



جامعة الإمام عبد الرحمن بن فيصل  
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY

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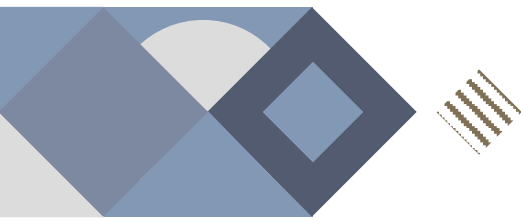


RESEARCH  
DAY

# ABSTRACT BOOK

March 2024





Dear colleagues,

It is my pleasure to announce the successful completion of the 6th undergraduate research course for our senior medical students. This annual event marks a significant achievement for the College of Medicine at Imam Abdulrahman Bin Faisal University, as it reflects the culmination of our competency-based MBBS programme.

The research committee has provided a platform for medical students to present their findings, where 224 students have produced 48 scientific titles ranging between clinical investigations and public health enquiries which are now summarised in this abstract book, we are so proud to present.

The participation in this course has been instrumental in enhancing students' vital skills such as scientific writing and research, thanks to the opportunities and various resources provided by the College of Medicine and the University in general.

Seven months ago, we embarked on the journey of organising the research course RES-614, and it would not have been possible without the collaborative efforts of research supervisors, department representatives to the research course committee, department chairpersons and the Deanship of Scientific Research's Institutional Review Board committee.

Finally, I would like to extend my heartfelt gratitude to the Dean of Medicine Dr. Bassam Awary, the Vice Deans Dr. Mohamed Madadin and Dr. Mohammed Aljumaan for their continuous support throughout the coordination of this course.

Finally, thanks are due to Dr. Mohammed Elamin who was always available to both the staff and students.

Best wishes,  
Reem S. AlOmar

Coordinator of the Research Course  
Associate Professor of Biostatistics and Epidemiology  
Consultant in Public Health  
Department of Family and Community Medicine  
College of Medicine  
Imam Abdulrahman Bin Faisal University

March, 2024







**Group: F1**

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**Department: Anatomy**

**Students:** Radi Ali Alsaffar, Asayel ahmed Alomri, Duaa Yaqoub Alghirash, Enas Ataullah Altuwairqi, Fatimah Ashraf Alquraish, Fatem saleh Allbrahim

**Supervisors:** Syed Rehan Hafiz Daimi, Khaled B. Awary, Tarek M. Hegazi





**Title:**

**The correlation of lunate morphology with the development of wrist pathology among Saudi population, King Fahad University Hospital, Al-Khobar**

**Abstract:**

**Background:** The lunate bone plays a crucial role in wrist stability and movement; therefore, disturbance of lunate integrity could significantly impact the hand function and subsequently the quality of life. The variation of lunate morphology has been linked to several wrist pathologies. Limited studies were conducted to assess the correlation between lunate morphology and wrist pathology, however, none of the literature included the Saudi population.


**Objectives:** The aim of the present study is to estimate the prevalence of different lunate types and to investigate the association between lunate morphology with specific wrist pathologies, among different demographic groups in Al-Khobar of Saudi Arabia.

**Methods:** A cross-sectional study was conducted at King Fahad University Hospital in Al-Khobar, Saudi Arabia. A total of 284 radiological wrist reports were included in the study, from which the Magnetic Resonance Imaging (MRI) findings, clinical assessment, and demographic information were collected. Lunate morphology was dichotomized by Viegas classification, and the presence of various wrist pathologies were evaluated using MRI.

**Results:** The study sample consisted of 205 patients (72.2%) with type I lunate and 79 patients (27.8%) with type II lunate. A larger proportion of Saudi individuals was observed in the study population. Tendinopathy was the most common pathology identified, followed by ganglion cysts, osteoarthritis, and ligaments injury, whereas fractures were the least prevalent. No significant association was found between the lunate type and the distribution of the wrist pathologies ( $p = 0.510$ ), nor the type of pathology ( $p = 0.595$ ).

**Conclusion:** This study provides valuable insight into the correlation between lunate morphology and wrist disorders. The findings suggest that lunate morphology does not significantly influence the presence of specific wrist pathologies. These results can contribute to evidence-based practices and enhanced patient care for individuals affected by wrist pathology.

**Keywords:** Lunate, Morphology, Wrist pathology, MRI, Prevalence







**Group: F2**

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**Department: Physiology**

**Students:** Farah AlHaidar, ShahdAlMehrij, RafeefAbalkhail,  
Reem AlMutairi, Manar AlOmair

**Supervisors:** Dr. Noura AL Mulhim, Dr. Maiadah Alfares, Prof.  
Rabia Latif, Dr. Nazish Rafique, Dr. Lubna Al-Asoom





**Title:**

**Association of myopia with screen time use in pediatric patients in King Fahad University  
Hospital**

**Abstract:**


**Background:** Myopia in children is increasing in incidence and its development is linked to some risk factors such as family history, near-work activities and decreased time spent outdoors. However, research regarding the link of electronic devices and screen time with myopia has been inconclusive.

**Objective:** This study aimed to investigate an association between screen time or the types of devices used by children, with the development of myopia and the severity of myopia in children.

**Methods:** In this retrospective case-control study a survey was administered for case and control groups (100 cases and 152 controls), for children between the ages of 4 and 12 years old, filled by the children's guardians, it was used to measure screen use habits, such as screen time, types of devices used and age at first use. For the case group, the children with myopia, who visited the ophthalmology clinic between November 2021 and November 2023, their medical records information was reviewed from the electronic records system in King Fahad University Hospital. Patients with myopia were then categorized into mild, moderate and high myopia, according to the refractive error.

**Results:** A total of 252 children were included. The use of smartphones was more common in the case group 56% had their own phone, compared to the control 40.8% ( $P=0.018$ ). As for the first use of smartphones between the ages of 6-9 years it was 23% of the cases compared to 21.1% of the control children ( $P=0.032$ ). As for the degree of myopia in relation to screen time there was significant difference; 36.4% of high myopia cases use the screen for 3-4 hours a day, compared to 25.5% of others with moderate myopia and 25.9% of those with mild myopia. **Conclusion** The findings of this study showed that there was an association between myopia and screen time use in pediatric patients in King Fahad University Hospital. Further studies in larger populations are recommended to support this study.

**Keywords:** Myopia, screen-time, pediatric, ophthalmology







**Group: F3**

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**Department: Biochemistry**

**Students:** Rahaf Alhajji, Gadeer Aljaziri, Razan AlAbdullah , Imtinan Asaeed

**Supervisors:** Chittibabu Vatte ,Cyril Cyrus





**Title:**

**Prevalence of Menstrual cycle and pregnancy abnormalities following covid-19 vaccine: A cross-sectional study in Kingdom of Saudi Arabia.**

**Abstract:**

**Background:** After COVID-19 vaccination, women of reproductive age reported changes in their menstrual cycle. This raised concerns about the correlation between the vaccine and the menstrual cycle irregularities. Several studies reported post COVID-19 vaccine related menstrual changes, which ranged from 24.8-78% among the COVID-19 vaccinated women.


**Objective:** To evaluate the prevalence of menstrual abnormalities among Saudi women post-COVID19 vaccine and estimate its impact on all features of menstrual cycle.

**Methods:** The cross-sectional study conducted survey across all five regions of Saudi Arabia through social media platforms. It targeted Saudi women aged 18-45 years who had received at least one COVID vaccine dose. The online survey collected information about their vaccine history, menstrual characteristics and irregularities, pregnancy outcomes and quality of life. Women with certain conditions that affects their menstruation were excluded.

**Results:** Out of 402 participants, 197 were excluded. In 205 included participants majority were 18-25years, single, and bachelor's degree holders. About 99.5% women in the study had received 2 doses of the vaccine, primarily Pfizer-BioNTech and AstraZeneca. Post-vaccination, 68.78% experienced side effects, including muscle pain, fever, and joint pain. Menstrual changes such as, inter-menstrual bleeding (10.7%), dysmenorrhea (19.0%), heavy bleeding (35.1%), and premenstrual symptoms (15.6%) noted. Quality of life changes were also observed, with many not seeking help for their symptoms.

**Conclusion:** Significantly high proportion of Saudi women experienced menstrual irregularities post-vaccination, providing evidence that menstrual cycle changes are associated with COVID-19 vaccines. The study recommends providing post-vaccination monitoring to identify at risk women in menarche age and for reproductive health monitoring in response to an unprecedented mass immunization effort against a the COVID19 pathogen. Also, future research to understand the comprehensive and long-term role of these vaccines, which ultimately will enhance the well-being of women in Saudi Arabia.

**Keywords:** COVID-19 vaccine, menorrhagia, oligomenorrhea, metrorrhagia, polymenorrhagia.





**Group: F4**

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**Department: Microbiology**

**Students:** Ayman Elbadry, Nehal Hosin, Sakinah Alessa, Fatemah Almousa, Hawraa Alsalem, Zainab Alkhamis, Shaima Alkhardawi

**Supervisors:** Nada Alghamdi, Maher Alqurashi





**Title:**

**A decade of Candiduria in King Fahad University Hospital in Khobar Saudi Arabia: A retrospective study**

**Abstract:**

**Background:** *Candida* species is the most common fungal species found in urine samples (Candiduria). The clinical significance can vary from simple colonization or contamination to life threatening invasive candidiasis. Several factors contribute to Candiduria including prolonged hospitalization, which can be associated with high mortality. *Candida albicans* remain the most frequently detected species in urine, however, recent data showed an increase in the prevalence of non-albicans *Candida* species. Until now, the data on the prevalence of Candiduria worldwide are very limited and reports from Saudi Arabia are considerably lacking.


**Objective:** To retrospectively assess the prevalence and fungal species profile of all *Candida* species isolated from urine samples taken from all patients at -King Fahad University Hospital-Khobar during the period (2013-2023).

**Methods:** Using the medical records, demographic characteristics (i.e., Sex, age, nationality, inpatient/outpatient status and specimen type) and microbiological data on urine culture results positive for *Candida* species were collected. Categorical data was statically analyzed by Chi square using SPSS (version 29.0.2.0 (20)).

**Results:** The prevalence of Candiduria was detected in 0.88% of all urine samples. During the study period, a total of 1667 samples had positive *Candida* growth. The results showed that candiduria was most likely associated with Saudi patients, females, and in the age group 19-60 years old. Based on the area, candiduria was more prevalent among inpatient 68% and in those on urinary catheter (40.4%). *Candida albicans* was the predominant species accounting for 55.2% of the total samples. Whereas Non-albicans *Candida* species accounted for 44.5%. The most frequently identified Non-albicans *Candida* species was *Candida tropicalis* 22.4%, followed by *unidentified non-albicans Candida* species 8.4%, *Candida krusei* 4.8%, and *Candida glabrata* 4.7%.

**Conclusion:** The prevalence of Candiduria in our institute was 0.8%. Female gender, hospital stay, and catheterization are important factors.

**Keywords :** Candiduria, *Candida albicans*, Non-albicans *Candida* species, Infections.





**Group: F5**

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**Department: Pathology**

**Students:** Elaf Alibrahim, Eman Alamer, Ghada Alhaji, Shrooq Alshehab, Zahraa Shabib

**Supervisors:** Haithem kussaibi, Noor Alsafwani





**Title:**

**AI-powered Classification of Ovarian Cancers Based on Histopathological Images**

**Abstract:**

**Background:** Ovarian cancer is a leading cause of gynecological cancer deaths due to late diagnosis and high recurrence rates. While histopathological analysis is the gold standard for diagnosis, artificial intelligence (AI) models have shown promise in accurately classifying ovarian cancer subtypes from histopathology images.


**Objective:** To develop an AI model for automated identification of epithelial ovarian cancer (EOC) subtypes from digital histopathology images and evaluate its performance compared to pathologist diagnoses.

**Methods:** A dataset of over 2 million image tiles from 82 whole slide images of EOC subtypes (clear cell, endometrioid, mucinous, serous) was created from public and institutional sources. A convolutional neural network (ResNet50) was used to extract features which were then input to classifiers (CNN, LightGBM) to predict the cancer subtype.

**Results:** Both AI classifiers achieved high accuracy (97-98%) on the test set, with the class-weighted CNN showing better discriminative performance between the subtypes compared to LightGBM.

**Conclusion:** AI models trained on histopathology image data can accurately classify EOC subtypes, potentially assisting pathologists and reducing subjectivity in ovarian cancer diagnosis.

**Keywords:** Ovarian cancer, epithelial ovarian cancer, artificial intelligence, histopathology





**Group:F6**

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**Department: Family & Community Medicine.**

**Students:** Rahaf Almobarak, Manar Alossaif, Amenah Almanasef, Anoar Alolaian, Fatimah Alkhunaizi

**Supervisors:** Leila Boubshait, Marwa Shafey, Haneen Yousef





**Title:**

**Primary Care Physicians' Readiness, Attitude, and Barriers to Screening Sexually Transmitted Infections among Unmarried Individuals in Eastern Province, Saudi Arabia**

**Abstract:**

**Background:** Sexually transmitted infections (STIs) are considered a global health concern. Primary care physicians (PCPs) are the first line of patient care and the cornerstone for screening and managing this population.


**Aim:** To assess the PCPs' readiness, attitude, confidence, responsibility, barriers, and practice in screening STIs in unmarried individuals in the Eastern Province of Saudi Arabia.

**Methods:** This cross-sectional study surveyed PCPs in the Eastern Province of Saudi Arabia using an online questionnaire. The questionnaire covered respondent characteristics, readiness, attitude, confidence, responsibility, barriers, and practices related to STIs screening in unmarried individuals. Respondents' characteristics included gender, age, city, job title, experience, and STIs training source. The questionnaire comprised twenty questions using a 5-point Likert scale. Data analysis was performed using SPSS.

**Results:** Out of the 61 participants who completed the survey, 60.7% were females, and 39.9% were males. Almost half of the respondents were General Practitioners or Family Medicine residents (24.6% and 31.1% respectively), and 57.4% had 1-5 years of experience. Only 16.2% strongly agreed to be ready to counsel unmarried patients about their sexual practices. More than one-third 39.3% agreed on the necessity to receive medical education/training in addressing STIs. 8.1% of the participants felt displeased or anxious when counseling unmarried patients with STIs. Lack of confidence was present in 11.4% in approaching and discussing STIs with unmarried individuals. Surprisingly, 45.9% of physicians do not ask unmarried patients about sexually transmitted infections, in fact, 34% are not aware of any protocol for approaching patients with STIs.

**Conclusion:** Studies in this field are still emerging in Saudi Arabia, especially regarding PCPs' willingness and attitude to screening for STIs, emphasizing the necessity of further studies. Although PCPs feel confident to screen and counsel, there is a lack of guidelines for practice. They also report a gap in training that presents an opportunity for further development.

**Keywords:** Sexually transmitted infections, Primary care physicians, Attitude, Unmarried Individuals, Saudi Arabia









**Group: F7**

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**Department: Family & Community Medicine.**

**Students:** Zainab Alsalman, Rawan Bunajimah, Zainab Almomen , Omnia Almomen

**Supervisors:** Haneen Yousof , Leila Boubshait, Marwa Shafey





## Title:

Pattern Of Use Of GIP-GLP1 Receptor Agonist Medications Among IAU Medical Students And Its Relation To Students' Knowledge

## Abstract:


**Background:** GLP-1 (glucagon-like peptide-1) and glucose-dependent insulintropic polypeptide (GIP) are two hormones with many therapeutic values. The treatment of GLP1 and GIP receptor agonist medications has demonstrated success in treating obesity and type 2 diabetes in clinical trials. Most importantly, these medications have shown great popularity in use lately.

**Our objective** is to assess the level of knowledge and pattern of usage of GLP1A and/ or GLP1A/GIP medications in medical students at imam abdulrahman bin faisal university.

**Methods:** This study is a cross-sectional study where validated questionnaire survey had been distributed among medical students at all academic levels. The total number of medical school students enrolled in the study was 373 with the response rate of 97% during the period from 27 January to 21 march 2024 . The survey is covering questions about medical information knowledge As well as covering questions about personal use experience. Data analysis was done using the SPSS. Results showed that out of 373 medical student, percentage of overweight and obese students represents 16.6% and 14.7% respectively. Females represent 65.4% while males were 34.6%. Regarding knowledge about GLP 1/GIP receptor agonist medications 30.3% of students never heard about it. On the other hand; 44% knew the mechanism of action of these medications. However majority of students did not answer the dosing questions correctly. In addition they don't know about contraindications of use .Regarding usage, results showed that 12. students who responded 12.1% used the medication because they were overweight or obese and they were influenced by the medication's affordability and easy usage. On the other hand, 87.9% did not use the medications because the majority believed that they did not need it.

**Conclusion and recommendations:** The level of awareness regarding the use of GIP-GLP1 medications among IAU medical students was generally low, as anticipated. Interestingly, a significant portion of individuals with limited awareness expressed a lack of interest in taking these medications due to perceived lack of necessity and concerns about potential side effects. It is therefore crucial for the Ministry of Health to prioritize the development and implementation of community-based educational initiatives and campaigns focused on GLP-1/GIP medications. These efforts are essential for enhancing the perception of these medications and advancing the management of obesity.

**Keywords:** glucagon-like peptide-1 agonists medication, glucagon-like peptide-1 And glucose-dependent insulintropic polypeptide agonist medication , Obesity , Diabetes mellitus , Weight , Side effect





**Group: F8**

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**Department: Internal Medicine I**

**Students:** Njood Alhajri, Rahaf Alshahrani, Batool Almakhamil,  
Areej Alsuwaiml, Fatimah Mojahed Almarhoon

**Supervisors:** Noor-Ahmed Jatoi





**Title:**

**Quality of life assessment and Cardiovascular risk factors in patients with Diabetes Mellitus Type II at King Fahad Hospital of the University, Al Khobar, Saudi Arabia.**

**Abstract:**

**Background:** Type II diabetes mellitus is a common long-standing metabolic disease. It is characterized by high blood glucose, insulin resistance and insulin deficiency. As it is a chronic disease, it results in multiple complications which can deteriorate patients' quality of life.


**Objective:** To evaluate the quality of life and identify the cardiovascular risk factors in patients with type II diabetes mellitus in Al Khobar region of Saudi Arabia.

**Methodology:** This was a retrospective cross-sectional study conducted from August 2023 to April 2024 on patients with type II diabetes mellitus in Al Khobar region of Saudi Arabia. Inclusion criteria involves patients diagnosed with type II diabetes mellitus and aged 18 years and older. The MDQoL-17 tool was used to measure the quality of life.

**Results:** A total of 292 participants were included out of which 139 (47.6%) were females and 152 (52.4%) were males. The mean age was  $60.61 \pm 11.4$ . Beside type II diabetes mellitus 178 (61%) had dyslipidaemia, 162 (55.5%) had hypertension, 27 (9.2%) were current smokers, and 181 (62%) were physically inactive. The mean total score for MDQOL-17 questionnaire was  $73.83 \pm 13.8$  revealing the following: 37.7% had poor to moderate quality of life, and about 56.6% had a better quality of life, which signify the impact of the type II diabetes mellitus on the quality of life.

**Conclusion:** Measuring the quality of life and recognizing the cardiovascular risk factors in patients with type II diabetes mellitus early on in the disease can aid in management and decision making, which can reduce the burden on the patients and the healthcare system.

**Keywords:** Type II diabetes mellitus, quality of life, MDQoL17, cardiovascular risk factors, Saudi Arabia.





**Group: F9**

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**Department: Internal Medicine II**

**Students:** Fatima Alsulaiman, Fatima Alabdullah, Alaa Alaali,  
Hawraa Alsadiq, Fatimah Alruwai

**Supervisors:** Noor-Ahmed Jatoi





**Title:**

**Prevalence of diabetic retinopathy and cardiovascular risk factors in patients with diabetes mellitus type 2 at King Fahad University Hospital, Al-Khobar, Saudi Arabia.**

**Abstract:**

**Background:** As the global prevalence of diabetes mellitus increases, so will the number of people with diabetic retinopathy (DR). DR is a microvascular complication of diabetes mellitus. As patients with type 2 diabetes mellitus (T2DM) are at the highest level of developing cardiovascular risk factors (CVRF) compared to the general population, our study aims to assess the prevalence of diabetic retinopathy and its associations with cardiovascular risk factors (high glycemic levels, smoking, Hypertension, High BMI and physical inactivity) among patients with T2DM.


**Objective:** To assess the prevalence and symptoms of DR and CVRF in patients with T2DM at King Fahad Hospital of the University.

**Methods:** A retrospective analysis and observation of 276 patients with T2DM aged  $\geq 26$  years. Participant's information was collected from the medical records from Jan 2015 to March 2024.

**Results:** Among the 276 patients diagnosed with T2DM, the prevalence of DR stands at 37%. Non-proliferative DR (NPDR) is observed in 24.3% and mild NPDR is the commonest stage in 12.7 % of patients. Proliferative DR (PDR) is noted in 12.7% of T2DM patients with mild PDR being the commonest stage in 5.4 %. 83.9% of NPDR patients and 56.7% of PDR patients underwent their initial retinal assessment within 5 years of diagnosis. The most frequent ophthalmic symptom is blurred vision in 51.1% of patients. Macular edema in 3.3 % of patients. Regarding the CVD risk factors the presence of 3 risk factors is the commonest in 31.1%. In addition, a statistically significant relation was found between DR and CVRF including mean arterial pressure and dyslipidemia.

**Conclusion:** Our study demonstrated that 37% of the patients with T2DM had DR. Additionally, three CVRF were most common, present in 31.1% of T2DM cases. Yearly screening and lifestyle management are crucial for early detection and complication control, along with managing comorbidities.

**Keywords:** Type 2 diabetes mellitus (T2DM), Diabetic retinopathy (DR), Non-proliferative diabetic retinopathy (NPDR), proliferative diabetic retinopathy (PDR), Cardiovascular risk factors.







**Group: F10**

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**Department: General Surgery I**

**Students:** Bothayna Alamri, Sadeem Almoajil, Razan Alshehri,  
Marj Alabdullah, Hala alabdulqader

**Supervisors: :** Fatimah Almabyouq





**Title:**

**Prevalence of biliary atresia in the eastern province of Saudi Arabia: approach and outcome over 20 years.**


**Abstract:**

**Background:** Biliary atresia is a congenital disorder of the hepatic bile ducts. Symptoms appear mainly as obstructive jaundice in neonates and infants. Early Kasai Portoenterostomy is the current standard procedure done to avoid development of complications.

**Objective:** This study addresses trends and outcome of biliary atresia in the Eastern Province of Saudi Arabia.

**Methods:** A retrospective analysis was performed on data collected from King Fahad Hospital of the University database between August 2023 to January 2024 for all patients with confirmed postoperative diagnosis of BA in the last 20 years. Peri-operative data, initial clinical presentation and investigations, KPE course, complications and outcomes were collected.

**Results:** Eight children (three females and five males) with BA were included. Seven were of Saudi origin. All of them exhibited jaundice on initial presentation. Three patients had history of G6PD, one had sickle cell trait, one had alpha thalassemia, one hemophilia B and one had microcytic hemolytic crisis. The average age at the time of presentation was  $36 \pm 16.5$  days. Six patients underwent KPE and three were eligible for LT. The average time between the diagnosis and KPE was  $10.6 \pm 3.38$  days. The average age at the time of the KPE was  $50.6 \pm 8.18$  days. All received steroids afterwards. Two patients were still alive at the time of the study; the rest were lost to follow up. **Conclusion:** There was no significant difference in prevalence between males and females. Performing KPE before the age of 60 days did not affect outcome nor did post-operative use of steroids. Hematological illnesses were noted to be prevalent in our patients.







**Group: F11**

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**Department: General Surgery II**

**Students:** Sawsan AlMarzouq, Fatima Alhije, Aseelah Almutairi ,  
Fatimah Almogren , Raghad Alzahrani , Dalyel Alkhaldi

**Supervisors:** Turki Al-Turaiki





**Title:**

**Risk Factors of Keloids and Hypertrophic Scars: A Descriptive Cross-Sectional Study at KFHU Hospital**

**Abstract:**

**Background:** Keloid and hypertrophic scars are benign overgrowth of healing wound with a redundant accumulation of abnormal collagen. Despite their prevalence in all age groups, they can significantly impact both the cosmetic appearance and quality of life of affected individuals.


**Objectives:** Identify the demographic characteristics and frequency of risk factors associated with the development of keloid and hypertrophic scars.

**Methods:** A descriptive cross-sectional study targeting all individuals who were diagnosed with keloid and hypertrophic scars over the period 2020-2023 in King Fahad University Hospital, Alkhobar, Saudi Arabia. Data was collected from the hospital medical records, completed by phone calls, and subsequently analyzed using SPSS program.

**Results:** The study included a total of 206 patients diagnosed with keloid and hypertrophic scars. The mean age was 33.4 years. The majority were from Saudi Arabia, and the most common blood group was O+ with 83 individuals (40.3%). Nearly half were either overweight or obese. Among the participants, 197 (95.6%) were diagnosed with keloid, 5 (2.4%) had hypertrophic scars, and the remaining 4 (1.9%) had both conditions. The most commonly affected sites were the chest and ears, with 51 (25.4%) and 45 (22.4%) patients, respectively. The leading etiology was non-inflammatory physical injury, accounting for 77 cases (37.4%). Inflammatory causes followed with 46 cases (22.3%). Additionally, 41 participants (19.9%) developed these scars as a result of surgery and among those treated with surgical interventions, non-absorbable sutures were the most common closure method (n=32, 86.5%). Only 44 (21.4%) patients developed infections before the onset of the scar.

**Conclusion:** This study has identified several prevalent risk factors among patients with keloid and hypertrophic scars, including young age, blood groups, obesity, medical conditions, and certain surgical interventions. These findings exhibit some parallels with the preexisting literature. Nevertheless, further study modulation and expansion is needed for a cause-effect relationship.

**Keywords:** Hypertrophic scars – Keloid – Risk factors – Prevalence – Abnormal scar





**Group: F12**

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**Department: Pediatrics I**

**Students:** Joud Alsulaiman, Fatimah Alsaeed, Reem Alnasser,  
Fatimah Alibrahim, Kawthar Alabduljabbr

**Supervisors:** Saleh Alqahtani, Dalal Bubshait, Bashayer AlAwm



**Title:**

Prevalence of Menstrual cycle and pregnancy abnormalities following covid-19 vaccine: A cross-sectional study in Kingdom of Saudi Arabia.

**Abstract:**

**Background:** Parapneumonic effusion is characterized by the accumulation of pleural fluid in response to pneumonia, which is predominantly associated with bacterial etiology. It is classified into three categories: uncomplicated parapneumonic effusions, complicated parapneumonic effusions, and empyema thoracis.

**Objective:** To describe clinical characteristics, laboratory results, radiological findings, treatment modalities and clinical outcome of parapneumonic effusion in the pediatric age group in King Fahd University Hospital, Eastern province, Kingdom of Saudi Arabia during the period of 2016-2024.

**Methods:** A retrospective descriptive study was performed on pediatric patients who were diagnosed with parapneumonic effusion over a period of 9 years from 2016-2024 in King Fahd University Hospital.

**Results:** A total of 15 patients were included, with a mean age of 7 years ( $\pm 4.16$ ) ranging from 0-18 years. Males accounted for 60% of the cases whereas females 40%. Regarding patient history, 90.9% had no history of chronic lung diseases, while 54.6% had a history of other chronic conditions. Moreover, clinical characteristics were described, revealing that the most commonly presenting symptoms were cough and fever. The results of this study suggest a rise in pediatric parapneumonic effusion cases post-COVID-19. Furthermore, the predominantly used antibiotic was ceftriaxone, followed by vancomycin. Additionally, outcomes varied: no fatalities occurred, and 35% recovered with no complication. However, some developed long-term sequelae (e.g., lung abscesses, necrotizing pneumonia).

**Conclusion:** To conclude, our study exhibited modest findings due to limitations in the collected data, making it inconclusive, so additional data collection and analysis are warranted to meet the study's objectives to support our hypothesis.

**Keywords:** Parapneumonic effusion, Clinical characteristics, Outcome, Covid-19.







**Group: F13**

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**Department: Pediatrics II**

**Students:** Haya AlHemli, Deena AlDossary , Noor Albash, Rahaf Alalloush , Ola Fallatah

**Supervisors:** Abdullah Yousef, Mohammad Al-Qahtani, Asmaa Milyani , Marwa Shafey



**Title:****The association between screen use and sleep habits among Children in the Eastern Province, Saudi Arabia****Abstract:**

**Introduction:** Sleep is an active and dynamic physiological process that has important impacts on many aspects of health, daytime functioning, and brain development. Several factors can cause insufficient sleep problems, and one of these factors is the widespread use of electronic devices and increased screen time exposure. many studies have reported adverse effects of digital screen use on sleep in teenagers. However, little is known about the studies in 6-12-year-old children population, specifically in Arabs, are scarce.


**Objectives:** The present research aimed to explore patterns of screen use and sleep habits, and their associations if any, among 6-12 years old children in the Eastern region of Saudi Arabia.

**Methods:** An observational Cross-Sectional study was conducted during November 2023 till January 2024. by using the Children Sleep Habit Questionnaire (CSHQ) and questions about children's demography, screen use, and school absenteeism. The questionnaire was distributed electronically to the parents/legal guardians through non-probability, convenient sampling. Data were analyzed by descriptive statistics, independent sample t-test and Chi-square associations.

**Results:** In a total of 444 responses, 94.8 % of study participants are using digital screens, mainly TV daily (54.6 %), a daily screentime of 6 hours or more by 19.3 %, and a screen time of > 60 min while in bed by 13.5 % of participants. 98.9 % of the participants had good sleeping habits. The children who use digital screens had significantly greater daytime sleepiness than the children who do not use screens ( $5.54 \pm 3.04$  vs  $3.65 \pm 2.96$ ; p-value 0.004). The associations of children's sleep habits with screen use and school absenteeism were insignificant (p-values 1.000 and 0.086 respectively). There is no relationship of screen use with sleeping habits or school absenteeism in this age group.

**Conclusion:** Digital screen use is highly prevalent in 6-12-year-old children in Eastern Province, KSA. Most of the study participants exhibit good sleeping habits. Daytime sleepiness is significantly higher in screen users vs non-users. There is no relationship of screen use with sleeping habits or school absenteeism in this age group.

**Keywords:** Screen Use, Sleep Habits, School Absenteeism, Children.





**Group: F14**

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**Department: Obstetrics & Gynecology**

**Students:** Deemah Alhuraish, Lama Aloraifi, Nersyan Sharbini,  
Raghad Sonbul, Wojod Alothman

**Supervisors:** Nourah AlQahtani, Ayman Altalib





**Title:**

**Knowledge, Perception, and Attitude Towards Family Planning in the Eastern Province of Saudi Arabia**

**Abstract:**

**Background:** Family planning enables individuals to achieve their desired number of children voluntarily. It encompasses controlling the timing and spacing of births, which is vital for maternal and neonatal health. Contraception, including mechanical, hormonal, chemical, and natural methods, serves as a cornerstone in family planning efforts. However, misconceptions about contraception contribute to high failure rates in its usage. **Objective:** The present study aimed to assess the knowledge, perception, and attitude toward family planning among males and females aged 18–65 years in the Eastern Province of Saudi Arabia.


**Methods:** A cross-sectional study was conducted in the Eastern Province of Saudi Arabia, targeting randomly selected female and male residents aged 18–65 years. An online self-administered questionnaire was structured and distributed widely across different social media platforms. Data were analyzed using SPSS software version 28.0.0, and descriptive statistics were used to examine the sociodemographic characteristics.

**Results:** Most of the 554 participants were females (84.1%), with 41.2% aged 45–65 years. Most had college education (70.0%) and were married (70.6%); 93.3% were Saudi nationals residing primarily in urban areas (99.5%), 83.9% were aware of family planning, with contraceptive pills (91.8%), condoms (78.7%), and intrauterine devices (78.1%) being the most recognized methods; 86.2% practiced or considered family planning, mainly using contraceptive pills (61.7%) for birth spacing (55.2%). Concerns about side effects were expressed by 44.8% of the participants, and 71.0% perceived family planning methods as necessary. Significant sex disparities in awareness were observed ( $p=0.013$ ), with no variation by education, children, nationality, or residence. Logistic regression revealed predictors of family planning usage, including sex, education, marital status, children, nationality, and knowledge level.

**Conclusion:** The findings emphasize the importance of education and access to reproductive health services in enhancing family planning practices in the Eastern Province of Saudi Arabia.

**Keywords:**

Family planning, Reproductive health, Contraceptives, Awareness, Saudi Arabia







**Group:F15**

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**Department: Psychiatry**

**Students:** Arwa AlSulaiman, Rawan Alyahya, Latifah Aljabari,  
Najla Aljabari, Saja Alowaied

**Supervisors:** Feras Alawad





**Title:**

**A Study of Perfectionism and its Relationship to Psychological Distress and Academic Performance Among a Sample of Saudi Arabian Medical Students: A Cross-Sectional Study.**

**Abstract:**

**Background:** Pursuing flawlessness, or perfectionism, can cause psychological distress among college students, particularly in medical school where there is a high-pressure academic environment. Understanding its impact on mental health is crucial for developing targeted interventions.

**Objectives:** This study aimed to assess the prevalence of perfectionism and its relationship with psychological distress and academic performance among Imam Abdulrahman bin Faisal University medical students.

**Methods:** A cross sectional study was conducted on medical students at Imam Abdulrahman bin Faisal University to gather data on perfectionism, psychological distress, and academic performance. Self-report questionnaires were used to collect data using the Frost Multidimensional Perfectionism Scale and Depression Anxiety Stress Scale.

**Results:** The study examined 394 medical students, most of whom were unmarried women and in sixth year. A mother's education was significantly associated with some aspects of perfectionism, but demographic factors were weakly correlated. Most participants had no clinically significant anxiety 95.7%, but 26.39% had depression, especially fourth-year females. Participants also reported moderate stress at 20.1%. The Frost Multidimensional Perfectionism Scale linked perfectionism to stress, anxiety, and depression. Over 10% of FMPS participants scored above the 90th percentile, indicating clinically significant perfectionism. Perfectionism was higher in women (11.84%). Additionally, moderate to clinically significant maladaptive perfectionism symptoms were associated with lower grade point averages and study hours per week. Lastly, academic success was linked to adaptive perfectionism.

**Conclusion:** These findings suggest that maladaptive perfectionism can contribute to depression, anxiety, stress, and decreased academic performance among medical students. On the other hand, adaptive perfectionism may foster academic success. Therefore, it is recommended that medical institutions implement programs to mitigate the negative impacts of maladaptive perfectionism and create supportive environments that promote academic achievement.

**Keywords:** Perfectionism, depression, anxiety, stress, psychological distress, academic performance





**Group:F16**

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**Department: Dermatology**

**Students:** Deena Almaghrebi, Ghadeer BuSaeed, Manal Alshammari, Rana Almuqati

**Supervisors:** Nada Alghamdi





Title:

**Prevalence of primary hyperhidrosis, impact on quality of life, management methods and their satisfaction score in King Fahad University Hospital (KFUH)**

**Abstract:**

**Background:** Hyperhidrosis is a condition that characterized by excessive sweating beyond the body's need. In United States, the prevalence ranges between 2.8% and 4.8%. Hyperhidrosis management varies between conservative methods and surgical options.


**Objectives:** This study aims to evaluate primary hyperhidrosis prevalence, management satisfaction, and quality-of-life before and after the management in patients with primary hyperhidrosis at King Fahad University Hospital.

**Methods:** This cross-sectional study was conducted in dermatology clinic at King Fahad University Hospital in Alkhobar, Kingdom of Saudi Arabia. A total of 56 hyperhidrosis patients' data were obtained from the hospital database, and a questionnaire was filled out via phone calls by 31 patients. The study included all adults with primary hyperhidrosis who had received management. The severity of hyperhidrosis measured by Hyperhidrosis Disease Severity Scale and Impact of life by Hyperhidrosis Quality-Of-Life Index.

**Results:** The study found a prevalence of 0.02% (n=20) for primary hyperhidrosis, with males comprising 65% (n=13) of the cases. Additionally, 80% (n=16) of the participants were above the age of 25. A positive family history was found in 60% (n=12) of cases, and 36% (n=8) of participants reported a preference for spicy food. 55% (n=11) of patients reported experiencing hyperhidrosis in >2 areas which indicates severe hyperhidrosis. However, the plantar region was the most reported site in 80% (n=16). Regarding management, Aluminum chloride hexahydrate was the most frequently used method 60% (n=12), while Iontophoresis was the least favored. Sympathectomy was the preferred choice for most of the patients 60% (n=12). Based on the Hyperhidrosis Quality-Of-Life Index, sympathectomy revealed a statistically significant improvement in severity (p=0.009).

**Conclusion:** The prevalence of primary hyperhidrosis in this study was 0.02%. Sympathectomy was associated with the highest treatment satisfaction. Primary hyperhidrosis significantly impacts quality-of-life, which can be drastically improved through accurate diagnosis and appropriate treatment.

**Keywords:** Primary Hyperhidrosis, Management Satisfaction, Saudi Arabia, Hyperhidrosis Disease Severity Scale (HDDS), Hyperhidrosis Quality Of Life Index (HidroQoL)





**Group:F17**

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**Department: Orthopedic**

**Students:** Raneem Althobaiti, Leyan AlSultan, Mashail Aljalawi ,  
Dana Alamoud

**Supervisors:** Ammar AlOmran, Arwa AlOmran, Bandr AlZahrani





**Title:**


**The role of post-operative x-rays in distal radius fractures among pediatric patients**

**Abstract:**

The escalating expenses within the health care sector have come under heightened scrutiny, particularly regarding the utilization and expenses associated with imaging services. Furthermore, the proliferation of unnecessary follow up appointments, coupled with prolonged waiting times for imaging procedures, exacerbates the financial burden. This study conducted at King Fahad University Hospital in AlKhobar aimed to evaluate the effectiveness of post-treatment x-ray in patients who had distal radius/ both bone fractures and seeks to determine the necessary number of follow-up X-rays to efficiently use resources. With the high incidence of distal radius fracture among children, it is important to revise the clinical practice done routinely following intervention with consideration of the exposure to ionizing radiation, cost, convenience and availability of x-ray. Participants included in this study are pediatric age group patients who were treated operatively for distal radius/ both bone fractures were identified from a prospectively collected data from the operating room database between year 2009 until 2017. The data in the study included patients who have had distal radius fracture and underwent fixation surgery (n= 88). The majority of patients in the study were males (n= 77, 87.5%). The kind of fracture in the study appears to be more popular in the age group 12 to 14 (41%). Most fractures occurred within the diaphysis of the radius bone (n= 46, 52.3%). Further, the majority of patients underwent closed reduction fixation (n= 65, 73.9%), followed by K-wire fixation (n= 58, 65.9%), while CRIF, ORIF, Debridement, and Epiphysiodesis were minimally utilized.

Most patients experienced no complications (n= 86, 97.7%), and almost all patients required no change in the management plan (n= 80, 90.9%). Finally, only 5% of the patients required a second operation. This study concludes that the role of repetitive x-rays post operation is limited.

**Keywords:** X-ray, distal radial fracture, pediatrics







**Group: F18**

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**Department: Ophthalmology**

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**Supervisors:** Dr.Faten Almajed, Dr.Fatima Alhammad, Dr.  
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Doha Al Hamad,





**Title:**

**Clinical characteristics of Juvenile Idiopathic Arthritis-associated uveitis: Saudi Arabia, Eastern Province, Two Tertiary Hospitals.**


**Abstract:**

**Background:** Juvenile idiopathic arthritis stands as the most prevalent rheumatic condition in children, with uveitis emerging as its predominant extra-articular manifestation. Juvenile idiopathic arthritis-associated uveitis has the potential to cause a significant vision threat and morbidity risk.

**Objective:** The research aims to study the clinical characteristics of juvenile idiopathic arthritis-associated uveitis and the visual outcomes for patients with different treatment options. **Methods:** A retrospective cohort study of the clinical characteristics of patients with juvenile idiopathic arthritis-associated uveitis was conducted by reviewing medical records from 2018 to 2023 retrospectively at two tertiary hospitals in the Eastern Province, Saudi Arabia. All patients were diagnosed with juvenile idiopathic arthritis under the age of 16 and followed up for uveitis for the past 5 years. Demographics, clinical and laboratory findings, treatment, and visual outcomes were recorded.

**Results:** Out of the 59 patients with juvenile idiopathic arthritis, 19 developed uveitis. 17 patients with uveitis were included, and 14 experienced ocular complications, with the clinical characteristics of chronic (70.6%), persistent (76.5%), insidious (52.9%), and repeated attacks (64.7%) being commonly reported. Among these, 6 out of 8 patients were on a combination of methotrexate and adalimumab, and 2 out of 3 patients on adalimumab alone developed complications. The Complications have arisen in all 6 remaining patients who were on different management lines than those mentioned above. complications were cataract (52.9%), posterior synechiae (52.9%), glaucoma (47.1%), and epiretinal membrane (17.6%). Most patients exhibited no or mild visual impairment in both eyes. However, in right eyes (11.8%) had moderate visual impairment, and in left eyes (5.9%) had moderate impairment, and (11.8%) had severe impairment. **Conclusion:** Most patients developed complications, regardless of the use of a specific treatment line, with no significant difference in vision outcomes with different treatment lines.

**Keywords:** Juvenile idiopathic arthritis, Uveitis, Visual outcome, Saudi Arabia.







**Group: F19**

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**Department: Neurosurgery**

**Students:** Salma Alshammasi, Alzahra Almughlilq, Noor Alqrunai, Kawther Alghareeb

**Supervisors:** Sultan Alsalmi





**Title:**

**Awareness of Current Surgical Practice for Congenital Scoliosis and Optimal Timing of Treatment Among Physicians and Patients' Families**

**Abstract:**

**Background:** Congenital scoliosis is a developmental spinal deformity characterized by an abnormal curvature of the spine, affecting 1 in 1,000 births. The mainstay of treatment involves either observation, or surgery in significant curve progression. Optimal timing of surgical intervention is debated, with early intervention preferred. Therefore, understanding physicians and patients' families' perspectives is crucial for optimizing surgical outcomes in congenital scoliosis.


**Objective:** To assess the awareness and knowledge of physicians and patients' families regarding current surgical practices and the optimal timing of treatment for congenital scoliosis.

**Methods:** A cross-sectional study was conducted in Saudi Arabia using an online self-administered questionnaire distributed through social media platforms and neurosurgery clinics. Levels of awareness were assessed by a knowledge scoring system.

**Results:** The study involved 403 participants, primarily patients' families (85.1%) and physicians (14.9%). The results show that physicians had a significantly higher correct responses than patients' families on topics such as the ideal age for surgical correction of congenital scoliosis, timing of surgical intervention whether before or after maturity, and the role of conservative management, as evident from statistical p-values of <0.001, 0.031, and <0.001, respectively. On the contrary, patients' families excelled in understanding interventions irrespective of symptomatic status, with a p-value of (0.031). Both physicians and patients' families exhibited a good level of overall knowledge, as evidenced by mean awareness scores of 12.18 and 11.64, respectively. Additionally, physicians had a significantly higher level of awareness compared to the families of patients, with a p-value of (0.014). However, both groups demonstrated poor knowledge with the latest techniques, including Distraction-based Magnetically controlled growing rods, Growth-guided modern Luque trolley, and Posterior dynamic deformity correction (ApiFix).

**Conclusions:** The mean awareness score of both physicians and patients' families indicates a good level of knowledge. However, physicians exhibit a significantly higher mean awareness score compared to patients' families.

**Keywords:** congenital scoliosis, awareness, surgical intervention, optimal timing, physicians and patients' families.





**Group: F20**

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**Department: ENT**

**Students:** Layan Almulla, Sarah Alsamin, Jood Alotaibi, Batool Alattas, Lojain Maawadh

**Supervisors:** Redha Alrumaih, Amal Alshaik, Manal Hasn






**Title:**

**Prevalence and Determinants of Hearing Loss in Systemic Lupus Erythematosus: A Cross-Sectional Study in A Tertiary Care Center in Saudi Arabia**

**Abstract:**

**Background:** Systemic lupus erythematosus (SLE) is an autoimmune disease characterized by the involvement of multiple organ systems during the disease course. Among the various manifestations, there is growing recognition of the impact on auditory-vestibular symptoms such as hearing loss, which has been reported in the literature. **Objective:** This study aimed to determine the prevalence of hearing loss among SLE patients in our region and to identify predictive factors associated with its development. **Methods:** A cross-sectional study was conducted at the rheumatology clinic in King Fahad Hospital of the University in Al-Khobar, Saudi Arabia, enrolling patients diagnosed with SLE. Data including demographics, clinical presentation, laboratory, and medication variables were collected. Pure tone audiometry, speech audiometry, and tympanometry assessments were performed to evaluate the hearing status. Data were analyzed using descriptive frequency and percentage distribution analyses, Pearson's chi-square and exact probability tests, and logistic regression analysis. **Results:** A total of 53 SLE patients were included in the study. The prevalence of hearing loss among SLE patients was 15%, of which 87.5% were sensorineural hearing loss (SNHL). Logistic regression analysis revealed that age  $>36$  ( $p = 0.020$ ), the presence of diabetes mellitus ( $p = 0.039$ ), positive antinuclear antibodies (ANA) ( $p = 0.03936$ ), cranial nerve disorder ( $p = 0.009$ ), pyuria ( $p = 0.012$ ), and the use of hydroxychloroquine (HCQ) ( $p = 0.00717$ ) were significantly associated with an increased risk of hearing loss in SLE patients. **Conclusion:** Hearing loss, especially SNHL, has been observed in SLE patients. Factors such as older age, diabetes mellitus, cranial nerve disorders, pyuria, positive ANA test, and the use of HCQ were identified as potential predictive factors for hearing loss in this population. These findings emphasize the significance of regular audiological assessments to mitigate the risk of hearing loss in SLE patients.

**Keywords** Systemic lupus erythematosus, Hearing loss, Audiometry, Autoimmune, and Ototoxic







**Group: F21**

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**Department: Emergency Medicine I**

**Students:** Layan AlShehri, Shahad Alali, Lama Albaish, Basmah AlGhanim, Lama Alkhunaizi

**Supervisors:** Mohammed Almulhim, Mohannad Alghamdi, Amal Alsulaibaikh, Qasem Almulihi, Abdulmonem Alsaleh, Dunya Alfaraj






**Title:**

**Evaluation of Blood Sampling from a Pre-existed Peripheral Intravenous Catheter Line  
(Indwelling Line): A Technique to Keep Optimal Specimen after Fluid Flush**

**Abstract:**

**Background:** In the Emergency department, intravascular access represents a rapid technique to obtain blood for analysis and to administer medications and fluids into the bloodstream, with the peripheral intravenous access (PIVA) being the most used. Usually, an additional venipuncture is done to withdraw blood for analysis, rather than utilizing the existing administration PIVA. This act is justified by the possibility of getting clotted samples or non-valid results. Frequently observed complications of venipunctures are infections, bruises, and extravasation. **Objective:** The aim of our pilot study is to evaluate the validity of obtaining a new venous blood gas (VBG) analysis from previously flushed PIVA. **Methodology:** The clinical trial was conducted in King Fahad University hospital, over 67 healthy adult (> 18 years), excluding patients with chronic kidney disease, diabetic ketoacidosis, pregnancy, and electrolyte imbalance using a verbal questionnaire. The procedure involved withdrawing two blood samples from the same PIVA, with infusing normal saline in between. Venous blood gas (VBG) analysis was made on the two samples and values were compared statistically. **Results:** The mean and median ages of participants were 27.1 (SD= 4.48), and 25 (IQR= 3.00), respectively. Comparison of pre- and post-infusion VBG findings revealed substantial variations in several laboratory parameters, even when outliers were removed. Although certain parameters showed significant p-values (<0.05), others showed insignificant p-values, (Pre-infusion, post-infusion mean (SD)): PO<sub>2</sub> =27.5 (10.0), 25.7 (5.31) (p-value= 0.318), K = 3.94 (0.344), 3.99 (0.548) (p-value= 0.466), O<sub>2</sub>Hb = 43.5 (19.1), 41.4 (13.2) (p-value= 0.483), COHb = 1.17 (0.602), 1.18 (0.569) (p-value 0.412), MetHb = 0.867 (0.171), 0.852 (0.216) (p-value= 0.892), sO<sub>2</sub>= 44.3 (19.6), 42.3 (13.5) (p-value= 0.504). **Conclusion:** Despite following a standardized procedural protocol, the study revealed notable disparities in several laboratory parameters between pre- and post-infusion VBG results, underscoring the inherent unreliability of this method in clinical settings.

**Keywords:** peripheral intravenous access (PIVA), venipuncture, blood, sampling, venous blood gas (VBG)







**Group: F22**

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**Department: Emergency Medicine II**

**Students:** Sarah Bohaligah, Zahraa Alhashim, Farah AlZahrani,  
Maryam Alkhalifa , Fatimah Alsaihati

**Supervisors:** Faisal Alkhadra, Hussam Khader, Nisreen  
Maghraby






**Title:**

**“The Rush vs the Hush” door to balloon time and clinical outcome of patients presenting with ST segment elevation myocardial infarction during on and off hours in KFUH, Al Khobar, Saudi Arabia.**

**Abstract:**

**Background:** Timely reperfusion is crucial in patients with ST-segment elevation myocardial infarction (STEMI), with door-to-balloon time often considered a key metric for assessing quality of care. However, the impact of door-to-balloon time on clinical outcomes during off-hours remains uncertain. **Objective:** to compare clinical outcome and door-to-balloon time of patients with STEMI in off-hours versus on-hours in King Fahad University Hospital. **Methods:** A mixed-method, qualitative and quantitative retrospective cohort study was conducted at King Fahd University Hospital in Al Khobar, Saudi Arabia, including adults diagnosed with STEMI and managed with primary percutaneous coronary intervention (PCI) between May 2023 to February 2024. The sample was divided into two groups based on-duty hours. The first group comprised patients presenting during duty hours, including weekdays (Sunday to Thursday, 8 am - 4 pm), while the second group included patients presenting during off-duty hours, which consisted of weekdays (Sunday to Thursday, 4:01 pm to 7:59 am), weekends (Friday to Saturday), national holidays, and Eid holidays. **Results:** The study included 79 patients (57 off-hours and 22 in-hours) diagnosed with STEMI who underwent primary PCI. The mean age of the participants was 55.0 years ( $\pm 10.8$ ), 89.9% were males, 36.7% were Saudi, and 41.8% were smokers. Off-hours presentation did not significantly impact mortality rates or complications compared to on-hours presentation ( $p > 0.05$ ), Similarly, no significant association was found between door-to-balloon time and 48-hour or 30-day mortality rates ( $p > 0.05$ ). The mean time was statistically significant across the on and off time groups ( $65.2 \pm 18.0$  vs  $107.4 \pm 44.5$ ,  $p < 0.0001$ ). Hypotension was the only complication significantly associated with mortality at 30 days ( $p < 0.001$ ). **Conclusion:** The study found that door-to-balloon time and off-hours presentation did not significantly impact mortality rates or complications in patients with STEMI undergoing Primary PCI, highlighting the need for a comprehensive approach assessment. **Keywords:** Primary percutaneous coronary intervention; Door-to-balloon time; Off-hours; 30-day mortality; emergency department (ED).







**Group: F23**

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**Department: Anesthesia**

**Students:** Hadeel Alotaibi, NoorBusaleh, Raghad Almutairi,  
Ghadah Alqasim, Khadeejah Alsulaimi

**Supervisors:** Summayah Fallatah, Alaa Khidr






**Title:**

**Nurses' knowledge and attitude regarding patient-controlled analgesia in tertiary hospital**

**Abstract:**

**Background:** Controlling postoperative pain is essential for surgical care because it helps patients heal. Despite the availability of patient-controlled analgesia (PCA) for several decades, insufficient pain management persists. The effectiveness of PCA in clinical application may be influenced by nurses' attitudes and knowledge about it. (1) **Aim:** This study aims to assess nurses' knowledge and attitude regarding PCA in tertiary hospital. **Methods:** A cross-sectional study comprising 154 nurses from a university hospital in Saudi Arabia was conducted. The data were collected using a direct interview approach and self-administered validated questionnaire that used to measure the knowledge and attitudes of the surgical and medical wards' nurses toward PCA. (2) **Results:** A total of 154 nurses were included with a mean age of  $36.3 \pm 8.5$  years old, most of them were females (79.9%; 123), with bachelor degree (81.8%; 126). As for knowledge, the mean score for basic configuration of PCA equipment was  $0.94 \pm 1.0$  (23.4%), for opioid analgesics was  $4.9 \pm 1.1$  (60.6%), and for confirmation and management while using PCA  $5.7 \pm 0.8$  (81.4%). The overall knowledge score was  $11.5 \pm 1.7$  (63.8%). As for attitude, the mean score for education on how to use PCA was  $23.5 \pm 4.3$  (78.2%), for side effects of opioid analgesics was  $19.1 \pm 3.0$  (76.6%), and for confirmation and management of pain & PCA  $11.8 \pm 2.0$  (78.7%). The overall attitude score was  $54.4 \pm 8.2$  (77.8%). **Conclusion:** Nurses' knowledge and attitude toward PCA was average, the highest score was on confirmation and management, while the understanding of the fundamentals of PCA technique was limited. Furthermore, those with higher education on pain management, and those with less experience demonstrated a positive attitude toward PCA, which imply that a PCA educational program might bring about better PCA understanding, and subsequently a better pain management.



**Keywords:** Patient-controlled analgesia, nurses, knowledge, attitude, awareness, Saudi Arabia



**Group: F24**

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**Department: Radiology**

**Students:** Rawan Alkhalifah, Dena Alabdi, Lama Albalawi,  
Reem Bubshait

**Supervisors:** Mona Almuhaish, Mohammed Alaftan





**Title:**

**Analysis of Atherosclerotic Plaques Prevalence and Distribution in the Abdominal Aorta and Branching Points: Insights from Computed Tomography in King Fahad University Hospital, Saudi Arabia.**

**Abstract:**

**Background:** atherosclerosis is one of the main causes of morbidity and mortality in many countries. When atherosclerotic plaques build up it leads to narrowed arteries which will decrease blood flow.

**Objective:** to identify the prevalence and distribution of atherosclerotic plaques in the abdominal aorta and its branches and branching points with respect to age, gender, and nationality using computed tomography.


**Methods:** a retrospective observational study was performed on 247 patients who underwent contrast-enhanced computed tomography of the abdomen and pelvis between 1/1/2023 and 31/3/2023 in King Fahad University Hospital, Saudi Arabia.

**Results:** Out of the 247 patients included in the study, 38.5% exhibited atherosclerotic plaques in their abdominal aorta or its branches. The presence of plaques showed a notable correlation with advancing age. Specifically, in the 31-40 and 51-60 age groups, the proportion of patients with plaques was significantly lower (11.6% and 31.0%, respectively), while in the 61-70 age group, it was remarkably higher (85.7%).

Gender and nationality also appeared to play a role in plaque formation. Among females, a significantly higher percentage of patients did not have plaques compared to those who did (63.9% vs. 36.1%). Similarly, Saudi patients showed a higher proportion without plaques than with plaques (64.4% vs. 35.6%). However, no significant differences were observed in males ( $p = 0.094$ ) or non-Saudi patients ( $p = 0.891$ ) regarding the presence of plaques. In terms of plaque distribution within the abdominal aorta, the distal part was found to be the most common location, with 25.5% of patients displaying plaques there.

**Conclusion:** The findings of this study shed light on the prevalence and distribution of atherosclerotic plaques in random patients, highlighting the importance of age, gender, and nationality as contributing factors. In addition, finding atherosclerotic plaques early can prevent further complications and help in management.

**Keywords:** Atherosclerosis, Atherosclerotic plaques, Calcified plaques, Mixed plaques, Soft plaques, Abdominal aorta, Computed tomography.





**Group: M1**

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**Department: Anatomy**

**Students:** Mohammed Alharbi, Bader Alenzi, Ahmed Alzahrani,  
Faleh Alotaibi, Ahmed Alzuwayid

**Supervisor:** Dr. Essam El-Badawy





**Title :**

**Morphometric Assessment of the Normal Dimensions of the Adult Spleen in Saudi Population**

**Background:** The spleen serves as a crucial component of the reticuloendothelial and hematological systems. It plays major roles in a variety of physiological processes, such as blood filtration and protection against infection. Computed tomography (CT) is a diagnostic tool of substantial advantage in visualizing the spleen. It takes splenic measurements and identifies physical abnormalities.


**Objective:** The objective of this study is to measure spleen dimensions among the adult Saudi population using CT and set a normal reference range for Saudi people.

**Methods:** A cross-sectional study was conducted at King Fahad Hospital of the University in Al- Khobar, Saudi Arabia. The total number of subjects enrolled in this study was 400 distributed equally between male and female. This work included Saudi individuals older than 18 years, subjects with any pre-existing diseases affecting the spleen were excluded. The study was conducted between November 2023 and April 2024. Spleen length, width, and thickness were measured using CT scan.

**Results:** The mean age was 40.73 years for males and 43.55 years for females. The mean spleen length was 9.94 cm for males and 9.69 cm for females. Average width measurements were 10.02 cm and 9.83 cm for males and females, respectively. Spleen thickness mean was 4.54 cm for males and 4.46 cm for females. Splenic length constituted the highest gender variation and the closest to statistical significance. However, there was no statistically significant difference between both genders in any of the measured parameters. The average spleen length, width, and thickness for both genders are 9.824 cm, 9.933 cm, and 4.505 cm, respectively.

**Conclusion:** The current research establishes standard spleen size values in the adult Saudi population using CT imaging. In terms of the measured spleen parameters, males exhibit larger spleen sizes compared to females. These data provide a baseline for evaluating splenic diseases or other conditions affecting spleen size in Saudi patients.

**Keywords:** Spleen, Spleen dimensions, Computed tomography, Morphometry, Saudi population





**Group: M2**

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**Department: Physiology**

**Students:** Majed Aloqaily, Mohammed alharbi, Abdullah Alotaibi,  
Hisham Alouhali, Nasser Alsubeay

**Supervisor:** Dr. Ayad Salem





**Title :**

**Evaluation of Pulmonary function tests, Respiratory muscle function, exercise tolerance (capacity), degree of dyspnea, in post-COVID patients two years after recovery**

**Background:** Many post-COVID-19 patients experienced long term sequelae with symptoms lasting more than three months like fatigue and dyspnea. There is little information on the relationship among respiratory muscle strength, lung functions, exercise capacity, and the degree of dyspnea in post –COVID patients.

**Objectives:** This study aims to assess exercise capacity, Pulmonary Function test, respiratory muscle function, and dyspnea two years after COVID-19 infection

**Methodology:** This was an observational cross-sectional study included 49 post-COVID patients two years after recovery, participants have been categorized in two groups (hospitalized n= 18, and non-hospitalized n= 31). Six-minute walk tests, Pulmonary Function test, and respiratory muscle function were performed to assess exertion intolerance and ventilation function. Additionally, the Saint George respiratory questionnaire was filled in by each participant to evaluate the degree of dyspnea.

**Results:** Dyspnea was the most experienced respiratory symptom in post-COVID patients with 42% followed by cough (22%). Abnormal lung function was observed among post-COVID patients with 28.5% showing diffusion impairment followed by restrictive pattern (16.3%). Moderate to severe exertional dyspnea was reported in both non-hospitalized and hospitalized patients (28.6% vs 40% respectively,  $p = 0.446$ ). Almost all hospitalized and non-hospitalized patients showed decreased exercise capacity (94.4 % vs 100% respectively,  $p = 0.185$ ). The median of maximum inspiratory pressure (MIP) and sniff pressure were significantly lower in hospitalized compared to non-hospitalized patients (  $p < 0.05$ ). A weak positive correlation was reported between Sniff pressure with forced vital capacity (FVC), forced expiratory volume (FEV), peak expiratory flow (PEF), and total lung capacity (TLC).

**Conclusion:** Our finding showed low exercise capacity, abnormal lung function, and inspiratory weakness in post-COVID patients two years after recovery. Thus, we strongly recommend lung function and respiratory muscle testing in symptomatic post COVID-19 patients

**Keywords:** Covid-19, PFT, long-COVID, Respiratory muscle function, exercise capacity







**Group: M3**

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**Department: Biochemistry**

**Students:** Abdulrahman Fita, Abdullah Alhussain, Abdullah Alshehri, Abdulrahman Subaih

**Supervisor:** Shahnas Chatoth, Cyril Cyrus





**Title:**

**COVID-19 infection induced health complications among Sickle cell anemia patients in the Eastern province of Saudi Arabia**

**Abstract**

**Background:** Individuals with sickle cell disease had serious complications due to COVID-19 infection, such as acute chest syndrome, blood clots, respiratory failure, and multi-system inflammatory syndrome in children. The preexistence of pulmonary afflictions in these patients, which can manifest as acute chest syndrome or hypoxia, can be exacerbated with COVID-19 infection. Hence, disease management of post-COVID-19 infected SCD patients need to be well understood.


**Objectives:** To identify the effect of COVID-19 infection on the exacerbation of SCD patients' condition and track long-term effects that may indicate the prognosis of SCD related complications.

**Methods:** The questionnaire-based retrospective study include Saudi SCD patients with a history of COVID-19 infection. SCD patients without COVID-19 infections was used as control group. As per availability, clinical data was collected from patients' hospital records and from the patients' by means of direct communication.

**Results:** Among the 46 patients, fifteen (32.6%) were 26-35 years old and 45.7% were female. Seventeen (37%) suffered from pain episodes, acute chest syndrome, anemia, jaundice. Out of 45, 29 of them are using Hydroxyurea and 17 of them were doing blood transfusion. About 35 (76%) had been infected with COVID-19, out of which 29 of them infected 1 time and 4 of them two times. Among the 29 vaccinated group, 16 of them was infected before vaccination, 6 after first dose and 7 after second dose. Eight (17.4%) were using painkillers or antipyretics daily. Post COVID infection, the predominant manifestation was abdominal pain (23%) followed by shortness of breath (20%) and chest pain (17%). Overall, 63% patient's had acute chest syndrome related complications and 9% cases of stroke were reported after infection.

**Conclusion:** The COVID-19 infection among already vulnerable sickle cell anemia patients makes them at-risk for acute chest syndrome. Hence, the long-term effect of COVID infection needs to be well understood for treating these patients promptly if necessary.

**Keywords:** COVID-19; sickle cell disease; vaccination; exacerbation.





**Group: M4**

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**Department: Microbiology**

**Students:** Mohammed AlShubbar, Abdulaziz Alqunais, Ammar Howldar, Loay Bojbara, Saud ALamro

**Supervisor:** Dr.Maher Al Qurashi, Dr.BASAVARAJ  
HUNASEMARADA





**Title:**

**Hospital Hygiene Paradox: MRSA and Enterobacteriaceae Colonization Among Cleaning Staff in a Tertiary Hospital in Saudi Arabia.**

**Background:** Despite extensive research on the sources and transmission pathways of Hospital-Acquired Infections (HAIs), the role of cleaning staff as potential vectors has been under-explored. This study addresses the gap by examining the cleaning staff's role in nosocomial infection transmission, focusing on pathogenic bacteria and fungi colonization.


**Objectives:** Identifying potential pathogens harbored by cleaning staff that carry the risk of causing hospital acquired infection, especially methicillin-resistant staphylococcus aureus (MRSA) and enterobacteriaceae.

**Methods:** Conducted at King Fahad Hospital of the University and Family and Community Medicine Center, Saudi Arabia. The study involved a total of 96 cleaning staff. Sample collection targeted hands and nostrils using cotton swabs and followed by laboratory testing, including MALDI-TOF mass spectrometry for bacterial identification, and cefoxitin disc diffusion test for the screening of MRSA.

**Results:** Overall colonization prevalence of MRSA and Enterobacteriaceae was 9.4% and 15.6%, respectively. No significant associations were observed for MRSA across different departments or between day and night shifts. On the other hand, an increased odds of colonization with Enterobacteriaceae was observed in participants working in the ICU and operation room, and a significant association was found between enterobacteriaceae and day shifts. Lastly, Hand Washing frequency decreased the odds of colonization with MRSA and Enterobacteriaceae, emphasizing the importance of hygiene practices.

**Conclusion:** The study highlights the potential role of cleaning staff in transmitting Hospital-Acquired Infections, particularly MRSA, and Enterobacteriaceae. It underscores the necessity of stringent hygiene protocols.

**Keywords:** cleaning staff, methicillin-resistant staphylococcus aureus, Enterobacteriaceae, Hospital acquired infections, Nosocomial infections.





**Group: M5**

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**Department: Pathology**

**Students:** Hussain Albahrani, Abdullah Alhajri, Amar Albahrani,  
Mohammed Alhaddad, Ali Alfajri.

**Supervisor:** Dr. Mohammed Yunus, Dr. Amr Zaher





**Title:**

**Retrospective Analysis of Septic Arthritis in Sickle Cell Disease Patients at King Fahd Hospital of the University**


**Background:** The association between septic arthritis and sickle cell disease has been documented in some studies. However, its spontaneous occurrence in adults with sickle cell disease has been underreported and poorly defined. This study aimed to determine the incidence of septic arthritis in sickle cell disease patients at King Fahd Hospital of the University.

**Methods:** We conducted a retrospective cohort study on King Fahd Hospital of the University patients who have sickle cell disease and have been admitted due to septic arthritis between 1999 and 2023. Data were collected from electronic and physical medical records and analyzed by SPSS version 27 with the level of significance set at  $p < 0.05$ .

**Results:** Out of 1795 patients with sickle cell disease registered at King Fahd Hospital of the University, only 28 cases were reported to have septic arthritis retrospectively. Consequently, the incidence was 1.56%. The majority of the cases were male representing 20 (1.94%) cases out of 1031 males while females only represented 8 (1.05%) cases out of 764 females. The most common presenting complaint was pain (85.7%) followed by swelling (46.4%) and fever (32.1%). The most affected joint was the knee (35.7%) followed by the elbow (32.1%). Regarding the investigations, CBC showed a pattern of high WBC, and low RBC, hemoglobin, and hematocrit. Over two thirds of the synovial cultures done were negative. Regarding imaging, fluid collection was the most common finding in Ultrasound and MRI. All patients received single or multiple antibiotics and supportive treatment. The most common antibiotic used was Ceftriaxone (78%), followed by Cloxacillin (50%) and Cefuroxime (29%).

**Conclusion:** In conclusion, this study highlights the incidence of septic arthritis over the past 25 years among SCD patients at King Fahd Hospital of the University, shedding light on the infection's pattern, presenting complaints, and treatment.

**Keywords:** Sickle Cell Disease; Septic Arthritis; Pyogenic Arthritis







**Group: M6**

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**Department: Family and community Medicine I**

**Students:** Hasan Alswiket, Amjad Bo Arish, Abdullah Alradhi,  
Fadel Almulla, Ryad Alamry

**Supervisor:** Dr. Adam Fahad Aldhawyan, Dr. Mohammed Bu  
Saad






**Title:**

**Knowledge, Attitude, and Practices Towards Herpes Zoster Vaccination Among People Above 50 Years of Age in Saudi Arabia: A Cross-Sectional Study**

**Background:** Shingles, caused by varicella-zoster virus infection, is a disease that can result in serious clinical manifestations, including postherpetic neuralgia, ocular complications, and bacterial superinfection. These complications are more common among the elderly and immunosuppressed population. The shingles vaccine is a clinically and financially superior alternative to antiviral medications for shingles treatment. **Objectives:** This study aims to assess the knowledge, practice, and attitude of people aged 50 and above in the Eastern Province towards shingles vaccination. **Methods:** This is a quantitative cross-sectional study conducted among residents of the Eastern Province of Saudi Arabia aged 50 and older. Data were collected using an electronic questionnaire via Questionpro. Multivariate linear regression was used to test the association between relevant variables and participants' awareness of herpes zoster. **Results:** Out of 431 participants, 53.4% were males and 46.6% were females, with a median age of 54 (IQR 7). Of the 431 participants, 86.5% were aware of shingles, and 61% were aware of the vaccine. In the multivariate linear regression model, several factors, including female gender, older age, having health insurance, and history of chicken pox found to be significantly associated with having a higher knowledge of herpes zoster ( $P < 0.05$ ). Regarding the participants' practice and attitude toward the vaccine, 85.4% were unvaccinated, attributing that to vaccine side effects (30.2%), low-risk perception (20.9%), and lack of awareness (20.0%) as the main reasons. Most participants expressed interest in learning more about shingles (65.2%) and its prevention (84.9%), with 69.4% willing to receive the vaccine if recommended by doctors. **Conclusion:** The study revealed that the Eastern Province population exhibited a higher level of awareness compared to other populations. Also, participants demonstrated reassuring attitudes towards shingles and its vaccine. However, the practice of receiving the vaccine fell short, emphasizing the importance of conducting awareness campaigns aimed at correcting misconceptions.

**Keywords:** Shingles vaccine, prevention, knowledge, practice and attitude, Saudi Arabia







**Group: M7**

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**Department: Family and community Medicine II**

**Students:** Ali alsalamah ,Hussain Aljaroudi, Turki Alghannam,  
Faisal alzahrani

**Supervisor:** Prof.kasim aldawood





**Title:**

**Knowledge, attitude, and practice towards GLP-1 RA among primary care physicians at FCMC, IAU, and MOH primary health care centers in Dammam and Al Khobar, Saudi Arabia**

**Objectives:** To assess knowledge, attitude, and practice towards GLP-1 RA among primary care physicians (PCP) at Family and Community Medicine Center (FCMC) in Imam Abdulrahman bin Faisal University (IAU). **Methods:** A cross-sectional study was conducted among PCPs (consultants, specialists, residents) working at FCMC during February-March 2024. Data collected using a structured, validated, and pilot tested questionnaire. Participants filled an online questionnaire using laptop/iPad provided by researchers. Data analysed using SPSS 23.0; Categorical variables presented as frequencies and percentages, and means and standard deviations were used for continuous variables. Chi-square test determined statistical significance for categorical variables. **Results:** Out of 57 PCPs, 54 filled questionnaire. Majority (74%) reported prescribing GLP-1 RA to their patients and 68% reported having sufficient knowledge about GLP-1 RA. Only 42% reported a risk of developing hypoglycemia while prescribing GLP-1 RA with sulfonylurea/insulin; 32% correctly knew that GLP-1 RA does not have potential risk of thyroid C-cell neoplasm. Correctly reported side effects of GLP-1 RA were nausea (98.1 %), vomiting (94.4%), acute pancreatitis (80%), and diarrhea (70.4%). Only 37% advise the use of contraception for sexually active women of childbearing age who are taking GLP-1 RA. About 93% reported prescribing GLP-1 RAs to obese or overweight patients. The main reason for GLP-1 RAs' prescription was lower frequency of injection than insulin treatment (75.9 %) and their beneficial effects (72.2%). About 94% choose most appropriate GLP-1 based on patients' need; 80% explained GLP-1 mechanism of action to patients. **Conclusion:** Although PCPs showed good knowledge and practices towards the use of GLP-1 RA, some gaps in the knowledge and practices do exist. Dissemination of information to targeted groups may be useful to increase the knowledge and practices of PCPs regarding the use of GLP-1 RAs. The findings may help in ameliorating the barriers to the use of GLP-1 RAs.

**Keywords:** GLP-1 RA, Knowledge, Attitude, Practice, Saudi Arabia.





**Group: M8**

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**Department: Internal Medicine I**

**Students:** Mohamed Almarhoon, Ali Almateeq, Jawad Uliwat, Abdulhamed Alkhatti,  
Ali Almaatoug

**Supervisor:** Noor-Ahmed Jatoi





**Title:**

**Prevalence of Coronary Artery Disease and Cardiovascular Risk Factors in Patients with Type 2 Diabetes Mellitus at Kind Fahad Hospital of the University, Al Khobar, Saudi Arabia.**

**Background:** Type 2 diabetes mellitus is considered a major risk factor for coronary artery disease. A four-fold higher risk for the development of coronary artery disease is observed in diabetic patients. Type 2 diabetes mellitus is intricately linked with numerous cardiovascular risk factors that significantly contribute to the development of coronary artery disease. Chief among these factors are elevated blood glucose levels, hypertension, unfavorable lipid profiles, excess body weight, physical inactivity, and tobacco use.


**Objectives:** This study objective is to determine the prevalence of coronary artery disease in patients with type 2 diabetes mellitus in King Fahad Hospital of the University, and to assess the relationship between cardiovascular risk factors and type 2 diabetes mellitus.

**Methods:** This is a retrospective, cross-sectional study conducted on King Fahad Hospital of the University patients who attend to diabetes clinics. The statistical significance of the data was set at  $p < 0.05$  and analyzed by using SPSS version 27.

**Results:** Among 263 studied type 2 diabetes mellitus patients, the prevalence of coronary artery disease was shown to be 25.9%. The mean age was  $61.4 \pm 12.7$  years, and 54.8% were males. Coronary artery disease was significantly associated with smoking status and the type of medication used ( $p \leq 0.05$ ).

**Conclusion:** This study shows a high prevalence of coronary artery disease and cardiovascular risk factors among patients with type 2 diabetes mellitus. It is important to optimize control of diabetes and other cardiovascular risk factors in order to prevent the morbidity and mortality associated with coronary artery disease.

**Keywords:** Type 2 Diabetes Mellitus, Coronary Artery Disease, Cardiovascular Risk Factors, Prevalence.





**Group: M9**



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**Department: Internal Medicine II**

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Hadi Al bensaleh,Abdulhamid Alarbash

**Supervisor:** Noor-Ahmed Jatoi



**Title:****Prevalence of PAD and Cardiovascular Risk Factors in Patients with T2DM at KFUH, Alkhobar, Saudi Arabia.**

**Background:** Peripheral Artery Disease (PAD) and cardiovascular risk factors (CVRF) (including smoking, physical inactivity, uncontrolled Diabetes Mellitus (DM), Dyslipidemia (DLP), uncontrolled blood Pressure (BP) and obesity) has grown significantly worldwide. They are considered a major cause of health burden, morbidity and mortality, especially in patients with Type 2 Diabetes Mellitus (T2DM).


**Objectives:** The main objective of the study is to assess the prevalence of PAD, CVRF [smoking, physical inactivity, unrolled diabetes mellitus, dyslipidemia, hypertension, and obesity] in patients with T2DM.

**Methods:** This is a retrospective, cross-sectional and observational study included T2DM patients from the Internal Medicine department at King Fahad University Hospital (KFUH) in Al-Khobar, Saudi Arabia. The demographic data (age, gender, ethnicity), the history of T2DM and its complication, body constitutional measures (height, weight, body mass index), hemodynamic status (heart rate, systolic and diastolic BP, pulse and mean arterial pressures), labs (Fasting Blood Glucose (FBG), hemoglobin A1C and lipid profile) were obtained from the electronic medical record. The rest of demographic data (occupation, educational level and marital status), physical activity performance and smoking status were asked directly to the patient. The waist, hip and waist/hip ratio were measured for each patient. The right and left Ankle Brachial Index (ABI) were measured using a specialized machine. A full PAD assessment (including history taking and foot physical examination) was performed for each patient.

**Results:** Among 333 patients with T2DM, there are 152 patients (45.6%) had abnormal foot assessment, 36 patients (23.7%) of them had abnormal ABI, and 30 patients (19.7) already have been diagnosed with PAD previously. The prevalence of CVRF in patients with T2DM as following: overweight 38%, obesity 48%, uncontrolled A1C 50.5%, DLP 54.4%, HTN 80.2%, physical inactivity 58.6%, ex-smoker 18% and current smoker 14.4%. The association between PAD and previous diagnosis of T2DM was statistically significant ( $P < 0.05$ ). The prevalence of PAD and CVRF included in the study was high.

**Conclusion:** Our study showed that 45.6% have abnormal foot assessment, most likely suggesting PAD. In addition, high prevalence of CVRF was found in patients with T2DM [increased weight 86%, elevated A1C 50.5%, DLP 54.4, HTN 80.2%, physical inactivity 58.6%, previous/current history of smoking 32.4%]. The results shows that it is demanding that we develop PAD and CVRF control strategies, especially in patients with T2DM to reduce the morbidity, mortality and healthcare burden.

**Keywords:** Peripheral Artery Disease (PAD), Claudication, Type II Diabetes Mellitus (T2DM), Cardiovascular Risk Factors (CVRF), Dyslipidemia (DLP), Hypertension (HTN), Obesity, Physical activity, Smoking.





**Group: M10**

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**Department: General Surgery I**

**Students:** Fahad Aljabbari, Bader Solu, Mohammed AlYahya,  
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**Supervisor:** Dr .Feras Almajid, Dr.Mamoun Nabri





**Title:**

**Systematic Review and Meta-Analysis on Crohn's Disease Ileocecal Resection Anastomotic Techniques.**

**Background:** Surgical intervention with complicated Crohn's disease is common specifically ileocecal resection requiring anastomosis. The superiority of one technique of anastomosis over the other has proved to be an area of great debate. Even though no technique has proved to be superior stapled side-to-side anastomosis (St SSA) is considered the conventional method that many usually revert to in most facilities. Our study aims to challenge this prevalent preference of technique in comparison to other emerging techniques that some authors claim to be superior.


**Objective:** This meta-analysis aimed to evaluate the effectiveness of different anastomotic techniques used in ileocecal resections for Crohn's disease, focusing on recurrence rates, anastomotic leaks, and other postoperative outcomes.

**Methods:** Following PRISMA guidelines, a comprehensive search across multiple databases including PubMed, Web of Science, and EMBASE was conducted, capturing studies up to March 2024. Twenty studies met the inclusion criteria, encompassing a total of 4,466 patients. The primary outcomes analyzed were recurrence and anastomotic leakage rates, with secondary outcomes including reoperation rates and other postoperative complications.

**Results:** After rigorously screening the result of our initial search of 12,976 articles we ended up analyzing 4466 patients across 20 studies. No significant variance was found amongst anastomotic techniques in terms of anastomotic leakage, recurrence, or reoperation rates, according to the meta-analysis. Side-to-side anastomosis was not shown to be better than other procedures in terms of lowering postoperative complications or recurrence rates, according to the pooled odds ratios.

**Conclusion:** This meta-analysis indicates that no single anastomotic technique is superior for ileocecal resections in Crohn's disease. These findings suggest the need for individualized surgical planning and further research to optimize surgical outcomes for Crohn's disease patients.

**Keywords:** Crohn's disease, ileocecal resection, anastomotic techniques, surgical outcomes, recurrence, meta-analysis,







**Group: M11**

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**Department: General Surgery II**

**Students:** Zohair Alibrahim, Hussain Alhajji, Hasan,AL-Dawood, Mohammed Al Ameer, Abdullah Alhassar

**Supervisor:** Dr. Zeed Alghamdi, Dr. Hefzi Alratrout





**Title:**

**Surgical wound care education: insights into patients' experiences and preferences.**

**Background:** Patient centered education about wound care emerges as a very critical topic in the medical field worldwide. There is a growing emphasis on the significance of patient-centered discharge education, which involves providing education in a manner that fosters collaboration and shared decision-making between patients and healthcare providers and is tailored to individual patient needs and preferences. Delivering discharge education in this fashion enhances patient confidence, empowerment, and their ability to manage self-care at home.


**Objective:** The aim of this research is to demonstrate the experiences of surgical patients and preferences related to wound care and hygiene generally in KFHU.

**Methods:** A cross-sectional self-administered, online, questionnaire-based study. Targeting surgical patients aged 18 to 65 undergone surgical procedures in king Fahad university hospital at the period of August 2023 to October 2023 of both genders.

**Results:** Total number of participants is 85 of which 49 were females. The mean age was  $38.3765 \pm 2.698$  at confidence interval equal to 95%. Majority of the participants (41.18%) were holding bachelor's degree. 78.82% (N=67) of the patients were non-smokers. 74.11% of patients' surgeries were elective operations. Generally, patients were able to handle wound care at home, but at the level of emergency cases only 45.45% of them were able to perform this task. General surgical procedures compromised the majority of participations (49.41%) followed by orthopedic surgeries (14.11%). Subjectively, all patients of different specialties studied were able to take care of their wounds in home except for orthopedic and thoracic surgical patients. 77.65% of patients claim to be taught about wound hygiene. Moreover, 67.06% of respondents have been informed about signs of infection. Notably, 38.82% of patients would like to have follow up their wound at specialized clinics.

**Conclusion:** In general, the overall results elucidated that the level of education received by the patients was as expected fulfilling their needs in the different aspects of wound care. However, limited participation may hide some pieces of information that may reveal problems in the process of wound care education. In addition, these pieces of information may optimize the level of care as well as overall patients experiences.

**Keywords:** Wound care, patient education, patient care





**Group: M12**

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**Department: Pediatrics I**

**Students:** Hassan Alfardan, Ahmed Almass, Ahmed AlMukahhil, Taqi AlHamad,  
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**Supervisor:** Hawazen Shash, Mohamed Alomari, Abdullah Almutairi.





**Title:**

**Triggers, Characteristics, and Severity of Acute Allergic Reaction Among Pediatric Patients in an Emergency Department in Saudi Arabia.**

**Background and objective:** Acute allergic reaction is an immunological response with reproducible signs and symptoms that got little attention in the area. The current study aimed to identify the triggers, clinical features, and severity grades of acute allergic reactions in Eastern Province, Saudi Arabia.

**Methodology:** A retrospective study of children's medical records presented to the emergency department with acute allergic reactions between January 2018 and Sep 2023. The parameters of the patients were age, gender, trigger, clinical symptoms, and epinephrine treatment. The clinical severity was measured using the Severity Grading System for Acute Allergic Reactions score with 5 grades ranging from mild to life-threatening.

**Results:** 221 visits were analyzed. The age of the patients ranged from 3 months to 14 years and the majority were males 57% (n=127). The triggers were identified in (43.44%) of the cases with food being the main trigger (44.79%), followed by insect bite (31.25%), Drugs (13.54%), Materials (6.25%), and Environmental (4.17%). Food allergens included nuts, peanuts, and eggs. Skin manifestation was the most common symptom at 91.86% of the visits, then angioedema with 79%. grade 2 on the Severity Grading System for Acute Allergic Reactions was given to 62% of the cases, while grades 5, 1, 3, and 4 were given to (19.45%), (10.42%), (8.14%), and (0.45%) of the visits, respectively.

**Conclusion:** The results of our study showed similar manifestations to other parts in Saudi Arabia with urticaria the most prevailed symptom. Also, it found food to be the most common trigger and most of the study population to fit in grade 2 of Severity Grading System for Acute Allergic. A better knowledge of these triggers might lead to a better clinical course.

**Keywords:** allergic reaction, food allergy, anaphylaxis, urticaria, severity.







**Group: M13**

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**Department: Pediatrics II**

**Students:** Abdullah AlShabaan, Ali Almeer, Hassan Altawal,  
Mohammed Alibrahim, Mohammed Alkhater.

**Supervisor:** Faisal O. AlQurashi- Abdulaziz Abdullah Al-  
Ahmari- Alaeddin A. Al- Dajani .





**Title:**

**Awareness and knowledge of developmental coordination disorder among healthcare professionals in Saudi Arabia.**

**Background:** Dyspraxia is defined as a lifelong neurological disorder impairing the coordination and planning of motor and sensory tasks. The functional manifestation of Developmental Coordination Disorder (DCD) includes difficulties in various daily living aspects. Adequate basic knowledge about the signs and symptoms is pivotal in early diagnosis and management.

**Objective:** To identify the level of knowledge and awareness among healthcare professionals in the Eastern province towards Developmental Coordination Disorder. Also to assess the relevant demographic and professional factors that might influence healthcare professionals' familiarity with the condition.

**Methods:** This is a cross-sectional questionnaire-based study that targets all healthcare providers who deal with children up to the age of 18 years in the eastern province of Saudi Arabia. Questionnaire was distributed electronically via various social platforms, from October 2023 until March 2024. The data regarding: demographics, professional experience, familiarity to certain related disorders, and symptomology of dyspraxia were extrapolated, and their scores were analyzed and tested against study population demographics and professional experience.

**Results:** 264 subjects were included in the study; 57% were females, 55% were between 20 to 30 years of age, and 93% were Saudi healthcare providers. Of the total subjects, 33% were general practitioners, and 48% have been practicing healthcare for 1 to 5 years. 21% of providers have diagnosed at least one child with dyspraxia before, the majority of those were family physicians (30%). Overall mean knowledge score was 17%, ranging between 8% to 32%. The most recognized symptom of dyspraxia by study subjects was motor learning difficulties (23%), followed by gross and/or fine motor skills delay (22%). The majority of subjects were unsure about the sex distribution of dyspraxia (65%).

**Conclusion:** The findings of this study were in line with the results of most of the international studies on the subject. Significant knowledge gaps have been found across all healthcare providers in the eastern province. Adequate education, promotional activities and media involvement should be taken into consideration for better early identification and management

**Key words:** developmental coordination disorder; dyspraxia; motor delay; children; Saudi.





**Group: M14**

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**Department: Family and community Medicine.**

**Students:** Ahmed Abdulwahab, Mojtaba Alzahir, Ali Alhumran, Hussain Alsaffar, Ahmed Almomen.

**Supervisor:** Assim Abdulkhader, Abdulelah Almansour.





**Title:**

**Barriers and Facilitators to Colorectal Cancer Screening: Providers' Perspective.**

**Background:** Colorectal cancer ranks as the third most prevalent cancer worldwide and the second most prevalent cancer in Saudi Arabia. Additionally, it stands as the second leading cause of cancer-related mortality globally. There is an increasing incidence of colorectal cancer worldwide. However, there is a notable decrease in incidence in high-income countries due to effective screening programs.


**Objective:** The aim of this study was to identify the facilitators and barriers to the utilization of colorectal cancer screening from healthcare providers' perspective.

**Methods:** A qualitative study was conducted at multiple centers using semi-structured interviews to explore the perspectives of primary healthcare physicians, GI physicians, and colorectal surgeons on colorectal cancer screening in Dammam, Al-Khobar, and Al-Qatif in the Eastern Province of Saudi Arabia. Twenty-nine participants were involved in this study, leading to the identification of several barriers and facilitators to colorectal cancer screening.

**Results:** Health system-related barriers included the unavailability of screening methods, such as FIT test, or endoscopy units in some centers, high patient load, and the absence of a national screening program. Facilitators included easy access to screening guidelines, collaboration between hospitals, and the presence of female endoscopists. Individuals-related barriers encompassed patient unwillingness to screen, fear, lack of awareness, social and cultural factors, and inconvenience. Alternatively, the presence of a family history of colorectal cancer, GI symptoms, and higher education levels were considered as facilitators.

**Conclusion:** This study emphasizes the importance of implementing structural changes within the healthcare system, alongside raising awareness, and educating citizens. It also stresses the utilization of the effective strategies identified in this study regarding patient-provider communication to target individuals-related barriers and enhance screening rates.

**Keywords:** Colorectal cancer, Screening, Barriers, Facilitators







**Group: M15**

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**Department: Psychiatry**

**Students:** Mohammed Alkabbani, Nawaf Almaghlouth, Rafed Abdulhameed, Ammar Shukur, Zeyad Shujun.

**Supervisor:** Dr. Safa Al-Zahrani





**Title:**

**Prevalence and association of ADHD with Sleep disordered breathing (SDB).**

**Background:** Attention Deficit Hyperactivity Disorder (ADHD) and Sleep Disordered Breathing (SDB) are conditions that are commonly found and diagnosed in pediatric patients with potential interplay. Understanding their association is crucial for early intervention, and management.


**Objective:** This study aims to determine the prevalence and association of ADHD among pediatric patients with Sleep Disordered Breathing (SDB) between the age 3-6 years old.

**Method:** A case-control study design was employed. An online survey including the ADHD rating scale IV – preschool version and the Pediatric Sleep Questionnaire (PSQ) was distributed to parents of children aged 3-6. The case group comprised SDB-positive patients awaiting adenotonsillectomy, while the control group consisted of age-matched children with negative PSQ screenings. Exclusion criteria included prior adenotonsillectomy, psychiatric follow-ups, and other mental disorders. Sampling involved contacting parents of children scheduled for adenoidectomy, tonsillectomy, or adenotonsillectomy between March 2023 and January 2024. Data analysis was conducted by a biostatistician.

**Results:** 3.3% was the overall prevalence of positive ADHD screenings in both groups ( $n = 2$ ), with 5% in the case group ( $n = 1$ ) and 2.5% in the controls ( $n = 1$ ). 20% of the case group showed hyperactivity/impulsivity alone, 0% percent showed inattentiveness alone, and 5% showed both. Within the control group, 2.5 percent showed impulsivity or hyperactivity on its own, 2.5% showed inattention on its own, and 5% showed both. Despite the fact that the case group's ADHD scores were higher, there was no statistically considerable difference that would prove the relationship between ADHD and SDB.

**Conclusion:** While a higher prevalence of ADHD symptoms was observed in pediatric SDB patients, the study did not find a statistically significant association. Further research with larger sample sizes is warranted to elucidate the relationship between ADHD and SDB in children.

**Keywords:** ADHD, SDB, PSQ, ADHD rating scale IV, Preschool





**Group: M16**

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**Department: Dermatology**

**Students:** Mohammed Bazbooz, Mohammed Almulhin, Hussam Alsafwani, Mohammed Almousa.

**Supervisor:** Dr. Nasser Al Zoubi





**Title:**

**Awareness level of human papilloma virus and the perception of its transmission through laser clinics in the Eastern Region of Saudi Arabia.**

**Background:** Human Papillomavirus is a circular DNA virus known for its association with epithelial lesions and cervical cancer. The virus is mainly transmitted through skin to skin contact, which can occur by various mechanisms.


**Objective:** To assess the level of awareness of Saudi population about Human Papilloma Virus in the Eastern region, and to acquire a sight about prevention control behaviors in laser clinics during hair removal sessions from people who have attended the clinics.

**Methods:** A questionnaire-based study that was conducted since November 2023 till March 2024 in Saudi Arabia with 375 participants from the Eastern region. The questionnaire was distributed online through social media, and have been sent to patients who have visited dermatology department in King Fahad University Hospital during 2024 via WhatsApp. It aims to examine the public knowledge levels about Human Papillomavirus, its transmission, and to record the participants' experience during hair removal in laser clinics.

**Results:** 96.5% of the respondents showed poor knowledge about Human Papillomavirus, 52.5% of the participants have not heard about the Human Papillomavirus before. Furthermore, Almost one third (31.5%) had visited hair removal clinics for a hair removal session. 90% reported that before the session operator had washed their hands & wear new gloves before starting the session. However, only 4.2% brought their personal laser tip for the session, and 1.6% were diagnosed Human Papilloma Virus following laser hair removal at the same site of hair removal. Finally, 66.9% of all participants wanted to learn more about the virus or its vaccine.

**Conclusion:** Awareness and educational campaign about Human Papillomavirus is necessary to ensure adequate knowledge levels in the community. Lastly, further research about laser hair removal clinics and implementing a clear infection prevention guideline for operators in laser clinics are vital components to optimize the current health practice.

**Keywords:** Awareness, Human Papilloma Virus, Transmission, Hair Removal, Laser Clinics.





**Group: M17**

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**Department: Neurology**

**Students:** Mohammed Alismail, Mohammed Handoom,  
Adulrahman Aldamegh, Ahmad ALghazzal.

**Supervisor:** Dr.Norah ALKhaldi





**Title:**

**The Spectrum of Epilepsy in Sickle Cell Patients of Eastern Region..**

**Background:** Sickle-cell disease is an autosomal recessive hereditary hemoglobinopathy and the most commonly inherited blood disorder in humans. Epilepsy ranks as the second most common neurological disorder globally in terms of disability-adjusted life years. A prevalence study conducted in the Kingdom of Saudi Arabia in 2001 reported a rate of 6.54 cases of epilepsy per 1000 individuals. Individuals with sickle-cell disease are at a significantly higher risk of developing epilepsy.


**Objective:** To identify the spectrum of epilepsy in sickle cell patients in the eastern province.

**Methods:** A retrospective cohort study was conducted, targeting patients diagnosed with sickle cell disease and epilepsy between 2016 and 2023 at King Fahad Hospital of the university.

**Results:** In this study, we identified 24 sickle cell disease patients who were diagnosed with epilepsy, representing 12.06% of the study population. Males outnumbered females, and Saudis outnumbered non-Saudis. Most epilepsy cases in sickle patients were generalized 58.3% compared to focal 41.7%. The etiology of epilepsy was unknown in most cases 66.7%. The most common seizure classification was bilateral generalized tonic-clonic seizure 20.8%. Seizure frequency varied, with most patients experiencing seizures every year 33.3% and they mostly were well controlled on one anti-seizure medication 54.2% and majority of them were using levetiracetam 20.8%. EEG findings showed epileptiform abnormalities in the majority of patients 58.3%. Moreover, 20.8% of the patients were having hippocampus abnormalities, and the most reported abnormality was hippocampus atrophy by 12.5% of the patients. lastly, Positive family history of epilepsy was reported in 20.8% of cases.

**Conclusion:** In conclusion, this study aimed to identify the prevalence and spectrum of epilepsy manifestation in sickle cell disease patients. The findings showed that epilepsy is more common in sickle cell patients and that an underlying cause should be investigated using neuroradiological and EEG testing.

**Keywords:** Epilepsy, Sickle cell disease, hippocampal changes, Spectrum, Prevalence.





**Group: M18**

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**Department: Orthopedics**

**Students:** Mohammed Alomar, Ali Alqanber, Ali Akhder, Ahmad Albaik

**Supervisor:** Dr Ammar Alomran.





**Title:**

**Artificial Intelligence Awareness and Perceptions among Pediatric Orthopedic Surgeons:  
A Cross-Sectional Observational Study.**

**Background:** Artificial intelligence (AI) is a branch of computer science that allows machines to analyze large datasets, learn from patterns, and perform tasks that would otherwise require human intelligence and supervision. However, despite the significant benefits of AI in healthcare, its adoption by the medical community, including pediatric orthopedic surgeons, faces considerable challenges.


**Objective:** The primary aim of this study is to assess the awareness and perceptions of artificial intelligence (AI) among pediatric orthopedic surgeons.

**Methods:** This cross-sectional observational study was conducted using a structured questionnaire designed using QuestionPro online survey software to collect quantitative and qualitative data. A specialized social media group comprising 128 pediatric orthopedic surgeons from the two mentioned groups was used to distribute the survey electronically.

**Results:** Among pediatric orthopedic surgeons surveyed, there is a low level of familiarity with AI, with over 60% of respondents rating themselves as slightly familiar or not familiar. The most positively rated aspect of AI applications for pediatric orthopedic surgery was their ability to save time and enhance productivity, with 61.97% agreeing or strongly agreeing, and only 4.23% disagreed or strongly disagreed. Our participants also prioritized patient privacy and data security, with over 90% rating it as reasonably necessary or highly important.

**Conclusions:** Our findings suggest that as awareness of AI improves, so does the physician's perception towards it, and with the promising potential benefits AI may offer, we recommend that it is necessary to implement educational programs aiming to introduce and train healthcare professionals about AI and its future applications.

**Keywords:** Artificial Intelligence (AI), Pediatric Orthopedics, AI Awareness, AI Perceptions.







**Group: M19**

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**Department: Urology**

**Students:** Maytham Abdullatif Aldajani, Saad Saleh A Al Rasheed, Mohmmmed Fawzi A Bukhamseen, Abdulrahman Abdulsalam A Al-Sudairi

**Supervisor:** Dr. Ali Alzahrani



**Title:****Identification of factors leading to patient no-show to urology appointments in KFHU****Abstract:**

Patient no-shows present a burden on healthcare systems locally and worldwide, affecting healthcare delivery, disrupting continuity of care, and straining resources. This study aims to quantify the prevalence of patient no-shows in the Urology clinics and identify potential factors behind their absence at the urology clinic of King Fahad University Hospital (KFUH) during January and February 2024. This cross-sectional study was conducted using a retrospective descriptive design. Various factors, including sociodemographic data, clinical visits, and appointments, were assessed for 137 patients. Multiple Logistic Regression will be used to analyze the collected data for multivariate analysis between different categories of interest. Results revealed that married, middle-aged men constituted a significant portion of the no-show population. Appointment-related factors emerged as key contributors to no-shows, with lead-time and appointment timing showing significant associations. Nonetheless, administrative and personal reasons also affect patient attendance. By implementing interventions and fostering patient engagement, healthcare facilities like KFUH can effectively reduce patient no-show rates, thereby improving resource utilization, patient outcomes, and overall healthcare delivery.

**Keywords:** Patient, appointment, no-show, hospital



**Group: M20**

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**Department: Emergency Medicine**

**Students:** Hammad Khaled Alshammari, Mubarak Ibrahim Aldawlan,  
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Musaab Abdulmajeed Alomari

**Supervisor:** Dr. Nisreen Maghrabi






**Title:**

**Discharge Pain Management from the Emergency Department; Practices and Perspectives**

**Background:** Patients presenting with acute pain usually require pain medications upon discharge from the emergency department. One of the challenging tasks of emergency physicians is to appropriately manage patients' pain after emergency department discharge.

**Objective:** To investigate pain management practices and perspectives among emergency department discharged patients. **Methods:** An electronic questionnaire-based prospective observational study conducted at the emergency department of King Fahad Hospital of the University between (November 2023 and February 2024). Discharged patients from emergency department who received pain medications were prospectively included. Patients' pain presentations were categorized into headache, chest pain, abdominal pain, back pain, musculoskeletal pain, renal colic, or other unspecified presentations. **Results:** 331 included most were males 56.8%, Saudis 84.9% and completed high school 29.0%. The mean age of participants was found  $35.7 \pm 11.0$  years. The most common clinical presentation was musculoskeletal pain 48.6%. Awareness regarding Acetaminophen usage showed that knowing the recommended dose of 1 gm was observed in 65.6% of patients. Also, only 42.0% knew the minimum interval of 6 hours between doses. A minority 15.3% accurately identified the maximum daily dose as 4g/8 tablets per day. Moreover, 43.8% of patients were prescribed Acetaminophen upon discharge. The knowledge level about Acetaminophen dosage reduction for concurrent medication use we found that Fevadol was identified as the highest level of knowledge about dose reduction 56.8%. However, 73.4% of patients did not know whether it requires dose reduction with Solpadeine. Prescribed non-steroidal anti-inflammatory drugs were given to all cases with chest pain and majority of headache cases 88.9%.

**Conclusion:** Suboptimal escalation of pain medications was seen in more than half of patients. Also, the use of other pain medications after discharge and unawareness about Acetaminophen content in common pain medications was greatly noted.





**Group: M21**

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**Department: Emergency Medicine**

**Students:** Abdullah Albazie, Mohammed Altuwajjri, Hussain Alkatheri, Anas Alghamdi, Sulaiman Alharbi

**Supervisor:** Dr. Donia Al Arfaj





**Title:**

**Optimizing Diagnostic Pathways for Lower Abdominal Pain in Female Patients: A Comparative Analysis of Ultrasound-First vs. CT-First Approaches in the Emergency Department**

**Background:** Lower abdominal pain in non-pregnant female patients is a common presentation in emergency department (ED) and poses diagnostic challenges due to its broad differential diagnosis. Both computed tomography (CT) and ultrasound imaging are frequently used to diagnose lower abdominal pain in female patients. However the initial diagnostic imaging test is a topic of on-going debate, which creates a challenge for emergency physicians to determine the most appropriate initial imaging study.

**Methodology:** This is a retrospective study analysis which included 130 female patients who presented to the ED with lower abdominal pain whom underwent both computed tomography (CT) and ultrasound imaging at King Fahad University Hospital to compare the diagnostic efficacy, resource utilization, and clinical outcomes of ultrasound-first and CT-first approaches in the evaluation of lower abdominal pain in female patients presenting to the ER.

**Results:** Ultrasound demonstrated 39.6% true negatives and 7.9% true positives, with a 3.0% false negative rate and a 1.0% false positive rate. In contrast, CT showed 44.8% true negatives and 17.2% true positives, with no false negatives or false positives. Ultrasound had a higher rate of inconclusive results (48.5%) compared to CT (37.9%), but the difference was not statistically significant ( $P = 0.433$ ).

**Conclusion:** Several recommendations can be made to enhance clinical practice and optimize diagnostic pathways for non-pregnant females presenting with lower abdominal pain. Moreover, Guideline-Based Imaging Selection needs to be strengthened to aid healthcare providers in selecting appropriate imaging modalities based on clinical presentation, patient characteristics, and suspected pathology. Ultimately, ultrasound achieved an accuracy rate of 47.5%, while CT achieved an accuracy rate of 62.0% in ultrasound first approach. On the other hand, CT achieved an accuracy rate of 93.1%, while US achieved an accuracy rate of 90.1% in CT first approach. Overall, while ultrasound may exhibit higher sensitivity, CT demonstrates higher specificity.

**Keyword:** Abdomen, pain, Female, Computed-tomography, Ultrasonography





**Group: M22**

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**Department: Anesthesia**

**Students:** Asim alshehri, Omar alshehri, Abdulaziz alwarthan,  
Ahmed alquorain, Yasser alharthi

**Supervisor:** Dr. Zainab alzayer





**Title:**

**Gender differences in job satisfaction among anesthesiologists in Saudi Arabia**

**Background:** Anaesthesiologists' job satisfaction is essential to both their health and the healthcare system. Anaesthesiologists are essential in providing the needs of patients undergoing surgery during the perioperative phase. They do, however, face difficulties in their line of work. As a result, Job satisfaction is varied among anaesthesiologists.


**Objective:** The purpose of this study is to evaluate how gender differences in job satisfaction are and possible influencing factors affect satisfaction levels.

**Methods:** A Cross-sectional study was conducted across Saudi Arabia using a modified version of the anaesthesia practice satisfaction survey. A total of 350 participants participated in the survey which focuses on finding out how satisfied anaesthesiologists are. The survey also collected questions about leadership, teamwork, workload, work environment, pay, and career development prospects were included in the questionnaire.

**Results:** Out of 350 participants, 65.4% of participants were male and 34.6% were females. The study found that male anaesthesiologists had a satisfaction rate of 67.2% and females 49.2%.

**Conclusion:** This study explores job satisfaction among anaesthesiologists in Saudi Arabia, focusing on gender differences and factors influencing satisfaction levels. The findings highlight the need for interventions to address differences, improve well-being, and promote gender equity. Factors such as income, work-life balance, and teamwork play essential roles in satisfaction. By tackling these issues, healthcare organizations can increase anaesthesiologists' satisfaction, which leads to better patient outcomes.

**Keywords:** Anaesthesiology, Job satisfaction, Gender differences, Saudi Arabia, Influencing Factors







**Group: M23**

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**Department: Radiology**

**Students:** Mohammed Albather, Hussain Lajami, Abdullah Alnujaidi, Omar Bahamdan **Supervisor:** Dr. Hind Alsaif





**Title:**

**Inflammatory bowel disease awareness among students of healthcare colleges**

**BACKGROUND:** Inflammatory bowel disease (IBD) is a chronic autoimmune disorder affecting the gastrointestinal system. It includes Crohn's disease and ulcerative colitis. Its prevalence is rising globally. Long-term management is essential to prevent complications. Studies highlight awareness variations among healthcare professionals and the public regarding inflammatory bowel disease (IBD), emphasizing education's importance. These are influenced by demographics and comprehensive campaigns, standing crucial for improved management.


**OBJECTIVES:** The aim is to measure awareness among healthcare students and interns from different specialties and different academic levels in Saudi Arabia mainly at Imam Abdulrahman bin Faisal university. Specifically, it aimed to identify gaps in awareness, explore demographic factors influencing awareness levels, and provide recommendations for enhancing IBD awareness.

**METHODOLOGY:** A cross-sectional study design was employed, targeting healthcare students and interns from various disciplines. A structured survey was developed and distributed electronically to collect data on demographic characteristics and awareness of IBD. Convenience sampling was used, and data was analyzed with descriptive and inferential statistical methods.

**RESULTS:** A total of 321 participants, the majority were male (61.4%) and medical students/interns (88.5%). While awareness of IBD as an autoimmune disorder was relatively high (73.5%), gaps were observed in recognizing specific symptoms in Crohn's disease as well as ulcerative colitis. Gender, academic year were found to influence awareness levels, with males and interns demonstrating higher awareness. However, overall awareness levels varied, with approximately half of the participants exhibiting good awareness.

**CONCLUSION:** The study highlights the need for the improvement of awareness of IBD amongst healthcare students and interns, particularly Eastern Province. Recommendations include incorporating comprehensive IBD education into healthcare curricula, promoting interdisciplinary collaboration, launching public health campaigns, and prioritizing patient education. Future research should focus on longitudinal studies, comparative analyses, qualitative investigations, and intervention studies to further enhance IBD awareness.

**Keywords:** Inflammatory bowel disease, awareness, healthcare professionals, students, Saudi Arabia.





**Group: M24**

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**Department: Medical Education**

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**Supervisor:** Dr. Manahel Almulhim





**Title:**

**The perspectives of undergraduate medical students on effective feedback: A cross-sectional study**

**Background:** Effective feedback is crucial in medical education since it helps evaluate the student's performance and bridges the gap between observed and intended performance. However, this tool's value lies in students' recognition and interpretation of it, an area that remains understudied and necessitates further search.

**Objective:** The aim of this study is to investigate medical student perspectives on effective feedback at Imam Abdulrahman bin Faisal University in Saudi Arabia and to identify the factors influencing the successful delivered feedback. **Methods:** A quantitative, cross-sectional study surveyed 510 undergraduate medical students at Imam Abdulrahman bin Faisal University-College of Medicine. A validated survey measured student perceptions using a 5-point Likert scale. The study focused on four domains: feedback practice, influencing factors, instructor skills, and student preparation.

**Results:** The overall mean score of medical students perceived the delivered effective feedback negatively (29.7 out of 60) by an estimated more than half (57.8%), while the vast minority (1.6%) perceived it positively. Students' preparation for feedback was the most highly scored domain, whereas feedback practice received the lowest score. The perception deteriorated as the academic year progressed, with students in the pre-clinical years having a more favorable perception compared to clinical students.

**Conclusion:** The present study provides insight into the way medical students perceive feedback throughout their academic progression. Although the overall mean score for obtaining effective feedback was negative, the students' readiness to receive effective feedback received a high mean score. This prompts educators to contemplate employing more specific and timely feedback techniques, as the students are very receptive to receiving input. An important discovery in the field of perception is that pre-clinical students tend to have a more positive view of feedback; however, this perception becomes less strong among clinical students. These findings could be critical in adapting feedback approaches to meet the specific needs of clinical students.

**Keywords:** effective feedback, medical student, Clinical vs. pre-clinical feedback, Student perception of feedback

