ratio, Uni-variate and Multivariate Regression. **Results:** 1. Gender of Participants Cases: 62.3% Males, 36.8% Females Controls: 62.3% Males, 36.8% Females 2. Mean Age for cases: 47.42 years SD 17.918 for controls 47.05 years SD 18.09 Chi-square No significant association was found of age, BMI, lifestyle and DM but diagnosis of Diabetes Mellitus before onset of CRC (P-value=0.003) showed significant association with occurrence of Colorectal Cancer. Monthly income (p-value=0.45) being one of parameter of lifestyle showed significant. OR for residence, presence of Diabetes Mellitus, any type of addiction and any type of cancer in 1stdegree relative were found to be 1.891, 0.632, 2.689 and 1.543 respectively. Univariate and Multivariate analysis is also done on significant variables and rest of the variables and is attached in graphics. **Conclusion/Recommendations:** We conclude that Modification in Lifestyle may improve the prognosis of colorectal cancer. Being underweight or overweight is a potential risk factor for CC patients. The overall survival in patients with CC is clinically associated with lifestyle choices before CC diagnosis. A balanced diet, walking and other forms of exercise should be strongly recommended to the community and those undergoing screening colonoscopy. **Keywords:** Colorectal cancer, Age, Obesity, Diabetes Mellitus, Epidemiology, Lifestyle

ST-18: Frequency of Academic Procrastination among Medical Students

and Reason for Their procrastinative Behavior, Aneeta Naz, Khyber Girls Medical College Peshawar

Objective/Hypothesis: 1. to determine the frequency of academic procrastination among medical students 2. To compare the frequency of academic procrastination among junior and senior medical students 3. To know the reasons of procrastination among students related to academic and administrative tasks. **Study Design:** Descriptive cross-sectional study **Materials and Methods:** Sample size: 280 students Sampling technique: Convenience sampling method Questionnaire: Procrastination Assessment Scale-Students (PASS) for analysis SPSS version 2.0 was used. **Results:** 31% of the students were severe procrastinators and among those 53.2% were seniors and 47.8% were juniors. Students were procrastinating more in reading assignments and general school tasks. Laziness, aversion of tasks lethargy, setting high standards and lethargy were top 5 reasons selected by students. **Conclusion/Recommendations:** One third of the participants were found to be procrastinating. Seniors had slightly higher tendency to procrastinate than juniors. Laziness, lack of energy, aversion of the task, setting up higher standards and shortage of time were considered to be the strong predictors of procrastination. Further studies should be conducted to establish a cause effect relationship among variables and other factors should also be taken into account like addictions, anxiety etc. and a diverse sample should be taken to avoid limitations of this study. **Keywords:** Academic procrastination,

medical students, frequency, reasons, prevalence

ST-19: Electronic gadgets usage and its effects on mental and physical health on children of Peshawar, Shafaq Rahat, Khyber Girls Medical College

Objective/Hypothesis: The basic objective of this study is to identify MOBILE PHONE addiction in children and the associated variables that led to this addiction. The study aimed to investigate the magnitude of each variable individually as well as collectively.

Study Design: Cross sectional Materials and Methods: The study was a cross sectional study. The subjects for the study were students from class 4th to 10th among various private schools in Peshawar. The setting was in Army Public School, Frontier Youth academy, Peshawar Model School and forward high school. 250 students of these schools were taken into consideration for the project. Convenient sampling technique was used. After extensive literature review a questionnaire was prepared. Informed consent was sought from the parents since they were indirectly involved in this study, after which the finalized & approved version of the questionnaire was distributed among the students, finally data was recollected and analyzed using SPSS version 20.

Results: In this study we took 250 students from class 4th to 10th from private schools in Hayatabad. 184 parents responded. Study was conducted mainly on students between ages 11-16 years among which 73.9% were of age 11-13 years followed by 13-16 years of age. The response rate was 73.6% among which female students were 52.2% and Male student's were 47.8%. 32% children started using phone

at 4 year age followed by 19.6% who started using at 3 years. Out of many other devices, Mobile Phones use was at the top i.e. 44% followed by TV (28.3%) and then tablets & laptop etc. Students were asked about average daily screen time, 34.8% used it for 30 min to 1 hr., 23.4% used for 1-2hr, 17.9% used it for 2-3 hr. and 23.9% used it for above 3hrs. The most used app was YouTube (79.3%) and content watched was entertainment (60.30%) 17.9% students used Mobile Phones during charging and 19% agreed that they couldn't respond when they are on phone, 17.4% parents agreed that children became lazy. 19% parents agreed that their children lost interest in studies. 17.9% children became more aggressive and irritable because of media use, 13% children had experience episodes of headache & 12% children had back and neck pain.

Conclusion/Recommendations: This cross sectional study suggests that MOBILE PHONE addiction is common and associated with physical & mental symptoms among adolescents (teens from 10-16 years of age) surveyed. The findings imply that promotional programs will help to reduce MOBILE PHONE addiction in this population. **Keywords:** Mobile phone (MOBILE PHONE), Digital Media, adolescents, Physical and Mental Health, Gadgets

ST-20: Comparison of Burnout among the residents of different specialties in Khyber Teaching Hospital, Peshawar, Pakistan, Aziza Alam, Gulmala Fida, Eman Arshed, Hania Kalsoom, Khyber Medical College

Objective/Hypothesis: To know the prevalence of burnout and compare it among residents of Gynecology, Medicine, General

Surgery, Pediatrics, ENT and Eye at Khyber Teaching Hospital. **Study Design:** Analytical Cross sectional study. **Materials and Methods:** A sample size of 300 residents from Gynecology, Medicine, General Surgery, Pediatrics, ENT, and Eye. Residents with a history of depression or anxiety were not included. Data collection was conducted using The Maslach Burnout Inventory which measures work-life factors in a structured questionnaire. **Results:** Of 300 residents the mean age was 30.5 ±5 years, with male to female ratio of 1.5:1, and married to unmarried ratio of 1.3:1. Those working for 50-60 hours/week were 89 (29.7%) while those working for 60-80 hours/week were 152(50.7%) and those working for >80 hours/week were 59 (19.7%), income between 60,000-120,000 PKR. Professional burnout scores showed high levels in emotional exhaustion, depersonalization, and personal and professional achievement, with emotional exhaustion values highest in Gynecology(70%) and depersonalization in Pediatrics (71.6%) and personal and professional achievement affecting all but highest in ENT(53.3%). **Conclusion/Recommendations:** Burnout was significantly higher among female, working over 60 hours/week, with higher Emotional exhaustion and depersonalization among displeased residents. **Keywords:** Burnout, KTH, exhaustion, depersonalization, anxiety, residents, gender, workload.

ST-21 Frequency of viral disease (HIV and Hepatitis) in drugs addicts in Peshawar.
Hamza Farooq, Peshawar Medical College.

Objective/Hypothesis: To find out frequency of viral diseases (HIV and Hepatitis) among drugs addict in Peshawar. **Study Design:** cross

sectional study. **Materials and Methods:** This cross sectional survey with record review was conducted in different drugs rehabilitation centers of Peshawar that include Haq Awaz , Dost Welfare and Save life.. Data was collected through questionnaire while viral disease reports was obtained from rehab laboratory. Descriptive statistics were used to find out frequencies and SPSS was used to analyze the data. **Results:** Among 204 male drugs addicts included in this study 30.4% are infected with viral diseases HCV, HIV and HBV prevalence were respectively 18.6%, 7.4% and 4.4%. Almost 21% were reported as (IDUs) intravenous drugs user, 11% of them have shared needle and blades in last six months. Viral diseases are more common in IDUs user 19.5% of viral infection are present among them. Common drugs used in Peshawar includes, Heroin 68%, Methamphetamine 60% Hashish 49%, and Alcohol 16%. level of awareness was very low almost 70% have no knowledge of HIV ,HCV and HBV . **Conclusion/Recommendations:** Results of our study showed that IDUs in Peshawar are most vulnerable to spread of HIV and other viral infection among general population due to lack of awareness and knowledge about viral diseases and practicing risky behaviors such as high level of needle/syringe sharing and unprotected sex. **Keywords:** HIV, Hepatitis, substance use, drug addicts & needle sharing.

ST-22: Beta-Thalassemia Prevention Status: How to End the Disease Together- A Breakthrough Mixed Method Study in Peshawar, KPK, Nayab Qayyum, Khyber Girls Medical College, Peshawar

Objective/Hypothesis: The study focuses on evaluating prevention status of beta-

thalassemia via diagnostic facilities availability, implementation level, strategies employed and recommendations for future prevention. **Study Design:** The study follows a descriptive study design based on mixed methodology i.e. it involves collection and analysis of both qualitative and quantitative data in a single research. **Materials and Methods:** The study was conducted in the setting of 13 hospitals/facilities of Peshawar including HMC, LRH, KTH, RMI, NWDGH, PIMS, CMH Peshawar, Mercy Teaching Hospital, Kuwait Teaching Hospital, Fatimid Foundation, Hamza Blood Foundation, Alkhidmat Blood Bank and Regional Blood Center. The sample was selected via non-probability purposive sampling for quantitative part and non-probability purposive sampling and theoretical sampling was used for qualitative part. No statistical inferences for quantitative part of the study were made for sample size due to type of sampling used. A total of 21 respondents participated in the study among which 11 were females and 10 were males who were designated and renowned expert clinicians of their fields including Hematologists, Pediatricians, Gynecologists, Medicine Specialists and Public Health Specialist. The inclusion criteria was based on their experience and knowledge about beta-thalassemia patients and prevention and willingness to participate in the study. Informed consent was sought about their participation in the study. The study was approved by the ethical committee of MTI Hayatabad Medical Complex, Peshawar. **Results:** Data indicated that availability of diagnostics for screening and early diagnosis was poor in the selected hospitals and facilities with only 45.5% provided preventive diagnostics for trait

screening (Hb electrophoresis) and antenatal testing for mutation screen (Chorionic Villous Sampling). Among the 45.5% institutes, only 27.3% (5 out of 11) provided Hb electrophoresis while only 18.2% (2 out of 11) provided CVS. None of the facility reported people opting for premarital screening before *Nikkah* registry. The preventive strategies currently employed by the facilities were unsatisfactory and doubtful as none of the facility followed any prevention program. No structured and focused efforts were reported on cascade screening, extended family screening, retrospective diagnosis, training of health care providers and research. The implementation of available facilities was also questionable as no documented record was available for presenting thalassemia major patients or carriers, genetically counselled couples or no of Hb electrophoresis performed annually. According to the clinicians, lack of awareness regarding prevention, lack of an organized national prevention program, no access to preventive facilities, lack of resources, lack of registry, poor policy making and low socioeconomic status of majority patients turned out to be the major barriers. Interestingly, cultural norms and religious beliefs turned out to be insignificant barriers. **Conclusion/Recommendations:** The results align us towards the poor status of prevention for beta-thalassemia despite the fact that the disease puts an enormous clinical and financial burden on our health setup which could be entirely avoided if we direct our attention towards preventive aspects of the disease. Beta-thalassemia can be prevented by designing an effective prevention program that should address all the barriers that are hindering promotion and progress of prevention in the region and by employing various strategies that

could help in alleviating the prevalence of beta-thalassemia in the region. The study recommended a preventive program that should be initiated on immediate basis starting from registry of all beta-thalassemia patients across the province with CNIC of their parents and permanent address for record keeping. The program should include awareness programs using different communication means targeting the younger population in schools, colleges and universities and to promote premarital screening in general population. Preventive facilities should be made accessible by establishing centers in peripheries connecting them with those in the capital of the province. Law implementation regarding premarital screening should be a major part of the prevention program with punitive actions taken against those defying with the help of local government. Screening made compulsory at the time of child's Form-B procurement so that it could be presented at the time of *Nikkah* like other documentations. *Nikkah* registrars should be made liable for registering *Nikkah* without screening. Extended family screening of index cases and genetic counselling should be extensively employed. Also an authoritative body should be established for implementation and surveillance of all involved stakeholders. Foremost, proper funding should be allotted for prevention of the disease so, preventive facilities should be made cost effective for patients and their families. In the end all these can be achieved when higher health authorities, government and health ministry would take interest in an issue that needs immediate attention. So, we are in dire need of highlighting the issue on various platforms in order for them to take notice of it. The limitation of the study was that Fatimid and CMH, Peshawar refused

to participate in the study. **Keywords:** Beta-thalassemia, Prevalence, Prevention, Insufficient, Awareness, Implementation status, Preventive program, Resources, Screening

ST-23: Prevalence of Hearing Impairment in Medical Students: A Smartphone-based Survey, Attiq Ur Rehman, Northwest School of Medicine

Objective/Hypothesis: (1) The primary goal of this study was to determine the prevalence of hearing impairment among medical students. (2) To pinpoint the associated factors for hearing impairment using Personal Audio Devices (PADs). **Study Design:** Cross-sectional **Materials and Methods:** A cross-sectional study involving 109 students from Northwest School of Medicine, Peshawar, Pakistan, assessed their hearing health using the Hear WHO application developed by the World Health Organization, employed simple convenience sampling, and excluded participants with pre-existing hearing impairment or inability to follow app instructions. Demographic data and hearing impairment risk factors were collected through a questionnaire, and the data was analyzed using SPSS version 26.0 with a significance level set at $p < 0.05$. **Results:** In this survey of 109 students (54 males, 55 females) with a mean age of 21.89, 42.2% had been using personal audio devices (PADs) for over 5-6 years, 32% used it at high volumes, and 31.2% used it for 2-4 hours per day. The most common symptom associated with PADs usage was earache (48.6%). HearWHO application testing revealed that 12.8% had scores above 70, 73.4%

had scores between 50-75, and 13.8% had scores below 50, with significant associations found between HearWHO scores and various variables such as gender, age, year of study, duration per day, years since usage, volume level and attending loud events.

Conclusion/Recommendations: The survey revealed a diverse pattern of personal audio device (PAD) usage among participants, with a significant proportion using PADs for extended periods and at high volumes. These findings calling attention to the importance of monitoring and raising awareness about safe PADs usage among young adults, with potential implications for hearing health promotion and prevention strategies.
Keywords: Hearing loss, smartphone-based technology, medical students, Personal audio devices (PADs), hearing health awareness.

ST-24: KAP Survey of over the Counter drugs among medical students of AJK. A Cross-sectional study, Zoha Khan, Talha Adil, Azad Jammu and Kashmir Medical College

Objective/Hypothesis: To assess the knowledge, attitude and practices regarding self-medication of over the counter (OTC) drugs and associated medical hazards in medical students in AJK.

Study Design: A cross sectional quantitative study. **Materials and Methods:** A cross sectional survey was conducted in three Public sector medical colleges of AJK, in period of 3 months i.e. from April to June 2023. Sample size was 323 calculated using RAOSOFT calculator with $p=0.05$ and considering prevalence of OTC as 50%. Medical students of

all 5 Years in three public sector medical colleges of AJK were included in the study and an online questionnaire was created and shared in groups of students for this purpose. Questions about self-medication were asked for the period of the previous year. SPSS-25 was used for data analysis. Ethical approval was taken by institutional review board. **Results:** 372 students participated in study, 252 females and 120 males. 98% of students knew that OTC are taken without prescription. 97% knew that it can cause antimicrobial resistance along with other serious side effects. 65% had used OTC in last year and fever, pain, allergy, rash, acne and toothache were among the most common symptoms for which they used OTC.

Conclusion/Recommendations: Health education sessions regarding side effects and serious health consequences of OTC should be given to medical students and counselling of the students should be in practice to discourage use of medication without prescription. **Keywords:** Over the Counter drugs, medical students

ST-25: Pattern of Junk Food Consumption among Hostelite and Day Scholar Medical Students of Peshawar, Bashir Ahmad, Northwest School of Medicine Peshawar

Objective/Hypothesis: i. to find out the frequency of junk food consumption among medical students in Peshawar ii. To analyze the difference in junk food consumption among hostelite and day scholar medical students of Peshawar iii. To determine the factors responsible for the increased consumption in a group (if any) **Study Design:** Cross-sectional analytical study **Materials and Methods:** A cross-sectional study was carried out among the

MBBS students of five different medical colleges in Peshawar. Simple random sampling was done and 207 students were chosen. Official approval from each institution was taken followed by consent from all participating students. A self-made questionnaire was used to interview the students about various aspects of their junk food consumption. Data collected was analyzed using SPSSv21. **Results:** Data was collected from 207 medical students, among which 49.8% were male and 50.2% were female. The mean age of participants was 21.49. 44.4% were hostelites while the other 55.6% were day scholars. The most commonly observed frequency of consumption was 'weekly' among 102 participants (49.3%). Among the most consumed items fast foods (50.5%) and snacks (27.1%) were on the top of the list. Gender and frequency of fast food consumption revealed a significant association ($p=0.013$). The residential status of the student did not appear to have a statistically significant effect. ($p=0.195$). The data revealed that the most extensively chosen reason for junk food consumption was 'taste' as selected by 178 of all participants (62.7%). Comparison of hostelite and day scholars for various factors like 'taste', 'convenience', affordability, social and 'peer pressure', 'craving' and 'availability' did not yield significant difference. **Conclusion/Recommendations:** This study concludes that hostelite and day scholar medical students consume junk foods at an equal rate. The most consumed junk food is 'fast food' followed by 'snacks'. The biggest reason why students consume junk food is the taste. Availability affordability and other factors do not contribute significantly. **Keywords:** Junk food, Medical students, Eating Habits

ST-26: Assessing the Knowledge of First Aid Management of Burns amongst Undergraduate Medical and Non-Medical Students of Peshawar, Hafsa Ali, Khyber Girls Medical College

Objective/Hypothesis: Our study aimed to assess the knowledge of first aid management of burns amongst undergraduate, medical and non-medical students in Peshawar, Khyber Pakhtunkhwa. **Study Design:** Cross sectional Study **Materials and Methods:** This cross sectional study was carried out from 7th to 9th June with a 16-item questionnaire which was filled by the undergraduate medical (Khyber Girl Medical College Peshawar and Northwest Medical College Peshawar) and non- medical (Peshawar University) students. The questionnaire assessed the knowledge of burns first aid management, confidence level of participants in providing the first aid treatment and sources of information that contributed to their knowledge. Data was scored using common grading method and analyzed by SPSS version 20. **Results:** In our study, we enrolled 280 participants, half of whom were medical students and the other half were non-medical students. The mean knowledge score for burns first aid management was higher among medical students compared to non-medical students; however, the majority of students in both groups demonstrated a low level of knowledge. Medical students performed better on knowledge-based statements than their non-medical counterparts, but both groups reported only slight confidence in managing burn patients. Of the total participants, only 37 had received formal

training, and these individuals had a better mean knowledge score than those without such training. The internet was the most commonly reported source of information, while books and journals were the least commonly reported. Only a small proportion of respondents (7%) reported having no knowledge regarding first-aid management of burns.

Conclusion/Recommendations: The results of our study suggest that undergraduate students have insufficient knowledge and confidence to manage burn injuries. Although medical students had higher knowledge scores than non-medical students, their scores were lower than those reported in previous studies. Notably, participants who had received formal first aid training performed better than those without such training. These findings underscore the importance of incorporating burn assessment and management training into the undergraduate curriculum to bridge the knowledge gap.

Keywords: BFAM, Medical students, Knowledge, Confidence level, Formal training, Internet

ST-27: Attitude, Practice and Barriers towards Research among undergraduate medical students in Peshawar, Aqsa Ejaz, Northwest School of Medicine

Objective/Hypothesis: Our objectives were to evaluate the attitude of medical students towards research also to assess the practice of research among medical undergraduates and to investigate the barriers in conducting a medical research among medical undergraduates.

Study Design: It was a cross sectional descriptive study.

Materials and Methods: A self-administered, pretested, and structured

questionnaire was completed by 295 medical students (first to final year) in 3 different medical colleges (NWSM, RMC, PIMC). The questionnaire consisted of demographic data, students' attitude, practices, and barriers. The collected data were analyzed using appropriate statistical methods. The level of statistical significance was defined as $P \leq 0.05$

Results: In this study, we analyzed data from 295 participants across three different medical colleges. The gender distribution was 55.3% male and 44.7% female, and participants were distributed across various study years. Our findings revealed generally positive attitudes among medical students towards research. Statistical analysis showed no significant associations between male and female in regard to their attitudes (P value=0.417) or institution with attitude (P value=0.48) and year of study with attitude (P value = 0.67). There has been a statistically significant difference between year of study regarding their practice of medical research (P value= 0.0001), where the higher percent of final year students reported participation in previous medical research. The most important obstacle predictors implicated in not conducting research among all the studied students were lack of time due to educational commitments (77.6%), insufficient research knowledge (64.7%). Other challenges include lack of motivation and guidance, difficulty in selecting research topics, obtaining approval from review board's inaccessibility to literature reviews received mixed opinions. The importance of mentorship and teamwork was emphasized, with 55.3% of participants expressing agreement.

Conclusion/Recommendations: This study highlights a generally positive attitude among medical students towards research, with notable

support for its integration into curricula and recognition of its benefits. While gender and institution did not significantly impact attitudes and practice, the year of study did. The study also identified barriers, including time constraints and a need for more mentorship. Encouragingly, it underscores the potential for cultivating research interests among medical students with targeted support. **Keywords:** Medical undergraduates, attitudes, barriers, research, participation.

ST-28: The study of negative emotional state, the comparison of depression anxiety and stress level among the fresh and repeater students of ETEA/MDCAT in district Peshawar 2023, Mudasir Wali, Peshawar Medical College

Objective/Hypothesis: To determine and compare the depression, anxiety and stress level of fresh and repeater students of ETEA/MDCAT of FSc pre-medical students of Peshawar **Study Design:** A descriptive cross section study from 7sept to 7Nev 2023 **Materials and Methods:** After approval from ERC of PMC, This cross-sectional study was conducted in Peshawar from upon 500 FSc pre-medical students. Purposive sampling technique was used. DAAS-21 research tool was incorporated and spss25 was used for analysis. **Results:** Out of 500 fresh and repeater students appeared for medical test 329 (65.8%) were male and 161(32.2%) were female with mean (M=1.48, SD=1.17) having depression (M=7.3, SD=6.2), anxiety (M=8.9, SD=5.4) and stress (M=7.5, SD=4.8).The depression anxiety and stress were found to be positively correlated. Fresh and repeater students have

strong correlation with Depression and anxiety and negative correlated with stress ($r=.56$, $p < 0.05$).

Conclusion/Recommendations: Anxiety was high in fresh students while depression was very high in repeater students. Severe stress was comparatively high in repeater while moderate in repeaters **Keywords:** Depression, anxiety, stress, ETEA, MDCAT

ST-29: Changing Cancer Trends in District Dir., Pakistan: Epidemiological Insights from a 10-year Hospital-Based Study, Anusha Azhar, Khyber Medical College

Objective/Hypothesis: 1. to provide and analyse the latest cancer trends with regard to its prevalence and incidence. 2. To determine the demographic characteristics of cancer patients in Dir. (Upper and Lower) 3. To compare the changing cancer profiles with both National and international cancer trends. **Study Design:** Retrospective type **Materials and Methods:** A retrospective study was conducted by collecting data of 2647 clinically diagnosed cancer patients of all ages in district Dir., between the years 2008-2017, from the Institute of Radiotherapy and Nuclear Medicine [IRNUM], Peshawar. The data was analyzed using SPSS version 20 and presented using different tables and figures. **Results:** Out of the total patients 52.7% were male and 47.3% were female, with 88.3% patients belonging to Lower Dir. The most common types of cancers in both genders combined were breast (9.0% prevalence rate), acute lymphocytic leukemia (ALL) (6.0% prevalence rate), skin (5.7 % prevalence rate), non-Hodgkin Lymphoma (NHL) (5.6% prevalence rate) and brain tumor (5.2% prevalence rate). The most prevalent

cancer was NHL (7.7%) in males, breast cancer (18.1%) in females and ALL (30.9%) in children. Incidence was highest in 2014 with a staggering 14.96 cases/ 100,000 population. **Conclusion/Recommendations:** Our study highlights that cancer profiles in Dir. in the past two decades have changed with certain results non-conforming to global and regional trends. A follow-up research should be carried out to further analyze these diverging results in hopes of drawing a more concrete conclusion for these findings. **Keywords:** cancer, epidemiology, Pakistan, incidence, prevalence, preventive oncology

ST-30: Exploring the Demographic and Risk Profile of Ocular diseases in a Tertiary Healthcare Setting in Pakistan: A Gender and Age-Based Analysis, Khansa Khan, Jamal Shah. Northwest School of Medicine

Objective/Hypothesis: The study aims to investigate the prevalence of ophthalmic diseases among patients seeking treatment at a tertiary care hospital in Pakistan and to identify the risk factors associated with their development, with a focus on age and gender stratification. **Study Design:** Cross-Sectional Study **Materials and Methods:** This hospital-based cross-sectional study examined all patients who visited the outpatient department of ophthalmology at a tertiary care hospital in Pakistan between August and November 2022 (i.e., over a period of four months). Each participant provided voluntary verbal informed consent before being examined by an ophthalmologist and optometrist. Information about the patients was gathered using a Performa, and the data was later analyzed using

MS Excel Spreadsheet and SPSS (Version 26).

Results: Two thousand ophthalmic patients (n=2000) (100%), whose ages ranged from 5 to >65 years, with a mean age of 50.44 + 17.08 years, were studied; 940(47%) males and 1060(53%) females. The distribution of ocular diseases identified via ophthalmological examinations showed that: the most prevalent ocular morbidity was cataract 450(22.5%), followed by refractive errors 430 (21.5%). Other prevalent ocular diseases included pterygium 240 (12%), bacterial conjunctivitis 220 (11%), vernal keratoconjunctivitis 180 (9%), glaucoma 120 (6%), and eyelid diseases 110(5.5%). Reported significant risk factors for diagnosed eye disorders among study participants included aging, vitamin A deficient diet, excessive screen time, pollution, infections, past ocular disease, family history of eye diseases, poor hygiene, seasonal allergies, trauma, diabetes, and hypertension.

Conclusion/Recommendations: The prevalence of ocular diseases was higher in women than in men. The most prevalent ocular morbidity was cataracts. **Keywords:** Ocular Diseases, Cataract, Outpatient Department, Tertiary Care Hospital, Pakistan.

ST-31: Demographic Characteristics, Clinical Features, and Laboratory-Workup of Pediatric Patients Infected With COVID-19 at Setif, Algeria, Huma Gul, Salman Zahir, Northwest School of Medicine

Objective/Hypothesis: To identify clinical features, and laboratory workup of paediatric sufferers infected with Covid-19. **Study Design:** Retrospective Study **Materials and Methods:** This was a retrospective study,

which included laboratory-confirmed Covid-19 cases of 30 paediatric patients who consulted the Public Hospital Establishment El Eulma, Setif, Algeria, from April, 2020 to August, 2021. Data were recorded on a questionnaire in which demographic characteristics, clinical features, lab workup and treatment were interrogated, and outcome data were analyzed. **Results:** 17/30 patients were of 2-15 years of age, 12/30 patients were of 1 month to < 2 years of age, while 1/30 patient was less than one month of age. 43% of cases had a Covid-19 close contact history. The entire paediatric cases showed mild to moderate clinical features. Upon presentation, the most preponderant symptoms were fever (24/30:80%) and cough (18/30:60%). Laboratory data revealed lymphopenia among 27/30 (90%) cases, although the C-reactive protein and D-Dimer levels were raised in most cases. 19/30 had pathological findings on their Chest X-ray radiographs. The treatment modality widely used was antibiotics in most patients (28/30:93%).

Conclusion/Recommendations: Covid-19 was contagious in children of all ages. Compared to adult patients, clinical symptoms were typically less severe, even though the outcome of the disease has been moderately favorable with no fatality. **Keywords:** SARS-CoV-2, Covid-19, Paediatric, Clinical features, Laboratory workup

ST-32: Beyond Awareness: Examining Breast Cancer Screening Practices among Undergraduate Female Students in Medical and Non-Medical Disciplines of Peshawar, Pakistan, Khansa Khan, Aima Nasir, Atifa Afridi. Northwest School of Medicine

Objective/Hypothesis: This study delves into knowledge regarding breast cancer screening techniques and screening practices among undergraduate female students in Peshawar, Pakistan, encompassing both medical and non-medical disciplines. **Study Design:** Cross-Sectional **Materials and Methods:** A comprehensive comparative observational study was conducted between April and July 2023. The research involved 600 students (301 medical, and 299 non-medical) who were surveyed through a self-constructed questionnaire. The data analysis encompassed demographics, breast cancer awareness, screening behaviors, and future intentions, providing a holistic perspective. **Results:** Among participants, a noteworthy 96.7% (580) were already acquainted with breast cancer, but only 43.1 % (250) had awareness of breast self-examination. Importantly, 46.4% (163) of the 580 participants who had never undergone screening cited a perceived low risk as the primary reason. Encouragingly, 70.7% (410) expressed their intent to commence screening in the future, with 34.3% (206) indicating an initiation age between 16 and 20 years. Information sources primarily included social media, teachers, and maternal guidance. **Conclusion/Recommendations:** The study accentuates the dire need for improved breast cancer education among female students, emphasizing the paramount importance of early detection. Key recommendations encompass educational initiatives within schools, hands-on self-examination workshops, and promoting consultations with healthcare professionals. **Keywords:** Breast Neoplasms, Health Knowledge, Early Detection of Cancer, Students, Undergraduate.

ST-33: Knowledge attitude and practices towards the use of sunscreen among youngsters of Peshawar, Maleeha Khan, Khyber Girls Medical College

Objective/Hypothesis: The knowledge of sunscreen usage among youngsters. b. The attitude of youngsters towards usage of sunscreen. c. Practices of sunscreen usage among youngsters. **Study Design:** Cross sectional quantitative **Materials and Methods:** Setting: Medical Colleges of Peshawar. (KGMC and PIMC) Duration of study: 2 days Sample size: 103 participants Sampling technique: The samples were randomly selected. Study Design: Cross sectional Data Collection Tool: Questionnaire (Close ended questions) Data Analysis Plan: The software used for data analysis is SPSS version 22. **Results:** Regarding knowledge 98.1% of the youngsters' population in Peshawar had heard about sunscreen and 79.6% had knowledge about sun protection factor (spf). 74.8% knew that sunscreen should be applied indoor. On finding attitude of youngsters in Peshawar towards use of sunscreen it was evident that 82.5% youngsters liked to apply sunscreen while 17.5% did not. 95.1% believed that sunscreen protects their skin. 70.4% youngsters had their sunscreens SPF greater than 30. For 51.5% youngsters, price was the deciding factor while buying sunscreen. Regarding practice 68.9% of the youngsters' population avoided going out in sun to protect their skin while 53.4% applied sunscreen every time they go out in daylight. 60.2% applied sunscreen immediately before sun exposure. 27.2% youngsters applied sunscreen on all

exposed parts of the body while 72.8% did not. **Conclusion/Recommendations:** Most of the respondents in Peshawar had heard about sunscreen. They have knowledge about sun protection factor. Most of them knew that sunscreen should be applied indoor. Some of them knew about physical and chemical sunscreen and some did not know about it. Majority of the youngsters' population in Peshawar knew that sun exposure is the primary risk factor for skin cancer. They also knew that sunscreen can prevent skin conditions like pigmentation and aging etc. Majority of the youngsters showed positive attitude towards the use of sunscreen and they believed that sunscreen protects their skin. Most of them preferred using sunscreen in cream form over spray form and they recommend sunscreen to their family. Most of the youngsters' population avoided going out in sun to protect their skin and they applied sunscreen every time they go out in daylight. Most applied sunscreen immediately before sun exposure. Most of the respondents used physical sunscreen and they used different means such as umbrella hat mask or veil to protect their skin. Recommendation for Future Students: The present study was conducted in KGMC Peshawar. Due to limitation of the time and respondents the results of the study cannot be generalized. It is recommended that the study may be conducted at Provincial level to get more specific results. **Keywords:** Sunscreen, knowledge, attitude, practices, youngsters

ST-34: Assessing The Level of Knowledge Regarding First Aid Medical Care among Undergraduate medical Students of Public and Private Sector Medical Colleges in

Peshawar, Safiullah, Northwest School of Medicine

Objective/Hypothesis: 1. To assess the knowledge of first aid among medical students of public and private sector medical college.

Study Design: cross sectional study

Materials and Methods: A cross-sectional study was conducted at KMC (A public sector medical college) and NWSM (Private sector medical college) from March to June 2023. Data was collected from 252 medical students from both institutions through a pre-formed questionnaire containing a total of 15 questions regarding first-aid medical care. Simple 1-point scale was used to assess the knowledge level of medical students. **Results:** Out of 252 medical students, 66(26.2%) had excellent knowledge, 87(34.5%) students had adequate knowledge, 77(30.6%) needed improvement in their knowledge and 33(8.7%) had poor knowledge. There was no statistically significant difference between the knowledge level of KMC and NWSM medical students (P-value 0.438). Both male and female medical students had almost similar knowledge levels. There was no statistically significant difference between their knowledge levels (P-value 0.350). However, the knowledge level improved with increasing study year (1st to 5th year) (P-value <0.01).

Conclusion/Recommendations: Overall knowledge level of medical students from both institutions was not brilliant. Very few students scored excellently while most of them either needed improvement or had poor knowledge regarding first aid. The senior years (5th, 4th, 3rd) they had better knowledge compared to junior years (1st and 2nd). **Keywords:** First-

aid, knowledge, Medical students, public sector, private sector, Peshawar

ST-35: Assessment of sleep quality and quantity and its association with stress levels among medical students during clinical years, Tanees, Asim, Northwest School of Medicine

Objective/Hypothesis: 1. to assess the quality and quantity of sleep among the medical students during their clinical years. 2. to associate stress with sleep quality and quantity of medical students in their clinical years.

Study Design: cross sectional

Materials and Methods: Data was collected from 385 medical students of clinical year's one public medical college (KMC) and one private medical college (NWSM) in Peshawar. Pittsburgh sleep quality index (PSQI) was used for assessing the sleep quality and Perceived stress scale (PSS) was used for assessing the stress levels of respondents. **Results:** Amongst 385 medical students, 54.5% of the participants had moderate sleep difficulty and 74.29% of the participants were moderately stressed (p<0.05). In comparison, female medical students had poor mental health status(16.9% of females were highly stressed,8.7% of males were highly stressed, p<0.05) and sleep quality (3.7% of females,2.0% of males had severe sleep difficulty p<0.05).The college setting showed no significant association between sleep quality (p value: 0.451) and mental health score (p value:0.843)

Conclusion/Recommendations: In this study, we found out that medical students in clinical years are suffering from lack of both proper sleep quality and quantity, which is reflected in

their routine habits and their personalities. An alarmingly high number of students are chronically stressed resulting in bad impact on their physical, emotional and mental wellbeing. **Keywords:** Sleep quality, sleep quantity, perceived stress levels, medical students, private medical colleges, public medical colleges

ST-37: Experiences of Prometric Endeavor Nurses in Pakistan, Fazal Rahim, Rufaida Nursing College

Objective/Hypothesis: The motive of this research is to explore the challenges faced by prometric endeavor nurses in Pakistan, and shedding light on insights into prometric exams. **Study Design:** Qualitative descriptive study research was conducted from May 2023 to October 2023. It is a research approach used to obtain deep understanding of a specific phenomenon or provide practical insights for applications in real world setting. **Materials and Methods:** Implemented semi-structured interviews, and purposive sampling techniques in which data saturated on sample size, 13. Following six steps of modified thematic analysis of Braun and Clark's by Sage (2022) were employed to generate codes, subthemes, sub-subthemes, and themes, consequently, and an experience written in the form of words. We utilized codebook reliability thematic analysis to recognize repetitive codes, sub-themes, and themes by multiple coders. Pilot testing and Percentage agreements were carried out by multiple coders to ensure consistency, trustworthiness, and accuracy among qualitative data coding to prove inter-reliability. Finally, the codebook analyzed the

overall data. Updates the codebook by observing any changes for some time to assure transparency and accountability. Higher inter-reliability also maintained the dependability and transparency. **Results:** Out of 13 prometric attempting participants, 10 were males (76.92%), and 3 females (23.07%). Inductively, find out eight major themes; challenges faced, strategies followed, insights into prometric exams, data flow understanding, criteria, suggestions, inspiration figures, and miscellaneous themes.

Conclusion/Recommendations: This study underscores the complex, pioneering efforts and multi-faced perspective prometric endeavor nurses in Pakistan. FINER criteria were confirmed, specifically by their innovative findings. However, our findings suggested further research on resources and supports, understanding problems of prometric aspirants, prometric significance for all health professionals, and a mixed-method study approach. **Keywords:** Prometric, Experiences, Nurses, Pakistan, Data flow, criteria, challenges, NCLEX.

ST-39: Prevalence of Irritable Bowel Syndrome among Medical Students of KPK and Its Association with Anxiety, Farheen Fazal, Khyber Medical College, Peshawar

Objective/Hypothesis: To assess the prevalence of Irritable Bowel Syndrome (IBS) and quantitatively investigate its association with anxiety levels among medical students in KPK, Pakistan. **Study Design:** Analytical cross-sectional study **Materials and Methods:** This analytical cross-sectional study was conducted in medical colleges (both public and private sector) in KPK from May to September

2023. A sample size of 270 was selected using non-probability convenience sampling. Inclusion criteria encompassed medical students who consented to participate, while non-medical students and those who gave insufficient responses were excluded. Data collection involved a structured questionnaire, including Birmingham questionnaire (based on ROME II criteria) for assessing IBS symptoms and Generalized Anxiety Disorder 7 (GAD-7) Scale for measuring anxiety levels. Data analysis was performed using SPSS version 26, involving the calculation of means, frequencies, percentages, and the Chi-Square test to explore associations between IBS, anxiety, and demographic variables among medical students in KPK, Pakistan. **Results:** A total of 270 students were included after considering inclusion and exclusion criteria. Out of which 108 students (40%) were found to have irritable bowel syndrome according to ROME II criteria. There was a preponderance of females (52.7%) with IBS over males (47.2%). Overall prevalence of severe anxiety was 19% according to GAD-7. Among those students diagnosed with IBS, 43% had severe anxiety. Data analysis revealed ($P < 0.001$) indicating that there is a significant association between IBS and anxiety symptoms. **Conclusion/Recommendations:** This study concludes that IBS is one of the most prevalent disorders, yet it is rarely diagnosed. Medical students are particularly prone to developing IBS, a condition exacerbated by the stress and anxiety stemming from their demanding curriculum. Therefore, patients diagnosed with IBS should be screened for anxiety and managed accordingly. **Keywords:** Irritable Bowel Syndrome, Anxiety, Medical Students, Prevalence, KPK

ST-40: Frequency of Different Types of Allergies Among Students of Peshawar University, Misbah Uddin, Laiba Ikram, Khyber Medical College

Objective/Hypothesis: 1) To assess the frequency of different types of allergies among students of University of Peshawar (2) To analyze the impact of gender and family history on allergy development. **Study Design:** Cross-sectional study. **Materials and Methods:** A cross-sectional study was performed among the students of the University of Peshawar through a self-administered questionnaire. A pre-validated structured Questionnaire was used with necessary changes keeping in view the expert opinion on the results of 30 test questionnaires circulated beforehand (pilot testing). **Results:** Among a total of 429 students 232 (54.07%) were females and 197 (45.9%) were males with a mean age of 20.1 ± 2.1 years. Approximately, 177 (41.25%) individuals reported having allergies diagnosed by a Physician (health worker). The prevalence of other allergies was found to be 41.95% Allergic rhinitis, seasonal 32.63%, pollen 23.54%, dermatitis (Eczema) 36.13%, cosmetic 24.47%, plants 21.44%, food 20.74%, animals 14.68%, dust mites 57.10%, allergic conjunctivitis 31.93%. Dust mites were found to be the most prevalent form of allergy i.e. 57.10% and the least prevalent is allergy associated with animals (pets) 14.68%. Data analysis revealed ($p < 0.001$) indicating that there is a significant association between Family history and Allergy development. It also shows that Gender ($p < 0.001$) significantly correlates with Allergies (mostly common in

females). **Conclusion/Recommendations:** This study highlights the frequency of different types of allergies among students of Peshawar University and the correlation of gender and family history with the development of Allergies, emphasizing the need for comprehensive preventive measures and management strategies. Education and awareness campaigns about allergens can help students make informed choices. University authorities can improve indoor air quality, offer allergen-free dining, and establish allergy support groups. Encouraging students to speak up and creating a supportive environment can help manage allergies **Keywords:** Allergy, prevalence, allergen, Peshawar University students

ST-41: Medical Students' Career preferences and Attitude towards Psychiatry: A Cross-Sectional Study on Influences and Educational Impact in Peshawar, Zeeshan Khan, Northwest School of Medicine

Objective/Hypothesis: This study aims to explore medical students' career choices, their attitudes towards psychiatry as a career path, the factors influencing their career choices, and the impact of medical education on their perceptions. **Study Design:** cross sectional **Materials and Methods:** A cross-sectional questionnaire-based survey was conducted among 415 medical students from various colleges in Peshawar, ethical approval was obtained from institutional review board. The mean age of the participants was 21.5 years, with a gender distribution of 54.9% male and 45.1% female. Participants were categorized based on their colleges and year of study.

Results: The majority of participants (89.2%) considered psychiatry a noble medical specialty and equally important(89.9%) as other medical specialties. However, only 15.2% expressed an intention to pursue a career in psychiatry. Among those interested, motivations included a desire to help individuals with mental illness (28.1%), personal or family experience with mental illness (23.7%) and exposure to psychiatry during medical education (21.9%). Conversely, lack of interest in mental health (34.4%) and less financially rewarding field (15.9%) were the primary reasons for not considering psychiatry as a career option. Apart from psychiatry cardiology emerged as the top choice, followed by neurology and surgery. Obs & Gynae was particularly popular among female participants. Factors influencing career choices included positive impact on society (93%), professional growth potential (90.5%), financial compensation (90%), job security (89.75%), work-life balance (87%), and the desire to help individuals with mental illness (63.5%). Approximately 59.75% of participants believed in the media's role in shaping perceptions. A significant number of participants (57.8%) received formal education in psychiatry, 38.3% had exposure to informal education. Only n=123(29.6%) participants participated in various psychiatry-related activities, 84.5% of which expressed a positive impact. Interestingly, even among the 292 (70.4%) participants who did not engage in such activities, a considerable portion believed that participation would have resulted in a positive impact.

Conclusion/Recommendations: conclusion: Medical students acknowledge the significance of psychiatry, but relatively low percentage express an intent to pursue it as a career.

Exposure to psychiatry-related activities during medical education positively influences students' perceptions of this field. Recommendations: To increase interest in psychiatry, medical schools should provide more informal education, combat stigma, and offer increased exposure to psychiatry. **Keywords:** Medical students, psychiatry, career path, medical education, medical specialties.

ST-44: Exploring Local Community and Health Managers Perspectives Regarding Determinants for Poor Maternal Health in Khyber Pakhtunkhwa: A Mixed Methods Approach, Aqsa Haider, Khyber Medical College

Objective/Hypothesis: To explore the possible reasons of failure to achieve the targets set for maternal improvement in MDGs and SDGs **Study Design:** A Mixed Method Research Design was used, integrating qualitative and quantitative elements into our study. **Materials and Methods:** Local Community: A sample size of 324 women visiting BHUs were interviewed in the rural areas of Peshawar from March to May 2023, using a semi-structured questionnaire. Health Managers: Various health managers were interviewed regarding maternal health until data saturation was achieved. **Results:** The total response rate of the local community was 73%. The results of this study is divided into 2 parts: 1. Local Community: Out of the total 281 participants, 29.54% of participants had a positive history of miscarriage/abortion while 70.46% had a negative history. A statistically significant association was found between

Gravidity and history of miscarriage/abortion. A statistically significant association was also found between education and antenatal consultations. 2. Health Managers Perspectives Different health managers including DG Health, Deputy DHO and 6 others were interviewed regarding maternal health until data saturation occurred. Following this, a number of themes were generated following the WHO Six Building blocks of Health System 2007. **Conclusion/Recommendations:** The high maternal mortality rate in Pakistan is due to social factors, medical factors and a weak health system as per the WHO health 7 building blocks. **Keywords:** Maternal Mortality Maternal Health SDGs MDGs WHO Health Building Blocks

ST-45: Assessing the early impacts of Covid-19 on food security of people in Khyber Pakhtunkhwa, province of Pakistan: a cross sectional study, Javeria Khan, Khyber Medical College

Objective/Hypothesis: Hypothesis: Covid-19 has resulted in inflation and economic crises all over the world. Due to inflation and worsening financial conditions food and nutrition of masses must have fallen below a healthy level and that growth of children less than 5 years of age must have been affected. Objective: 1) to assess the nutritional status of children under 5 years of age in rural areas of District Peshawar, Khyber Pakhtunkhwa, Pakistan. 2) To assess the food security of people in rural area of District Peshawar, Khyber Pakhtunkhwa, Pakistan. **Study Design:** Cross sectional study **Materials and Methods:** In this study both qualitative as well as quantitative data about food security and nutritional status of children

under five years of age has been collected by the researchers themselves. Questionnaire was used to find nutritional status and WHO ANTHRO plus calculator was used to calculate anthropometric measurements **Results:** 82% families were effected and there food quantity and quality was effected. 90% families had difficulty maintaining 3 meals per day **Conclusion/Recommendations:** Conclusion: Chee Covid-19 has adversely affected health of individuals particularly children under 5 years of age. Recommendations: The National and Provincial Government is urged to invest in child and maternal health at primary healthcare level. Disbursement of power mum/*acha mum* at adequate amounts and other nutritional supplements may bring a little improvement. At the same time, in light of the current inflation, the minimum wage of a laborer must be increased in order for him to meet his daily basic food requirements. **Keywords:** Height for age, Weight for age. Stunting, Wasting, Nutritional survey, Food security

ST-46: Knowledge, attitude, and practice among medical students in Peshawar towards the inappropriate use of antibiotics, Faiza Farman, Northwest School of Medicine

Objective/Hypothesis: To assess medical students' knowledge, attitude, and practice regarding antibiotic use and its resistance. **Study Design:** This is a cross sectional descriptive study. **Materials and Methods:** A cross-sectional descriptive study was carried out on medical students of Northwest School of Medicine, Rehman Medical College, Pak International Medical College, and Khyber

Girls Medical College over the period of 6 months. The sample size was 380. Female students outnumbered males (57.9% vs. 42.1%). The data indicated that 34.2% of the students reside in rural areas, while 65.8% live in urban areas. Data was collected via a non-probability convenient sampling technique using a self-administered questionnaire. SPSS version 21 was used to analyze the data. **Results:** This study explored medical students' knowledge, attitudes, and practices regarding antibiotic misuse. Of the 380 participants, 37.36% had good knowledge, 44.32% had a good attitude, and 57.89% showed good practices. However, concerning findings showed that 32.9% felt confident in self-medicating with antibiotics, 62.1% stopped taking antibiotics when symptoms improved, and 38.7% admitted to sharing antibiotics. Comprehensive education is necessary to address misconceptions and promote appropriate antibiotic use. **Conclusion/Recommendations:** According to this study, medical students exhibit different levels of understanding and conduct with regard to antibiotic usage and resistance. While the majority are familiar with the fundamentals, a notable number hold misconceptions, and several engage in risky behaviors. This study suggested a pressing need for education and awareness campaigns to foster responsible antibiotic use and counter-resistance. Because medical students are the future healthcare providers and their attitudes and behavior can impact public health outcomes, addressing knowledge gaps, correcting misunderstandings, and promoting responsible antibiotic practices are vital to compete against antibiotic resistance **Keywords:** Antibiotics, appropriate use,

knowledge gaps, public health outcomes and resistance.

ST-48: Impact of ERAS protocol on post-operative outcomes of Pancreatico-duodenectomy: An initial experience. Muhammad Ahmad, Ziaullah, Khyber Medical College

Objective/Hypothesis: ERAS protocol reduces hospital stay and complications after Pancreatico-duodenectomy **Study Design:** This is a prospective cohort study in Khyber Teaching Hospital, Peshawar which is a high-volume center for Pancreatico-duodenectomy with routine procedures. **Materials and Methods:** Initially 15 patients were chosen after informed consent to be part of the ERAS cohort and were compared with a conventional cohort of 15 patients with similar patient characteristics. Patients undergoing pancreatic surgery were included in the study with the exception of those who had laparoscopic surgeries or had an ASA score of 4. Our ERAS protocol included the following key elements: preoperative counseling, no mechanical bowel preparation, postoperative restriction of intravenous fluid, early withdrawal of nasogastric tube with early onset of oral feeding, mobilization and early removal of urinary catheter and intra-abdominal drains as per ERAS guidelines updated in 2020. All surgical procedures were performed by a single experienced surgeon and his team. Postoperative complications were defined according to Clavien-Dindo criteria and International Study Group of Pancreatic Surgery. **Results:** The mean age of patients in the ERAS group was 52.4 years with range (36-

64 years) while that of the conventional group was 52.8 years with range (35-68 years), among them the ERAS group had 10(66.7%) males while the conventional group had 11(73.3%) males. The majority of patients (93.3%) in both groups had an ASA score of 2. There were no differences in the type of surgery and intraoperative variables between the two groups. Post-operative complications were similar in both groups however the incidence of delayed gastric emptying was significantly lower in the ERAS group 0(0%) compared to the conventional group 5(33.3%). Length of hospital stay was 5 (4-7) in the ERAS group and 12(9-15) in the conventional group. **Conclusion/Recommendations:** This study demonstrates that ERAS protocol can be safely and effectively implemented in a developing country as it improves patient outcomes and produces a substantial decrease in the length of hospital stay **Keywords:** Enhanced Recovery after Surgery Pancreatico-duodenectomy Perioperative Care

ST-49: Emergency Versus Elective Caesarean Section Comparative Analysis of Risk Factors in Tertiary Care Hospitals of Pakistan, Ahmad Ali, Northwest School of Medicine

Objective/Hypothesis: Objectives: 1. To determine the frequency of elective versus emergency C-sections. 2. To assess the risk factors associated with elective and emergency caesarean sections respectively **Study Design:** Cross sectional study **Materials and Methods:** Data was collected from three tertiary care hospitals in Peshawar; 1. Hayatabad medical complex 2. Northwest general hospital 3. Rehman Medical institute using Convenience

sampling technique from those pregnant women who were undergoing Caesarian section and were willing to participate in this study

Results: This study looked at 137 women and found that almost half of them were under the age of 30, which could have had an impact on their pregnancy outcomes. Blood type distribution was pretty even, with B+ and A+ being the most common. Education was also a factor, with high-educated women having higher rates of C-sections in certain countries. Most of the participants had multiple prenatal visits, so it looks like they were getting good care. Overall, 90.5% of the participants didn't have any chronic diseases, and 35% had pre-term births. There were also statistical relationships between gender and the cause of the C-section.

Conclusion/Recommendations: This study looks at the characteristics and health of the participants, looking at things like age, blood group, education, and types and causes of C-section. It could help us figure out better ways to care for pregnant women and babies, which could lead to better health outcomes.

Keywords: Caesarean section Elective procedure Emergency procedure Risk factors Tertiary care hospital

ST-50: Determinants of Medical Brain Drain in District Peshawar, Khyber Pakhtunkhwa, Muhammad Hashim Malik, Khyber Medical College Peshawar

Objective/Hypothesis: 1. to assess and analyze the push and pull factors leading towards brain drain among medical students and young doctors of public and private institutes. **Study Design:** This cross-sectional descriptive study

was carried out from March 2022 to September 2023 in medical colleges and hospitals situated in Peshawar. **Materials and Methods:** This cross-sectional descriptive study was carried out from March 2022 to September 2023 in medical colleges and hospitals situated in Peshawar, including Khyber Medical College, Khyber teaching hospital, Khyber Girls Medical College, Hayatabad Medical Complex, Rehman Medical College, Rehman Medical Institute, Northwest School of Medicine, and North West General Hospital. 300 respondents were selected on the basis of convenience sampling. All students other than fourth year and final year of MBBS, all doctors other than House Officers and Training Medical Officers, all foreign nationals, and all aged below 20 and above 30, and all non-willing participants were excluded. The data was collected using a self-designed, well structured, interview-based questionnaire. The data collected was analyzed using IBM SPSS V22.0 for windows. **Results:** According to the data collected, a total of 220(73%) out of 300 participants planned on moving abroad while 80 (27%) participants wished to stay in Pakistan. Among those intending to migrate abroad 115(53%) out of 220 were students whereas 105(47%) were young doctors. Our study revealed that the top reasons for migration were higher standards of living abroad (94.55%), better salary packages abroad (93.66%) and the political instability in Pakistan (93%). In contrast, the top reasons for those staying in Pakistan were to serve the country (85%) and reluctance to be separated from their families (75%). Among the participants, the percentage of medical students who intend to migrate abroad was found to be higher than the percentage of young doctors. 61% of our participants expressed their

willingness to return to Pakistan after completing their postgraduate training abroad. **Conclusion/Recommendations:** Brain drain or elite migration is regarded as a significant global challenge. Our research provided an analysis of the determinants that contribute to the current medical brain drain of the country. Therefore, by prioritizing the enhancement of doctors' working conditions and salaries, as well as investing in their education and training, we can address and mitigate the worsening of this situation. **Keywords:** Brain drain, Healthcare professionals, Pull factors, Push factors

ST-52: Determinant Factors in Choosing a Career, Career exploration, Awareness and Counselling through the Eyes of High School Students., Sulaiman Hussain, Northwest School of Medicine

Objective/Hypothesis: This cross-sectional study aims to investigate the determinant factors of choosing career, career exploration, awareness, and counseling from the perspective of high school student. **Study Design:** Cross-sectional study **Materials and Methods:** A questionnaire-based cross-sectional survey was conducted among 322 high school students with an average age of 16 years (range: 15-21). Ethical approval was obtained from the institutional review board. Both public (39.7%) and private (60.3%) schools' students were enrolled, with a nearly equal gender distribution of 51.7% male and 48.3% female students. Moreover, parents' and siblings' education levels, as well as overall family incomes, were taken into consideration during the study. **Results:** Among the participants, 92% had

made career choices, with the most common choices being MBBS (41.1%), Army (10%), Engineering (9.4%) and CSS/PMS (6.6%). Various factors influenced career decisions, with parental influence (83.2%), general interests (75.5%), knowledge of careers (82.6%), skills, abilities, and talents (74.5%), and future opportunities (81.6%) being the most significant. Teachers and peers also played some influential roles in career choices. For the 8% of participants who had not made career choices, reasons included perceiving career planning as a waste of time (67.8%), financial constraints (47.8%), lack of guidance and motivation (77.2%), reliance on grades (70.8%) and friends' plans for future decisions (35%). Regarding career counseling, a mere 9.7% of students reported having attended a counseling seminar organized by their college, where professional career counselors were invited, and only 9.1% confirmed their participation in such seminars. Surprisingly, the vast majority of students (>90%) expressed that no career counseling seminars or discussions on career planning were arranged for them, and consequently, they had not attended any such sessions. In contrast, a substantial portion of students (68.6%) acknowledged seeking career guidance through online resources. Furthermore, an impressive 80.9% of students reported receiving valuable advice from their parents and relatives regarding their career choices. **Conclusion/Recommendations:** Conclusion: The study highlights the complex interplay of factors influencing career choices among high school students, including parental influence, personal interests, knowledge of careers, and future opportunities. It emphasizes the need for improved access to career counseling and online guidance resources to

support students in making informed career decisions. Recommendations: Conduct career counseling seminars with professionals, improve access to reliable online career guidance platforms and Integrate career exploration into the curriculum. **Keywords:** Career choices, career exploration, career counseling, high school students, online guidance.

ST-54: Direct oral anticoagulants or vitamin K antagonists after TAVR: A systematic review and meta-analysis, Muhammad Iltaf, Ayub Teaching Hospital, Abbottabad

Objective/Hypothesis: This meta-analysis aimed to compare the efficacy and safety of vitamin K antagonists (VKAs) and direct oral anticoagulants (DOACs) in patients with AF undergoing TAVR **Study Design:** Systematic Review and Meta-analysis **Materials and Methods:** We searched MEDLINE, Embase and the Cochrane Library. We included a combination of keywords and controlled vocabulary terms for TAVR, DOACs and vitamin K antagonists/warfarin. Both randomized controlled studies and observational studies that compared vitamin K antagonists and DOACs after TAVR were included (7 were observational and 2 were RCT). Pooled odds ratios (OR) were calculated and the potential risks of bias were assessed. **Results:** All 9 studies reported mortality (DOAC-total events 12354, events 1693; VKA-total events 17706, events 2839).DOAC reported 13% less mortality risk compared to VKA. Results were significant (OR 0.87, 95%CI [0.81, 0.93], $P<0.0001$).heterogeneity was high ($I^2=66%$).Subgroup Analysis was performed but heterogeneity remained the same

($I^2 = 66%$).Only 6 out of 9 studies reported data for thromboembolic events (DOAC reported 3885 patients data, 39 events; VKA reported 4455 patients data, 84 events). DOAC were associated with decreased risk of major bleeding events (OR 0.77; 95% CI: 0.72-0.83, $P<0.00001$) and ICH (OR 0.62; 95%CI: 0.42-0.90, $P=0.01$) compared to VKA and similar risk of ischemic stroke (OR 1.00; 95% CI: 0.88-1.14, $P=0.98$) and thromboembolic (OR 0.77; 95%CI: 0.35-1.70, $P=0.5$) events in patients with AF undergoing TAVR. **Conclusion/Recommendations:** This meta-analysis showed that DOACs were associated with lower risks of all-cause mortality, major bleeding and ICH, and comparable risks stroke, and thromboembolism in patients with AF undergoing TAVR compared to VKAs and reinforce the DOACs strategy in TAVR patients with concomitant indications for oral anticoagulants. Further randomized controlled trials are warranted to validate our findings. **Keywords:** Direct oral anticoagulants, DOACs, Vitamin K antagonists, VKA, Trans-aortic Valve Replacement, TAVR,warfarin,

ST-55: Effect of insomnia on academic performance of medical students, Shabnam Shahjehan, Khyber Medical College Peshawar

Objective/Hypothesis: 1)To find out the prevalence of insomnia among medical students 2)To find out the cause of insomnia among medical students 3)To find out the effect of insomnia on the academic performance of medical students. **Study Design:** Descriptive Cross sectional study **Materials and Methods:** We used convenient sampling to collect data

through questionnaires distributed among students. The sample size was approximately 153, determined using WHO sample size calculator formula. Our selection criteria included students aged 18 to 25 years who were willing to participate. For data analysis, we used mean and standard deviation for quantitative variables and employed the chi square test to stratify categorical variables with a significant level of $P < 0.05$. **Results:** The results showed relations between quality of sleep, motivation for study, memorizing and concentrating ability and decision making. The results varied depending upon different age groups and gender. Even after 30.6% of students sleeping for 5 hours and 24.2% of students for 6 hours at night, 53.5% of the students rated their sleep quality as good and 16.6% rated it very good. Only 17.8% and 12.1% of students rated their sleep quality as bad and very bad respectively. This showed that the sleep quality of majority of students was good irrespective of the duration and there weren't many problems in sleep maintenance. **Conclusion/Recommendations:** From result of our study it was concluded that Insomnia or poor sleep quality has a negative impact on the academic performance of students. **Keywords:** Insomnia in Peshawar, academic performance, sleep quality

ST-56: Prevalence of depression in type-2 diabetes mellitus patients: a cross-sectional study, Aleena Ahmad, Northwest School of Medicine, Peshawar

Objective/Hypothesis: This study was aimed to determine the prevalence of depression among type-2 diabetes mellitus patients and the

factors associated with it. **Study Design:** A cross-sectional study. **Materials and Methods:** This was a cross-sectional study carried out at endocrinology outpatient departments of Mardan Medical complex and Northwest General Hospital. Patients with diagnosis of type-2 diabetes ≥ 1 year participated in this study. Pregnant and postpartum women were excluded from the study. PHQ-9 scale was used to assess the level of depression of the participants. **Results:** Out of 256 patients that participated in the study, 49.2% were males and 50.8% were females. 80.5% of the patients had some level of depression. 26.6% had mild depression, 31.3% had moderate depression, and 15.6% had moderately severe depression and 7% patients suffered from severe depression. There was a statistically significant difference between the mean depression score of the various age groups ($p < 0.05$), males and females ($p < 0.05$), participants who had diabetes for less than 10 years and those that had diabetes for more than 10 years ($p < 0.05$), patients who had developed diabetic complications and those that did not have any complications ($p < 0.05$).

Conclusion/Recommendations: Some level of depression was found among majority of the patients. Patients of older age groups, females, longer duration of diabetes and those who had developed diabetic complications were found to have higher level of depression. **Keywords:** Diabetes Mellitus Type 2, Depression, Patient Health Questionnaire.

ST-59: Association of Sleep positions with Psychological Wellbeing-A cross sectional study among young adults of Pakistan, Husnain Tahir, Azad Jammu & Kashmir Medical College

Objective/Hypothesis: 1.To predict the psychological wellbeing in terms of sleep positions. 2. To explain the significance of results with respect to Psychological well-being. **Study Design:** This study is designed as a cross-sectional study to evaluate and analyze the sleep positions in order to assess the psychological well-being of a person. This research is conducted in different areas of Pakistan ensuring uniform province-wise analysis based on population statistics. The institutes from across Pakistan, with people falling under the young adult population, are preferred for data collection. **Materials and Methods:** Using Raosoft sample size calculator, we calculated a sample size of 385. This research is conducted in different areas of Pakistan ensuring a uniform province wise analysis based on population statistics. Non-probability sampling is used as sampling technique for this research. Questionnaire was used with dependent and independent variables. With Sleep positions being Independent variable and Psychological Well-being being dependent variable. Psychological Well-being is being measured by Carol Ryff's PWB scale that further consists of 6 responses namely Autonomy, Environmental Mastery, Personal Life, Personal Relations with others, Personal Relations and Self-Acceptance. **Results:** The study revealed that the psychological well-being as a whole has no relation with sleep positions. But it was observed that two of its sub-variables I.e. Environmental Mastery and Self-Acceptance show significant relation with sleep position. Sleep Position having a significant effect on both male and female Environmental Mastery levels. It was also observed that both male and female have effect

on their Self-Acceptance levels in relation to Sleep Position. Rest of the sub-variables have no significant relation with sleep positions. Chi Square test was applied on the data and it indicates the highly significant relation of sleep positions with Environmental Mastery and Self-Acceptance Levels. Pearson Chi-Square Tests Environmental Mastery What is your usual and preferred sleep position? Chi-square 51.027 df24 Sig.001*, b, c Results are based on nonempty rows and columns in each innermost suitable. *. The Chi-square statistic is significant at the .05 level. b. More than 20% of cells in this suitable have expected cell counts less than 5.Chi-square results may be invalid. c. The minimum expected cell count in this suitable is less than one. Chi-square results may be invalid. Standard deviation in Sleep Positions is 1.135 and its mean is 1.80(.054).Standard deviation in Gender is .474 and its mean is 1.66(.023).Standard deviation in Environmental Mastery is .829 and its mean is6.66 (.040).Standard deviation in Self-Acceptance is 1.242 and its mean is 6.04(.060). Standard deviation in Autonomy is1.326 and its mean is 5.81(.064). Standard deviation in Personal Relation with others is 1.329 and its mean is 5.77(.064).Standard deviation in Personal Life is 2.046 and its mean is 4.00(=.098). Standard deviation in Personal Growth is 2.035and its mean is 3.63(.098). Four different sleep patterns (bed to right side, left side, and abdomen and on back) were indexed to test the hypothesis. These sleep positions exhibited overall highly significant results with environmental mastery parameter at Chi-square ($X^2, 24$)=51.027, $p<00.1$ with $X^2(24)$ =41.502, $p<0.015$ for male and for female it was found non-significant. The Self-acceptance showed significant results for both male and female at

$X^2(24) = 40.84, p < 0.017$ and $X^2(24) = 40.013, p < 0.021$ respectively. These results show that the psychological wellbeing (environmental mastery and self-acceptance) in the Pakistani population can be predicted in terms of sleep pattern in males and females. All other factors showed non-significant results that implies that are not good enough to explain TPWB in the young. **Conclusion/Recommendations:** A cross sectional study was conducted to predict the relationship of sleep positions with a young adult's psychological Wellbeing. Ethical Consent was taken from the Ethical Review Board (ERB) in AJK Medical College, Muzaffarabad for the research. Non-probability sampling via Google Questionnaire was performed and sample size (385) at confidence interval of 95% was calculated by online publicly available RAOSOFT tool by setting the marginal interval of 5%. Was used to collect data from different provinces of Pakistan. Data was analyzed by using general statistics, Chi-square tests in SPSS 26.0 version licensed by AJKMC and four different sleep patterns (bed to right-side, left side, abdomen and on back) were indexed to test the hypothesis. The mean values of environmental mastery and self-acceptance were found to be 6.66 ± 0.04 and 6.04 ± 0.06 respectively. These sleep positions exhibited overall highly significant results with environmental mastery parameter at Chi-square ($X^2, 24) = 51.027, p < 0.001$ with $X^2(24) = 41.502, p < 0.015$ for male and for female it was found non-significant. The Self-acceptance showed significant results for both male and female at $X^2(24) = 40.84, p < 0.017$ and $X^2(24) = 40.013, p < 0.021$ respectively. These results show that the psychological wellbeing (environmental mastery and self-acceptance) in the Pakistani population can be predicted in terms of sleep

pattern in males and females. All other factors showed non-significant results that implies that are not good enough to explain TPWB in the young. **Keywords:** PWB Psychological wellbeing TPWB total Psychological Wellbeing SPSS Raosoft

ST-60: Does Hormone Replacement Therapy (HRT) Exert a Positive or Negative Impact on Cardiovascular Outcomes in Postmenopausal Women: A Systematic Review and Assessment of Efficacy and Risk? Huma Fatima tu Zuhra, Khyber Medical College

Objective/Hypothesis: To systematically evaluate the impact of Hormone Replacement Therapy (HRT) on cardiovascular outcomes in postmenopausal women, examining both benefits and risks.

Study Design: Systematic review **Materials and Methods:** We conducted a systematic literature review. We reviewed 53 articles from reputable journals published between 2018 and August 13, 2023, focusing on 08 selected papers for in-depth analysis. The analysis focused on distinct cardiac and vascular disease categories, examining HRT use in menopausal women with or without prior CVDs or associated risk factors, before or after HRT.

Results: Oral HRT is neutral for cardiac disease, while vaginal HRT lowers heart attack and stroke risks. Nevertheless, higher oral/transdermal HRT doses could increase the risk of venous thromboembolism (VTE) and strokes. Using transdermal estradiol alone or with micronized progesterone have lower thromboembolic risk. In contrast to t-E2, o-CEE lessens the negative effects of increasing

pericardial adipose tissue on the development of atherosclerosis. The concept of the timing hypothesis suggests that the effects of HRT on mortality and cardiovascular incidents could fluctuate depending on the age of initiation, with potential benefits in younger women. **Conclusion/Recommendations:** Oral route of administration and low dose is safer for patients who have increased risk of blood clots and stroke. Transdermal estradiol coupled with progesterone decreases thromboembolic risk. O-CEE decreases the development of atherosclerosis. Moreover, cardiovascular disease risk is decreased if HRT is initiated at a younger age. Nonetheless, the process of personalized decision-making holds paramount importance, and further research is needed to fully recognize the effects of HRT on cardiovascular health in postmenopausal women. **Keywords:** Hormone replacement therapy, Cardiovascular disease, Stroke, Venous thromboembolism, Administration routes, Timing hypothesis, Postmenopausal women, CVD risk, Heart disease, Atherosclerosis, lipid profile

ST-61: Prevalence of Depression in Infertile Females, Rushba Ayaz Khan, Khyber Medical College, Peshawar

Objective/Hypothesis: This study demonstrates the prevalence of depression in infertile women as well as the impact of categorical variables (age, income and education level, urbanization and duration of infertility) on depression status. In this study, the intensity of depression was also evaluated, along with its relationship with significant categorical variables. **Study Design:**

descriptive cross-sectional study **Materials and Methods:** This descriptive cross-sectional study was carried out between March 2022 and June 2023. Our sample size was 111 as calculated from Open Epi. We used non-probability convenient type of sampling. Data was collected through well-structured questionnaire based on BDI scoring. The sample population included infertile females between age group 20-40 years visiting public sector tertiary care hospitals of Peshawar. **Results:** The results revealed that 55% of participant showed no signs of depression whereas 45% of the sample was depressed. Age of infertile females, income status and duration of infertility are associated with depression having significant p value of 0.008, 0.012 and 0.026 respectively. The level of education and urbanization had p value of 0.612 and 0.377 respectively, indicating no significant association with depression status. Depression severity scale indicated 55.9% participants to be normal, 18.9% mildly depressed, 9% moderately depressed and 16.2% severely depressed. There was a significant correlation of age, income status and duration of infertility with severity of depression, with p values of 0.017, 0.022 and 0.05 respectively. **Conclusion/Recommendations:** Our study concluded that there is a prevalence of depression among infertile females, and it is influenced by factors such as age, income level and duration of infertility. **Keywords:** Depression, Infertile females, categorical variables, severity of depression.

ST-62: Comparative analysis of physical classes' vs online resources, Areeba Khan, Khyber medical College

Objective/Hypothesis: OBJECTIVES: Primary Objective: To compare physical classes with online resources for medical students' learning. Secondary Objective: To find out students' preferences. HYPOTHESIS: - Students prefer online resources over physical classes. **Study Design:** Cross-sectional survey **Materials and Methods:** Quota sampling and stratified sampling methods. Sample size of 332 was calculated using the formula where population size was 2530 in the mentioned colleges, with confidence level of 95%, margin of error to be 5% and sample proportion of 50%. **Results:** The study involved 291 medical students from various colleges, with the majority from Khyber Medical College, and it categorized students by year of study, showing a higher representation from the 4th year. The participants were divided into hostelites and day scholars, with more residing in hostels. In terms of their performance in the last professional exam, a substantial number scored above 90%. Regarding the use of online resources, a significant majority found online resources helpful in grasping concepts and used them frequently, typically dedicating 1-2 hours per day. Attendance in physical classes varied, with the majority attending 80-100% of classes. Satisfaction with physical classes was mixed. Students found online resources more advantageous for professional exams and as a time-saving method. There was a significant association between using online resources and grasping concepts and passing professional exams, as well as a relationship between time spent on resources and their perceived advantage and time-saving nature. **Conclusions:** The study concludes that online resources are more effective for concept

building, learning, and memory retention among students. They also serve as a valuable resource for catching up on missed lectures. Online classes are preferred for their convenience, time-saving nature, flexibility, and access to a wide range of courses. Recommendations include improving internet access, providing subscriptions to various online resources, organizing course materials, implementing blended learning, training teachers in online teaching, conducting broader studies, and introducing Learning Management Systems in medical colleges to enhance online education delivery. **Keywords:** Online Learning Resources, Traditional Classroom Learning, Medical Education, Comparative Study, Peshawar Medical Colleges, Digital Education Platforms



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