



SCHOOL OF MEDICINE

# Scientific Day 2022

BOOK OF ABSTRACTS



The University of Jordan  
School of Medicine

# Scientific Day 2022

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Book of Abstracts

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## Welcome From the Office of Medical Research

It is our pleasure to welcome you to the 2022 University of Jordan School of Medicine Scientific Day.

The Office of Medical Research is delighted to celebrate this important milestone.

After two and a half years of the COVID 19 pandemic effect we are happy to resume our Scientific Research Days.

Established in 2018 and for the past 5 years the Office has celebrated the research achievements of four graduating classes in 2019, 2020, 2021 and this year 2022

This year, we are proud of our students and faculty mentors who explored a variety of different research methods from case reports to surveys to retrospective and prospective chart reviews to systematic reviews.

Today we celebrate the achievements of 113 research projects, 8 from the basic sciences, 31 projects from the Medical specialties and subspecialties, 36 projects from the Surgical specialties and subspecialties, 15 from the Obstetrics and Gynecology Department and 22 from the Pediatric Department

These 113 projects were mentored by 54 faculty members and 4 remote mentors.

As we bid farewell to our dear students, we would like to remind them that the sky is the limit and that research, approach to data, data appraisal and the spirit of inquiry coupled with ethics, dedication and hard work is their road to soar in their careers and we at the office wish them the best of success and look forward to seeing them present in local regional and international scientific meetings as respected colleagues.

The Office of Medical Research would like to thank each and every research mentor who patiently coached the students, directed their work, edited and refined it.

Without those efforts from our faculty members this event would not have been possible.

**Dr. Laila Tutunji**

The Office of Scientific Research

## Basic Medical Sciences Abstracts

**Abstract Number: I001**

### The Role of Adenosine Receptor Ligands on Inflammatory Pain

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**Introduction:** Chronic pain has been described as an established disorder with debilitating ramifications on health and lifestyle. The currently available analgesics for its treatment are often ineffective and accompanied by undesirable adverse effects, which invites for safer and more efficacious alternatives.

Adenosine is a naturally-occurring purinergic nucleoside that is involved in cell signaling in multiple tissue types.

Although the activation of adenosine receptors can affect nociceptive, inflammatory, and neuropathic pain states, the specific regulatory functions of its subtypes (A1, A2A, A2B and A3 receptors) are not fully understood.

**Aim:** The aim of this work was to investigate the role played by different adenosine receptor ligands on inflammatory pain conditions.

**Methods:** Inflammatory pain was induced by intra-plantar injection of Complete Freund's Adjuvant (CFA) into the left hindpaw of adult male Sprague Dawley rats. Von Frey filaments were applied to the mid-plantar aspect of the left hind paw using the "up-down" method to determine the CFA-induced mechanical allodynia (expressed as paw withdrawal threshold, PWT).

**Results:** Neither the A2A selective agonist CGS 21680 hydrochloride (0.1, 0.32 and 1 mg/kg) nor the A2B selective agonist BAY 60-6583 (0.1, 0.32 and 1 mg/kg) produced any significant reversal of the PWT. However, both the A1 selective agonist (±)-5'-Chloro-5'-deoxy-ENBA, and the A3 selective agonist 2-Cl-IB-MECA produced a significant reversal of the PWT at the highest dose of 1 mg/kg, suggesting antinociceptive effects of the A1 and A3 adenosine receptors. Co-administration of the selective antagonists of A1 and A3 receptors PSB36 (1 mg/ml) and MRS-3777 (1 mg/ml); respectively, significantly reduced the anti-nociceptive effects of both (±)-5'-Chloro-5'-deoxy-ENBA, and 2-Cl-IB-MECA (1 mg/kg) on PWT one hour post-drug administration. Both the A2A selective antagonist ZM 241385 and the A2B selective antagonist PSB 603 produced a significant reversal of the PWT at the highest dose of 1 mg/kg.

**Conclusion:** In conclusion, A1, A2A, A2B and A3 adenosine receptors are involved in mediating inflammatory pain states, and represent promising targets for the treatment of chronic pain conditions.

**Key Words:** Pain; Adenosine receptors; Inflammation; TRPV1

**Abstract Number: I002**

### Detection of Methicillin Susceptible and Resistant Staphylococcus aureus Nasal Carriage and Its Antibiotic Sensitivity among Basic and Clinical Years Medical Students

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**Introduction:** Healthcare workers (HCWs) and medical students can be asymptomatic carriers in transmitting methicillin resistant and susceptible *Staphylococcus aureus* (MRSA and MSSA). Studying epidemiological and antibiotic susceptibility data is necessary to limit the spread of infections, help with treatment and understand the transmission dynamics of MSSA and MRSA.

**Aim:** Our study assessed the rate of MSSA and MRSA nasal carriage and its antibiogram among medical students in basic and clinical years at the University of Jordan.

**Methods:** A total of 210 nasal swabs were randomly collected from participants. MSSA and MRSA were identified by culture, biochemical and other phenotypical analysis methods. Antibiotic susceptibility was determined by the disc diffusion method.

**Results:** The nasal carriage of MSSA was 6.6% and 11.4% and that of MRSA was 1.9% and 2.8% among basic and clinical years, respectively. There was no significant difference for the nasal carriage of MSSA and MRSA among basic and clinical year students ( $p$  value  $\geq 0.05$ ). MSSA resistance ranged between 25% and 33% for trimethoprim-sulfamethoxazole, tetracycline and ciprofloxacin. For MRSA, the highest resistance was to trimethoprim-sulfamethoxazole and tetracycline (67% to 100%), followed by gentamicin and ciprofloxacin (33% to 67%), in all participants in the study.

**Conclusion:** The difference in the carriage rates of MSSA and MRSA among basic and clinical students was statistically insignificant. The continuous awareness and implementation of infection control procedures and guided patient contact are recommended. The results might also suggest that healthcare workers could be victims in the cycle of MRSA nasal carriage, a theory that needs further study.

**Keywords:** methicillin resistant *Staphylococcus aureus* (MRSA); methicillin susceptible *Staphylococcus aureus* (MSSA); nasal carriage; medical students; antibiotic susceptibility

**Abstract Number:** I003

### **Necrotizing fasciitis: diagnostic criteria for forensic autopsy cases**

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**Introduction:** Necrotizing fasciitis is an uncommon but serious bacterial illness that affects the tissue beneath the skin, as well the fascia.

Necrotizing fasciitis has a significant medico legal importance and the most important medico-legal issue that is related to NF is the responsibility of outcome, especially for fatality. Due to the importance of the diagnosis of necrotizing fasciitis in addition to the difficulties of the diagnosis of NF, we aim in this paper to find a diagnostic criterion for NF in forensic practice

**Aim:** the aim of this paper to find a diagnostic criterion for NF in forensic practice.

**Methodology:** Ten cases out of 14,160 medico-legal cases recorded in the mortuary of Jordan University Hospital were qualitatively analysed using case history, legal authorized records, and histopathology, which are mandatory for a definitive post-mortem diagnosis of NF. The data was collected and analysed for similarities in presentation and challenges, signs and symptoms were gathered from cases and percentages were done calculated

**Results:** the results showed that there are 6 signs and symptoms that can be classified as major and minor criteria that can be used to diagnose postmortem necrotizing fasciitis.

**Conclusion:** A bizarre skin lesion without a definite cause of death+ 2 major criteria OR 1 major criterion and 2 minor criteria. The major criteria include fast onset of <5 days from onset to death, recent trauma or surgery within days or few weeks and the presence of bullae or blister. While the minor criteria include the presence of an old trauma or surgery in the past months or years, male gender, age of 30 to 60 and medical condition of the patient or the presence of alcohol abuse.

**Key words:** Autopsy; Medico legal; Necrotizing fasciitis; Postmortem

# Abstract Number: 1004

## The effect of K-RAS and BRAF mutations on survival, local recurrence, metastasis in Jordanian colorectal cancer patients.

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**Introduction:** Although colorectal carcinoma is a leading cause of mortality in Jordan, there are very few studies about the frequencies of the mutations that contribute to its occurrence among Jordanian patients.

**Aim:** In this research we will look for the prevalence of KRAS, BRAF mutations in Jordan University hospital patients, and we will try to correlate these mutations to the clinicopathological findings.

**Methods:** This is a retrospective study that included 156 patients who were diagnosed with primary colorectal adenocarcinoma between January 2010 and December 2015 in Jordan university hospital. They were followed up over a mean of 18 months (range: 4- 72). BRAFV600E mutation was analyzed by restriction fragment polymorphism(RFLP) protocol. A p value less than 0.05 was defined as statistically significant.

**Results:** KRAS mutant variant were found to be 34.5% of CRCs. BRAFV600E mutations were observed in only 10.5% of CRCs. the age, gender, and Number of lymph nodes involved did not significantly affect the mutation status. Moreover, the type of tumor and grade of differentiation was unaffected by the mutation status. Interestingly, the follow up duration was found to be significantly associated with KRAS polymorphism. Importantly, BRAFV600E and KRAS did not affect the survival factors among patients

**Conclusion** Jordanian patients had a lower frequency of KRAS mutations and a higher frequency of BRAF mutations when compared to Asian countries. KRAS and BRAFV600E mutation status did not impact CRC patients' survival. Further local studies with a larger number of patients are necessary to confirm our findings.

**Key Words:** Molecular Oncology, Pathology, Cancer Biology

# Abstract Number: 1005

## Systematic review: The effect of honey in treating different skin conditions

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**Introduction:** Honey was known from early decades as a medicinal agent. It contains substances that were shown to have protective and therapeutic effects.

**Aim:** This study aimed to systematically review the evidence of the effect of honey use in treating variable skin conditions.

**Methods:** Electronic databases reviewed: PubMed, Scopus, Science Direct. Relevant randomized controlled trials that were performed using human and animal subjects and published in English language were utilized. Studies using natural pure honey as intervention, without being mixed or combined with other substances were revised. The effect of honey was compared to the effect of untreated control groups or those managed according to skin conditions standards of care.

**Results:** 172 studies were identified. 60 studies remained after initial screening through titles and abstracts. After full text screening, 18 studies were utilized in this review. Studies were examining the effect of honey on treating wounds,

or burns, or leishmaniasis. Considerable methodological variation existed regarding the tested outcome variables and the types and dosages of the honey applied as intervention.

**Conclusion:** Many studies demonstrated that use of honey enhanced epithelization and reduced wound area effectively. In addition, fibroplasia and angiogenesis were positively enhanced in animal models. Honey was a safe treatment for chronic wounds and diabetic ulcers. Different origins of honey and different routes of administration can influence its effects and characteristics. Japanese honey was paradoxically exerting negative effects in terms of wound healing. Systemic administration of honey (oral or intraperitoneal) produced prominent effects on the healing process when compared to the topical application of honey. Honey has promising effects when used as treatment alternative. However, further studies in this aspect are needed.

**Keywords:** honey, manuka, skin, wound, burn

**Abstract Number:** I006

### Myocardial Fiber Mapping of Rat Hearts, Using Apparent Backscatter with Histologic Validation.

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**Introduction:** Myocardial fiber architecture is a physiologically important regulator of ejection fraction, strain, and pressure development. Apparent ultrasonic backscatter has been shown to be a useful method for recreating the myocardial fiber architecture in human-sized sheep hearts because of the dependence of its amplitude on the relative orientation of a myofiber to the angle of ultrasonic insonification. Thus, the anisotropy of the backscatter signal is linked to and provides information about the fiber orientation.

**Aim:** In this study, we sought to determine whether apparent backscatter could be used to measure myofiber orientation in rodent hearts.

**Methods:** Fixed adult-rat hearts were imaged intact, and both a transmural cylindrical core and transmural wedge of the left ventricular free wall were imaged.

**Results:** Cylindrical core samples confirmed that backscatter anisotropy could be measured in rat hearts. Ultrasound and histologic analysis of transmural myocardial wedge samples confirmed that the apparent backscatter could be reproducibly mapped to fiber orientation (angle of the fiber relative to the direction of insonification). These data provided a quantitative relationship between the apparent backscatter and fiber angle that was applied to whole-heart images.

**Conclusion:** Myocardial fiber architecture was successfully measured in rat hearts. Quantifying myocardial fiber architecture, using apparent backscatter, provides several advantages, including its scalable use from rodents to man, its rapid low-cost acquisition, and minimal contraindications. The method outlined in this study provides a method for investigators to begin detailed assessments of how the myocardial fiber architecture changes in preclinical disease models, which can be immediately translated into the clinic.

**Key Words:** Ultrasound tissue characterization, Anisotropy, Myocardial, Apparent backscatter

**Abstract Number:** I007

### Atrial fibrillation and Cancer, a Narrative Review

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**Aim:** The aim of this narrative review is to explore the relationship between Cancer and Atrial fibrillation and to clarify the risk for developing ischemic stroke or major bleeding in cancer patients who have concurrent AF and to find the best anticoagulants for such patients.

**Methods:** This narrative review was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Approach. Data was searched from PubMed and Google Scholar using the terms “cancer OR neoplasm”, “AF OR A Fib OR atrial fibrillation, stroke, bleeding and quality of life”; the search included studies within the last 5 years (2017-2021), peer-reviewed articles of original studies. Collected data included patient demographics, date, cancer type, treatment, timeframe, measurement variables, study design and results. Inclusion criteria were: 1) peer-reviewed original research or secondary analysis of subjects with a cancer diagnosis and atrial fibrillation 2) studies written in the English language, limited to those involving quantitative methods.

**Results:** 10 articles were included in this study, 3 articles for the risk of AF in cancer patients, 4 articles the risk of stroke and bleeding in patients with AF and cancer and 3 articles anti-Coagulation use in patients with Cancer and AF. This narrative review demonstrated that cancer is an independent risk factor for atrial fibrillation and that patients with cancer and AF are at higher risk for developing major bleeding but have the same risk for ischemic stroke. Patients with cancer are at higher risk for thromboembolism and bleeding thereafter anticoagulants must be well regulated in patients with cancer and AF and in we found that Direct Oral Anti Coagulants (DOACs) have a lower risk for bleeding and better efficacy in preventing stroke than the classical VKA (warfarin).

**Conclusion:** It is recommended that a more vigilant approach is needed to detect atrial fibrillation in cancer patients with a well-regulated anti coagulation regimen avoiding major bleeding episodes but preventing stroke. DOACs might have a superior effect to classical VKA and that warrants further studies.

**Keywords:** Cancer, Neoplasm, Atrial fibrillation, Malignancy, Anticoagulants, Stroke, Bleeding.

**Abstract Number:** I008

### Implementation of an ACE assay for the diagnosis of Sarcoidosis

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**Introduction:** sarcoidosis is a multisystemic disease typically affects young adults. Its diagnosis is challenging and requires compatible clinical and radiographic manifestations, characteristic histopathological findings, and exclusion of other diseases. Angiotensin-Converting enzyme is a known laboratory marker used in the diagnosis of Sarcoidosis and correlates with disease severity and progression with treatment.

**Aim:** This study aims to measure the activity of ACE in blood samples of sarcoidosis patients and healthy controls using a spectrophotometric technique.

**Methodology:** Blood samples were collected from patients diagnosed with Sarcoidosis (n=18) and healthy controls (n=48). The assay was performed according to the method described by Shalaby et al. (2006), using Furfylacrylphenylalanyl-glycylglycine as a substrate.

**Results:** The ACE activity in patients with sarcoidosis (6.32 U/ml) was significantly higher than that of healthy individuals (4.3 U/ml) with P value of 0.00134. No statistically significant relationship was found between serum ACE level and the presence of lung fibrosis on pulmonary imaging (P value 0.12). No statistically significant difference was found in ACE levels between patients with extrapulmonary manifestations and patients without (p value 0.39). There was no significant difference in ACE level between females and males (p value 0.55). The accuracy of the assay reached 81%, with a sensitivity of 66.6%, specificity 87.5%, Positive Predictive Value was 66.6%, and negative predictive value was 87.5%.

The previously described assay is convenient, cost-effective, and applicable for ACE level measurement in sarcoidosis patients using a single stable inexpensive reagent that has a higher hydrolysis rate than other reagents used in other assays (FA-PGG). Our study found that patients with sarcoidosis have higher ACE levels than controls. There is controversy about its use in the diagnosis of sarcoidosis, but multiple studies support its use. One study concluded that ACE level has a high NPV which would exclude sarcoidosis uveitis in patients with normal ACE levels. Some

studies found that ACE level correlates with the presence of extrapulmonary manifestations, but our study did not find a statistically significant relationship. As concluded by some studies, this study did not find a correlation between serum ACE level and stage four of sarcoidosis.

**Conclusion:** The assay provides a cost-effective method for the support of the diagnosis of sarcoidosis. Further studies with larger sample could help understanding the diagnostic utility of ACE level in sarcoidosis and its relation to the radiological stage of the disease, the presence of extrapulmonary manifestations and the activity of the disease.

**Keywords** ACE-inhibition assay, Enzymatic assay, performance, Sarcoidosis

## Internal Medicine and Internal Medicine Sub-Specialties Abstracts

**Abstract Number: 2002**

### Epidemiology, microbiology, and outcomes of infective endocarditis in tertiary center in Jordan

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**Introduction:** Infective Endocarditis (IE) is a relatively rare but serious and life-threatening disease with substantial mortality and morbidity despite progress in diagnostic and treatment techniques. IE diagnosis is based on modified Duke criteria which includes clinical features, microbiological results and echocardiographic findings.

**Aim:** The aim of this study is to determine the microbiological profiles and the antibiotic sensitivity patterns in patients with Infective Endocarditis (IE) in Jordanian University Hospital (JUH) over the last 19 years.

**Methodology:** This retrospective cohort study was conducted at JUH. A total of 25 patients with either definite or possible IE according to the Modified Duke Criteria were included in the study. Medical records were reviewed, and relevant information were collected retrospectively. The data was analyzed to provide finalized descriptive data.

**Results:** The studied cohort had a mean age of  $40.1 \pm 20.0$  years, of which 68.0% were males. Chronic diseases were found in 95.5% of the studied cohort, the most common of which was valvular disease (36.0%). The overall ejection fraction for the entire cohort was  $53.2\% \pm 9.2\%$ . No bacterial growth was seen in 8 patients, while Strep viridians was seen in 6 (table 1). Mitral valve was the most affected valve (41.7%). The most common sign at time of diagnosis was fever. Among the entire cohort, mean hospital stay was  $38.7 \pm 69.1$  days. About 36.8% needed surgical intervention. Across those treated for infective endocarditis, 70.8% improved.

**Conclusion:** In patients with endocarditis, Streptococcus viridians is the most common culture-positive bacteria at JUH. One third of our patients needed surgical intervention and the mortality rate was 16%.

**Keywords** Clinical Features, Epidemiology, Infective Endocarditis, Microbiology, Streptococcus Viridians, Valvular Disease.

**Abstract Number: 2003**

### Prevalence of Hypoglycemia in a Jordanian Diabetic

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**Introduction:** One of the greatest threats to tight glycemic control is hypoglycemia, which can lead to decreased medication Compliance, cardiovascular Events, and even mortality. There is no literature on this Complication in the Jordanian environment. This study will Help the primary care physician better control blood sugar in diabetic patients and provide Patient education to prevent hypoglycemia.

**Aim:** Hypoglycemia predisposes to a multitude of severe complications. There is a dearth of literature regarding its epidemiology within the MENA region. our objective of this study is to find out the prevalence of hypoglycemia in the Jordanian diabetic patients. As well as, to show its association with different demographics such as age, sex, socioeconomic status, weight, and level of education.

**Methods:** A cross-sectional study ,234 participants, study were done on patients who have visited the endocrine clinic University of Jordan Hospital, data were collected through online questionnaires considering In our Inclusion

criteria all ages, both genders. And that participant should be diabetic. We used google forms survey beside, JUH databases to collect data, SPSS and Excel to have tables and diagrams. Using them to analyze data.

**Results:** A total of 234 patients met our inclusion criteria and agreed to participate in our study. The average age ( $\pm$ SD) of the study participants was  $59.45(\pm 13.6)$  and ranged from 19 to 88 years. They were 100 males (42.7%) and 134 females (57.3%). Most of the participants had at least received primary school education (95.7%). type 2 diabetes was the most common type of diabetes (85.5%), followed by type 1 and gestational diabetes (14.1 % and .4% respectively). As for the duration of being diagnosed with diabetes, 52 (22.2%) participants had diabetes for less than 5 years, 68 (29.1%) for 5-10 years, 46 (19.7%) for 10-15 years, and 68 (29.1%) participants had diabetes for more than 15 years. Most of our study group participants used only oral antihyperglycemic pills to control their blood sugar levels (48.3%), others used only insulin (17.9%), or both treatment options (33.8%). The mean weight of our participants in kilograms ( $\pm$ SD) was  $84.8 (\pm 15.2)$  Kgs and ranged from 45 to 130 Kgs. Hypoglycemia was defined as having a blood glucose level of less than 70mg/dl. Most participants didn't experience any hypoglycemic episodes (58.5%). Among the patients who did have hypoglycemic episodes, most had only 1 monthly episode (42.3%), others had 2,3 or more than 3 (24.7% ,8.2% and 24.7% respectively).

Most patients had hemoglobin A1C levels  $>8\%$  during the hypoglycemic episodes (43.3%), others had levels  $<6\%$ , 6-7% or 7-8% (8.2%, 19.6% and 28.9% respectively). Only 25 patients (25.8%) required absence from work or school due to these episodes, and only 11 patients (11.3%) had injuries, like falling, car accidents, bone fractures or head trauma, from these episodes.

Most of our study group managed these episodes by having something sweet at home (93.5%), and only 6 participants reported needing to call an ambulance or going to a hospital (6.5%). Also, almost half of our participants reported managing these episodes alone and not asking for help from others (51.1%). It's important to note here that almost all patients didn't have a glucagon pen (94.8%) during hypoglycemic episodes, and only 3 patients reported having one and using it (3.1%), and 2 patients had it but didn't use it (2.1%) About 52% measured their blood sugar at home while 82.1% regularly visit the diabetes clinic for follow up. It appears that most participants never had prior instructions with regards to hypoglycemia management.

**Conclusion:** This cross-sectional study Demonstrated that, most participants didn't experience any hypoglycemic episodes. Among the patients who did have hypoglycemic episodes, despite most patients being able to deal with their hypoglycemic episodes, hypoglycemia is rampant and needs interventions are needed to educate patients about their strict blood sugar control.

**Keywords:** Blood sugar, Diabetic, Hypoglycemia, Jordan, Middle East.

**Abstract Number:** 2004

## Shifting in the Etiological Causes of Liver Cirrhosis Over a 45-Year Period in Jordan

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**Introduction:** Etiological causes of liver cirrhosis have been demonstrated to vary between ethnic groups, geographical areas, and more importantly, over the years. Identifying the shift of etiology emphasizes the effectiveness of preventive measures that were applied in order to reduce the burden of liver cirrhosis over time.

**Aim:** Our study aims to analyze the etiology of patients with liver cirrhosis presenting to a tertiary teaching hospital to determine the etiological distribution and its proportional changes over 45 years.

**Methodology:** This prospective cohort study was conducted at a single tertiary care center over 3 separate time periods; Group 1 (1976-1991), Group 2 (2005-2006), and Group 3 (2019-2021) looking respectively at 115, 111, and 100 consecutive adult patients  $\geq 18$  years of age with liver cirrhosis. For group 1, frozen samples were analyzed to identify causes of cirrhosis. Groups 2 and 3 were analyzed prospectively. The variations and trends in the etiology of liver cirrhosis among the different time periods were assessed to evaluate the leading etiologies at different times in Jordan.

**Results:** The leading etiology in Group 1 was viral hepatitis (67.83%) with hepatitis B (HBV) being the predominant viral etiology (61.54%) followed by hepatitis C (HCV) accounting for 25.64%. In contrast, there was a notable decline in viral etiologies in Groups 2 and 3, with viral hepatitis accounting for only 48.60% in Group 2, and 32% in Group 3.

Among the nonviral causes, cryptogenic, nonalcoholic steatohepatitis (NASH), and autoimmune Hepatitis (AIH) were the primary etiologies. Among Group 2 patients, cryptogenic, NASH and AIH accounted for 21.6%, 5.4%, and 8.1% of cases, respectively. Whereas in Group 3, cryptogenic, NASH, and AIH accounted for 34%, 20%, and 9%, respectively. Discussion: Across our three samples of liver cirrhosis patients in three different time intervals over 45 years, viral etiologies dropped by almost 40% and nonviral etiologies became more common, paralleling increased prevalence of other noncommunicable diseases such as metabolic syndrome, obesity and diabetes as well as introduction of nationwide vaccination.

**Conclusion:** Over a period of 45 years, Jordan witnessed a major shift in the etiology of liver cirrhosis with a decrease in viral hepatitis, which was the leading cause in the past, and a substantial increase in nonviral etiologies, particularly cryptogenic, NASH, and AIH. These findings indicate that measures applied for prevention of viral hepatitis were effective, including vaccination, screening of blood products, and education. In addition, the findings of increased other causes including NASH parallel the increased prevalence of metabolic syndrome, obesity and diabetes.

**Keywords:** autoimmune, etiology, liver cirrhosis, NASH, viral hepatitis

**Abstract Number:** 2005

### **Achalasia in Jordan University Hospital, a single tertiary center experience**

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**Introduction:** Achalasia is a rare esophageal motility disorder characterized by a lack of peristalsis of the esophagus and the inability of lower esophageal sphincter relaxation. This impedes normal esophageal emptying and causes patients to experience dysphagia, regurgitation, chest pain and eventually, weight loss. Unfortunately, treatment is mainly symptomatic control by disrupting the muscle fibers of the lower esophageal sphincter by either pneumatic dilation or laparoscopic heller myotomy. While both are considered first-line therapies, clinicians disagree on the performance profiles of each therapy option and their durability. Additionally, current literature is conflicted on which patient characteristics are potential predictors of success.

**Aim:** To assess the performance profile and durability of symptom control of pneumatic dilation and laparoscopic heller myotomy with a secondary aim of identifying potential patient factors that may be predictors of therapeutic success.

**Methodology:** Using purposive sampling, we implemented a retrospective descriptive study design which included achalasia patients diagnosed between 2014 and 2020 at the Jordan University Hospital. A total of 67 patients were enrolled. A questionnaire predominantly based on the Eckardt score was used to collect patient information as well as patient symptoms before and after treatment. The data was collected via phone call interviews. Data was entered and analyzed using STATA 16. Descriptive bivariate analyses were conducted to compare treatment outcomes as well as to determine predictors of success. School of Medicine Graduation Project Manuscript 3

**Results:** Myotomy had a 100% improvement rate as compared to 84.4% in dilation patients. Those that underwent both procedures had the shortest duration of remission till relapse time of  $2.6 \pm 2.9$  months with myotomy having the longest ( $30 \pm 24.5$  months). Males had higher relapse rates (75%) and shorter duration of remission of symptoms ( $12.5 \pm 3.8$  months) compared to females (25% relapse rate and  $26.6 \pm 39.3$  months). Subtype I achalasia patients had the highest improvement rate (89.5%). Discussion: Our data on 67 achalasia patients in Jordan demonstrates that myotomy as a treatment especially for males, which have higher rates relapses (75%) and shorter remission periods prior to relapse, might be favorable over dilation. The data also supports that females have a better potential for successful outcomes and the same with patients with type I achalasia given their better improvement rates (89.5%).

**Conclusion:** Myotomy was found to have higher rates of improvement as compared to pneumatic dilation. Female sex and subtype I achalasia were found to be potential predictors of success in achalasia patients.

**Keywords:** Achalasia, Eckardt, Jordan, Myotomy, Dilation, Predictors

**Abstract Number: 2006**

## **Primary Hepatic Amyloidosis Associated with Multiple Myeloma Causing Acute Liver Failure: A Case Report**

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**Introduction:** Primary (AL) amyloidosis is the most prevalent type of amyloidosis and is usually due to plasma cell dyscrasia. It more commonly presents with renal and cardiac involvement and although the liver is frequently involved in primary amyloidosis, it rarely causes clinically apparent disease. The most common form of hepatic involvement is hepatomegaly and mild elevation of alkaline phosphatase. Diagnosis requires tissue biopsy that demonstrates positive staining for Congo red and treatment is ideally a combination of chemotherapy and hematopoietic cell transplantation. The prognosis of hepatic amyloidosis associated with liver failure is poor.

**Case Report:** Here, we report a case of primary amyloidosis in the setting of multiple myeloma in a 54-year-old man who presented with acute liver failure and resulted in the patient's death.

**Key Words:** Hepatic Amyloidosis, Multiple Myeloma, Acute Liver Failure.

**Abstract Number: 2007**

## **Clinical, Radiological and Functional Abnormalities in COVID-19 patients after recovery, and risk factors contributing to these abnormalities**

**Nathir Obeidat, Sara Qutaishat , Zaid Shaheen , Siwar AlMasarweh , Hebah Alshahawan , Ahmad Mismar.Siwar Masarweh, Zaid Shahin, Saif Ryalat**

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**Introduction:** Three years into the pandemic, the world is still struggling with the effects of COVID-19. Intermediate to long term complications post viral infections have been observed in previous pandemics, accordingly, we can predict that COVID-19 may have persistent symptoms on the long run. Post Covid Syndrome as defined by NICE is "Signs and symptoms that develop during or after an infection consistent with COVID-19, that continue for more than 12 weeks and are not explained by an alternative diagnosis."

**Aim:** We aim to study the incidence of PCS, as well as the risk factors associated or predictive of its development in patients following up at the respiratory clinics at Jordan University Hospital (JUH).

**Methodology:** This is a retrospective cohort study that aims to identify the incidence and risk factors for the development of post-covid syndrome in patients who tested positive for COVID-19 using polymerase chain reaction (PCR), and who follow-up at the respiratory clinics. Data was collected by interviewing the patients in the respiratory clinics face-to-face using a well-structured questionnaire.

SPSS version 26.0 (Chicago, USA) was used in our analysis.

**Results:** A total of 111 patients were included in this study, with a mean age of 54.39 ( $\pm 13.66$ ) years. 85 (76.6%) of the sample had post-COVID syndrome.

Only hospitalization for more than 1 week significantly predicted the occurrence of PCS ( $p = 0.048$ ), with a B coefficient of 2.83 (95% CI 1.01 to 16.82) in the regression model. Mean duration of symptoms for patients who developed PCS was 17.93 ( $\pm 13.18$ ) days, compared to only 12.85 ( $\pm 6.79$ ) days for patients who did not develop PCS, a statistically significant difference ( $p = 0.011$ ).

Regarding COVID attack severity and the development of PCS, we did not find a significant difference in pulse oximetry values during the attack and the development of PCS ( $p = 0.407$ ).

**Conclusion:** Most of our study population developed long COVID which reflects how common it's. Further studies are required to understand and predict the risk factors associated with PCS and challenges that might come along the post COVID syndrome.

**Keywords:** COVID-19; Long Covid; Long haulers; Post covid syndrome; Risk factors, SARS-CoV-2

**Abstract Number: 2008**

### **Trends of glucocorticoids (GC) use and perception of their side effects among patients with rheumatic diseases in Jordan**

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**Introduction:** Steroids have been used for many rheumatological diseases either as a drug of choice for some diseases or as a last resort in others, and in many other diseases in the human body. Steroids also have many side effects that range from having mild effect to being life threatening in different situations. This raises the importance of tight adherence to the doctor orders in the use of steroids and informing the patients about the variety of side effects that comes along with this treatment.

**Aim:** This study aims to evaluate the opinion of patients in regard to steroids use and look for the prevalence of steroids use among the study sample. Investigate the views of the patients on the steroids side effects and if they discussed it with their doctor.

**Methodology:** This is a cross sectional study where 500 participants were recruited from the rheumatology outpatient clinic patients in Jordan University Hospital (JUH), Structured interview-based methodology was implemented in order to enhance the consistency of response across patients' answers.

**Results:** 500 patients were included in the study, 443 patients were female (88.6%) and 57 were males (11.4%), with 74% of them being age 40 and above. 53.4% of the patients had the educational level of high school or lower. Knowledge about the side effects and health hazards associated with the use of glucocorticoids were notable by 295 patients (59%), whereas 184 patients (36.8%) were unaware of the health hazards. 110 patients (34.9%) of the ones who used steroids 315 believed they suffered from side effects. Weight gain was the side effect most reported, mounting to 51 patients (47%). 28 patients (5.6%) believe that steroids are safe. On the other hand, 344 (68.8%) of the patients disagree and find steroids unsafe.

**Conclusion:** As GC use and prescription increases among the Jordanian population, it is crucial to increase awareness among the patients and health care workers. Patients understanding of GC uses, side effect, early diagnoses of its side effect, and more importantly preventing these side effect by taking concomitant medications is of utmost importance.

**Keywords:** steroids, awareness, side-effects, patient education

**Abstract Number: 2009**

### **Drug treatment adherence in patients with systemic lupus erythematosus who are treated at rheumatology outpatient clinic in JUH**

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**Introduction:** Adherence to a medication regimen is clinically important in patients with systemic lupus erythematosus (SLE). Knowing the cause of non-adherence and trying to limit these causes can be very useful and meaningful in a clinical setting.

**Aim:** The main objective of the present study was to Measure the adherence rate among SLE patients, analyze the influence of sociodemographic, possible cause on the degree of treatment adherence in a sample of Jordanian people with SLE.

**Methods:** A cross-sectional study involving 150 patients was conducted at Jordan University Hospital Rheumatologic Diseases, all participants were evaluated for the degree of treatment adherence by using the Morisky green scale, The sample was divided into two groups (adherent vs non-adherent). The factors associated with a lack of adherence in this sample were analyzed by means of logistic regression.

**Results:** Adherence to medication was divided into three groups equally percentage between them, significant risk factors of insufficient adherence included being married, lack of money to purchase the medicine, failure to reach the place where they get buy the medicine

**Conclusion:** this was the first study to investigate the relationship between drug compliance and SLE in Jordan, although sufficient adherence to medication appears to be a problem, knowing the cause and trying to increase the awareness could help to improve adherence to medication

**Keywords:** SLE, adherence, compliance, Lupus, adults, adolescents

**Abstract Number:** 2010

### **The Prevalence of Sepsis and Septic Shock in a Middle-Income Country: Experience of Two Tertiary Hospitals in Jordan**

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**Aim:** This study was conducted to describe the prevalence rates for sepsis and septic shock and the length of stay (LOS) among adult patients in intensive care units (ICUs) at two tertiary hospitals in Jordan.

**Methodology:** A total of 914 patients admitted to adult medical and surgical ICUs at two tertiary hospitals for three months were screened for sepsis and septic shock and followed up during their hospitalization. The data were collected using a flowchart for screening patients with sepsis/ septic shock. In addition, another tool was used to assess patients' socio-demographics and clinical variables.

**Results:** The overall three-month period prevalence rate for both sepsis and septic shock was 16.6%. Of these, 48.7% of patients developed sepsis and 51.3% had septic shock.

The mean LOS in hospital of patients with sepsis/ septic shock was 21.4 days, compared to 10.5 days for patients without sepsis/ septic shock ( $p < 0.001$ )

The mean LOS in ICU of patients with sepsis/ septic shock was 11.1 days, while for patients without sepsis/ septic shock it was 4.4 days ( $P < 0.001$ )

The mean Sequential Organ Failure Assessment (SOFA) score was  $7.6 \pm 3.8$  (range = 2.0 – 18.0) for patients with sepsis/septic shock.

**Conclusion:** The prevalence rate of sepsis and septic shock was comparable to, or lower than, the prevalence rate at adult ICUs of hospitals in different countries. Sepsis and septic shock were significant health problems among patients in the adult ICUs in Jordan, doubling their LOS.

**Keywords:** Sepsis, Septic shock, Prevalence, Length of stay.

**Abstract Number: 2011**

## Depressive symptoms among students pursuing the general secondary education certificate examination (Tawjihi): A national study

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**Introduction:** Unofficial reports have alerted that Tawjihi (high school) students in Jordan are experiencing high levels of depression with increasing suicidal ideations and attempts.

**Aim:** The aims of this national study were to estimate the point prevalence of depressive symptoms among Tawjihi students in Jordan and to identify student characteristics associated with severity of depression.

**Methodology:** The study was conducted in collaboration with the Jordanian Ministry of Education. Data were collected using anonymous self-administered questionnaires.

**Results:** A total of 1208 Tawjihi students (51% females) completed and returned the questionnaires. About 12% reported having learning difficulties, and 3% received a psychiatric diagnosis. Almost 62% were studying 3–7 h per day, and 73% reported watching TV for less than an hour per day or not at all. Seemingly, 37% were using their mobiles for less than an hour per day or not at all. About 37% reported they were not performing any activity other than studying. About 25% of the sample reported moderate to severe depressive symptoms, while 19% had mild symptoms. The most prevalent moderate to severe symptom was crying (25.5%) followed by changes in sleep pattern (23%) and self-criticalness (22.7%). Suicidal thoughts or wishes presented in almost 6% of the sample. Depressive symptoms were significantly higher among students who were females, pursuing the literacy streams, having lower Grade Point Averages (GPAs), residing with families with lower monthly incomes, residing in rural regions, reporting a learning difficulty, reporting a psychiatric diagnosis, and spending more time with their mobiles and less time on TV.

**Conclusion:** With the substantial lack of primary mental health services in the country, there is a need to proactively screen all Tawjihi students in Jordan for depression. Addressing depression among Tawjihi students requires considering all individual, family, social, and contextual risk factors that may lead to the rise in depressive symptoms.

**Keywords:** Adolescent health; depression; high school; Tawji, Jordanian High School Examination

**Abstract Number: 2012**

## A Case of Contrast-Induced Encephalopathy Potentiated by Acute Stroke Thrombolysis

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**Introduction:** Contrast-Induced Encephalopathy (CIE) is an acute, reversible neurological deterioration within minutes to hours of contrast administration. It can present with any focal deficits (e.g., aphasia, weakness, or sensory changes) or seizures, especially in patients with end-stage renal disease (ESRD).

**Case Presentation:** An octogenarian man with a history of hypertension, ESRD, and prior TIA, presented to the hospital as a stroke-alert. His exam was concerning for a partial right ACA/MCA syndrome. After a discussion of risks vs. benefits, he agreed to proceed with intravenous thrombolysis (IVT). A repeat CT head was done then and showed

faint hyper attenuation in the right hemisphere, with some sulcal effacement. About four hours after completing his IVT, he started having myoclonic jerks. Repeat axial head CT revealed an ill-defined hyper attenuation mainly on the right frontal cortex/subcortical white matter associated with mild swelling/sulcal effacement. However, the Iodine subtracted virtual non-contrast (VNC) images on the Dual-Energy CT (DECT) protocol showed no evidence of intracranial hemorrhage (ICH), favoring contrast extravasation in this region. The patient continued to improve with supportive measures and dialysis, and a CT scan at 24 hours after IVT showed resolving hyper attenuation in the areas mentioned. Patients with CIE typically develop varying degrees of transient aphasia, cortical blindness, encephalopathy, seizures, headache, or focal motor deficits. Hypertension, renal dysfunction, and prior strokes are associated with increased risk of CIE.

Our patient's initial presentation can be explained by a stroke due to a distal right ACA occlusion thrombolysis by IVT administration. The patient's elevated blood pressure, presumed to disrupt the endothelial podocytes, and increased BBB permeability. IV alteplase's inherent property could have further potentiated this to promote BBB disruption. Finally, the patient's ESRD, by impairing contrast clearance and promoting direct neurotoxicity of the contrast medium, created a perfect storm for developing CIE in the form of seizures. Typical CT scan findings of CIE include loss of gray-white matter differentiation, and striatal contrast enhancement. Contrast staining and ICH might have similar findings on traditional CT scan. With its ability to differentiate between hemorrhage and Iodine, the DECT scan can rule out subarachnoid or intraparenchymal hemorrhage.

**Conclusion:** ESRD and IVT might potentiate CIE by decreasing contrast clearance and causing BBB disruption. CT scans might reveal hyper attenuation and edema mimicking hemorrhagic transformation, hence triggering termination of IVT, or even reversing it. DECT scan is more sensitive in distinguishing contrast staining from ICH.

**Keywords:** BBB, Contrast, Encephalopathy, Neuroradiology, Stroke, Thrombolysis

**Abstract Number:** 2013

## Barriers to professional medical help-seeking for mental problems among Jordan university students.

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<sup>2</sup>School of Medicine, University of Jordan, Jordan (sixth year medical student).

**Introduction:** Despite the high prevalence and burden of mental health problems among young people, studies have suggested that they infrequently seek professional help.

**Aim:** To know the barriers that hinders the person from seeking help in case he is having symptoms of one of mental health diseases among University of Jordan students.

**Methodology:** a cross-sectional study will be conducted during February 2022 using a questionnaire in Arabic language. The population is the university of Jordan students.

**Results:** This study found that 84.5% (464) of participants who reported having a mental health or emotional difficulty did not seek any formal or informal help.

Two attitudinal barriers, two stigma related barriers and one instrumental barrier were the most impacting in our study.

**Conclusion:** Young adults experiencing psychological distress may struggle to access help from others. Stigma and negative perceptions surrounding mental health and help-seeking may explain why young people are reluctant to approach others for help. Decreasing the stigma-related thoughts and improving the understanding of mental health problems that will not get better by themselves as well as screening for psychological distress in primary care services, may be necessary to improve mental wellbeing among young adults.

**Key words:** Barriers; Help-seeking; Mental health; Young adults.

**Abstract Number: 2014****Importance of coping mechanism and lifestyle modification in treatment of Depression****Radwan Bani Mustafa<sup>1</sup>, Hiba Hani<sup>2</sup>, Nourna AL-Tatry<sup>3</sup>, Mustafa Al-Abbasi<sup>4</sup> & Mohammed Azzam<sup>5</sup>**<sup>1</sup> Department of Psychiatry, school of medicine, the University of Jordan, Amman, Jordan<sup>2</sup> School of Medicine, the University of Jordan, Amman, Jordan.

**Introduction:** Depression is a disease that affects the soul and the body and affects the way of thinking and behaving, and it would lead to many emotional and physical problems, as it is one of the most prevalent diseases in the world, and people with depression usually cannot continue their daily lives as usual, as depression causes, they feel that they have no desire to live. Depression may affect all age groups, as it is not limited to a specific age, gender, race or group.

**Aim:** The study aimed to find out the daily habits that help reduce symptoms of depression in addition to spreading awareness among people suffering from depression and avoiding habits that increase its severity to reach the best results. The study sample consisted of 206 people with depression who were selected from psychiatric outpatient clinics.

**Methodology:** Collect data from adults who come to psychiatry clinics and diagnosed with depression and know about their coping mechanism and lifestyle modification and how it helps them to control their symptoms.

**Results:** The results of the study showed that there is a relationship of healthy eating to confronting depression, it was found that there is a relationship of exercise on reducing symptoms of depression, the study concluded that the study sample resorted to religious practices to confront depression.

The current study also recommended the absence of the role of smoking in calming the depressed person, and the results of the current study agree with the study of BRENDON, ET.AL, 2018)

**Conclusion:** Our research will benefit the psychiatry department in JUH and possibly global. It Also will benefit the general adult's population and increase their awareness about the coping mechanism and lifestyle modification and its impact on treatment of depression. This is beneficial as it will decrease incidence of this illness.

**Key Words: Depression- Lifestyle- Diagnosed-Mechanism- Psychiatry Clinic****Abstract Number: 2015****Obsessive compulsive traits and Religiosity in the Jordanian population****Bashir igbaria<sup>(1)</sup>, Shatha kannan<sup>(2)</sup>, Tara maher<sup>(3)</sup>, Fawaz alragheeb<sup>(4)</sup>, Fatimah diab<sup>(5)</sup> Radwan Bani Mustafa**<sup>1</sup> School of Medicine, The University of Jordan, Amman, Jordan.<sup>2</sup> Department of psychiatry, The School of medicine, The University of Jordan, Amman, Jordan.

**Introduction:** There has been a growing interest in using empirical data to examine established theoretical viewpoints in the field of religion psychology. One such initiative has investigated the relationship between religiosity and obsessive behavior, which is based on Freud's writings, many studies have examined the latter correlation. In some studies researchers had found a significant correlation between religiosity and obsession whereas in others they failed to find such correlation.

**Aim:** The current study examines the relationship between religiosity and obsessive-compulsive traits in the Jordanian population.

**Methodology:** 15 items of the Vancouver obsessive compulsive inventory and 10 items of The Religious Commitment Inventory—10 were administered.

**Results:** A positive significant correlation was found.

**Conclusion:** These results may suggest that certain obsessive-compulsive traits might affect some individual's degree of religious commitment.

**Keywords:** Jordanian population; obsession; religion and psychology.

**Abstract Number:** 2016

### Prevalence of postpartum depression in Jordanian males

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<sup>2</sup>Department of psychiatry, Jordan university hospital, Amman, Jordan

**Introduction:** Postpartum depression has been studied extensively in females; however, it is not well studied in males. As maternal PPD is recognized in literature and known as public health issue

**Aim:** this research aims to investigate the prevalence of PPD in Jordanian males and its risk factors. Also, we recognized the deficiency in current literature and highlighted new area for future research targeting postpartum depression among fathers.

**Methods:** A cross sectional study design was conducted in the university of Jordan hospital which included 385 parent who had a child in 2021. The Edinburgh Postnatal Depression Scale (EPDS) was used via online questionnaires.

**Results:** The prevalence of paternal PPD was 37% at cut off 12 or more on EPDS which was associated with father employment, gender of the last child, and monthly income, father's mental illness and maternal PPD. But when the cut off was reduced to 9 or more on EPDS the prevalence was 55% which was associated with the father's education and the monthly income, father mental illness, preterm delivery, NICU admission, maternal PPD. As noticed the main factor associated with paternal PPD was maternal PPD followed by previous paternal mental illness.

**Conclusion:** The results show that postpartum depression among Jordanian fathers is a serious problem and needs to be dealt with by developing screening programs and support these fathers during this stage of life. There is need for more studies regarding paternal PPD to establish a gold standard to assess it.

**Key words:** Depression, Fathers, Newborn, Postpartum

**Abstract Number:** 2017

### The Impact of Past Trauma on Psychological Distress: The Roles of Defence Mechanisms and Alexithymia

**Radwan Bani Mustafa, A.A.<sup>1</sup>, Zaid Al Kayed, B.B.<sup>2</sup>, Aisha Al Khalifah, C.C. Hanan Fataftah, D.D. , Heba Al Eqaily, E.E & Sarah Al Khaleefa, F.F .**

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**Introduction:** In addition to PTSD symptoms, alexithymia and defence mechanisms might also contribute to psychological distress following past trauma. This is still unclear, however.

**Aim:** The current study aimed to examine the potential impact of alexithymia and defence mechanisms on the relationship between past trauma and distress among Jordanian university students.

**Methodology:** 416 university students completed a set of questionnaires: PTSD Checklists for DSM-5, Toronto Alexithymia Scale (TAS-20), Defense Style Questionnaire-14, and General Health Questionnaire-12

**Results:** Psychological distress was associated with posttraumatic stress disorder in the context of past trauma. Alexithymia and defenses (especially immature defenses) mediated the relation between PTSD and psychological co-morbidities.

**Conclusion:** As a result of past trauma, individuals developed PTSD and other psychological symptoms. The degree to which these distress symptoms had an impact on their psychological defence mechanism, as well as their ability to recognize, express, and cope with distressing emotion.

**Keywords:** past trauma, posttraumatic stress disorder, alexithymia, defence mechanisms, psychological distress

**Abstract Number:** 2018

### **The prevalence of substance use disorder among university students in Amman, Jordan**

**Radwan banimustafa<sup>1</sup>, Zaid Alkayed<sup>1</sup>, Narges Alsammak<sup>2</sup>, Fatemah Mohammad<sup>2</sup>, Mohamed Alabbasi<sup>2</sup>, Mohammad Alajmi<sup>2</sup>, Malak Aldousari<sup>2</sup>, Abdilya Alabdaly<sup>2</sup>, Aisha AlEsa<sup>2</sup>, Rand Mohamood<sup>2</sup>, Mohammed Hayati<sup>2</sup>, Yaseen Ammar<sup>2</sup> and Homoud Alballam<sup>2</sup>.**

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<sup>2</sup>Faculty of Medicine, University of Jordan, Amman, Jordan.

**Introduction:** Substance abuse is a major social issue, particularly among students at colleges and universities. In recent decades, statistics have showed a huge increase in the rate of illegal substance usage in various age groups particularly among students at colleges and universities.

**Aim:** The aim of this study is to determine the prevalence of substance abuse and associated risk factors among students at Jordan University, Hashemite University, and Jordan University of Science and Technology. In addition, to provide a useful source of information and data for future research in the field.

**Methodology:** Descriptive cross-sectional study. The sample was taken from three governmental universities in Jordan (university of Jordan, Hashemite university, Jordan university of science and technology). Online questionnaire was done.

**Results:** The sample consisted of 729 (61.6%) females and 455 (38.4%) males. Majority of the students were from the university of Jordan 1066 (90%). The lifetime prevalence of substance use was 140 (11.8%), 453 (38.3%) smoke tobacco and 73 (6.2%) drink alcohol. Most common used substance was sleeping drugs including benzodiazepine 63 (45%). Daily, monthly, and yearly substance use about 7.2%, 5% and 77.1% respectively.

Most common used substance was sleeping drugs including benzodiazepines followed by cannabis/ marijuana these findings are in agreement with a study done in Iran. There was a significant relationship between tobacco smoking and alcohol drinking which is found in other studies as in England, Iran, Turkey, and Spain. Moreover, there was a relationship between male gender and increased substance use. Substance use among majority of the students was of episodic pattern.

**Conclusion:** It is noticed that the subject was very sensitive and irritating therefor there may be underestimation. As a suggestion we believe that increasing awareness among students about substance use, smoking tobacco and alcohol drinking may have a role in decreasing the prevalence of substance use among them. Moreover, providing psychiatric clinic available for the students with full privacy may have a good influence on the students.

**Keywords:** Alcohol, Illegal drugs, Smoking, Substance use.

**Abstract Number:** 2019

### **The Psychological Disorders related to COVID-19 Pandemic (depression and anxiety) among the healthcare professionals and medical students at Jordan University Hospital**

**Radwan Bani Mustafa<sup>1</sup>, Abdullah Almutairi<sup>2</sup>, Issa Deir<sup>2</sup>, Abdulrahman Almutairi<sup>2</sup>, Abdulrahman Shaya<sup>2</sup>, Helal Alsubaie<sup>2</sup>, Mohammed Qudah<sup>2</sup>,**

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**Introduction:** Since the outbreak of COVID-19 pandemic in Jordan, the government has imposed a series of restrictions and measures in an effort to prevent a wider spread of the disease throughout the country. Measures such as lockdowns of vital sectors and enforcing social distancing and mask wearing served to create a state of anxiety caused by worry about becoming jobless and fear of getting infected by this dangerous disease. Consequently, all sectors, particularly the medical sector, suffered from psychological disorders mainly anxiety and depression, and front-liners in particular encountered enormous challenges having to treat cases with the best available approach and constantly developing treatment modalities with the progress of the disease.

**Aim:** To measure the prevalence of depression and anxiety related to COVID-19 pandemic among healthcare professionals and medical students at JUH and study the relevant factors among the study sample.

**Methodology:** A cross sectional survey was conducted based on random selection of a sample of the medical staff at JUH. The survey was implemented using a structured questionnaire that included several demographic questions, COVID-19 background questions and questions on anxiety and depression prior and during COVID-19. Data was collected online as well as pencil/paper. It was entered and analyzed using STATA

**Results:** The results show an increase in anxiety and depression scores during the COVID-19 pandemic, indicating that the pandemic influenced the mental health status of the study sample. Gender was a strong factor associated with the levels of anxiety and depression in our sample with a bias towards females. The pandemic had also had an economic impact which adversely affected the well-being of individuals.

In this sample of Jordan University Hospital healthcare professionals and medical students of 346 participants, the prevalence of mild, moderate, and severe anxiety during the pandemic, according to GAD-7 scores, were 35.8%, 20.8% and 15.1%, respectively, a total of (71.7%). The prevalence of mild, moderate and severe depression during the pandemic, according to PHQ-9 score, were 28.6%, 33.2% and 10.4% respectively (a total of 72.2%).

**Conclusion:** Our study showed that about two third of the participants have experienced some degree of COVID-19 associated anxiety, and two thirds experienced some degree of COVID-19 associated depression. Being in the medical field, a female, and have suffered financially were significantly correlated with higher degrees of anxiety and depression.

**Keywords:** COVID-19, depression, anxiety, medical staff, JUH

**Abstract Number:** 2020

### **Surgical team perceptions of surgical safety checklist in a tertiary hospital in Jordan: A descriptive qualitative study**

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**Introduction:** The operating room is a complex environment with a high risk for preventable errors. Therefore, achieving patient safety in the operating room is one of the global public health priorities. A surgical safety checklist was introduced by the World Health Organization as a method to enhance patient safety and promote patient outcomes in the operating theatre.

**Aim:** To explore the perceptions of operating room staff toward the use of the World Health Organization Surgical Safety Checklist in a tertiary hospital in Jordan.

**Methods:** This was a qualitative descriptive study. Semi-structured interviews were conducted with a purposeful sample of twenty-one healthcare staff employed in the operating room (nurses, residents, surgeons, and anaesthesiologists). The interviews were conducted in the period from October to December 2021. Thematic analysis was used to analyse the data.

**Results:** Three main themes emerged from data analysis namely: compliance with the surgical safety checklist, the impact of surgical safety checklist, and facilitators and barriers to the use of the surgical safety checklist.

**Conclusion:** While steps to utilize the surgical safety checklist by the operation room personnel may seem simple, the quality of its administration is not necessarily robust. There are several challenges for consistent, complete, and effective administration of the surgical safety checklist by the surgical team members. Healthcare managers must employ interventions to eliminate barriers to and offer facilitators of adherence to the application of the surgical safety checklist. Therefore, promoting quality healthcare and patient safety.

**Keywords:** Compliance, Operating room, Patient Safety, Quality healthcare, Surgical safety checklist, Teamwork

**Abstract Number:** 2021

### Effect of Mask Wearing on Patient-Doctor Communication

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**Introduction:** Since the outbreak of the COVID-19 pandemic, people across the world have been forced to wear masks, posing new hurdles for appropriate doctor-patient communication and, as a result, accomplishing adequate therapeutic goals. As we depend in a good proportion of our communication on body language and facial expressions, **Aim:** we aimed at this study to explore the effect of (doctors and patients) wearing masks on the bidirectional communication from patient perspective and to find out the possible side effect of mask wearing for long times as in the case of treating physicians.

**Methodology:** This is a cross sectional study that was conducted at Jordan university hospital outpatient clinic, between. Self-administered questionnaire was used to collect data. Part one of the questionnaire asked about the participant's general socio-demographics, such as age, gender, education, and job status. Part two focused on the impact of mask use on patient-doctor interactions. The final section of the survey focused on some of the most common physical negative effects of mask use. We used the Statistical Package for Social Sciences (SPSS), version 26.0 for Windows, to perform cross-tabulations, one-sample binomial tests, t-tests, and Chi-square tests to analyze the data.

**Results:** A total of 415 people completed the survey questionnaire. 181 of the participants (43.6%) found that it became more difficult to understand what the doctor is explaining. Very similar percentage (47.2%) also answered wearing mask made it more likely they need the doctor to repeat the explanation about the management or diagnosis. More than fifth of the patient (28%) agreed that not seeing the doctor face negatively affected their understanding of the treatment plan. As for physical side effects, among headache, breathing problem and acne, acne was most prevalent. When asked if the mask wearing lead to the appearance of new acne or worsening of pre-existing acne, 22.2% answered slightly, 16.9% intermediately and 8% to great extent.

**Conclusion:** Through this study, we concluded that wearing face masks significantly afflicted the communication between the doctor and the patient on many aspects. Endeavors ought to be coordinated towards creating appropriate arrangements that guarantee the conveyance of sufficient medical care to patients.

**Keywords:** communication, covid-19, doctor, facemask, patient

**Abstract Number:** 2022

### Emotional Intelligence Among Physicians of Different Specialties in Jordan

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**Introduction:** Emotional intelligence (EI) is defined as the ability to recognize our feelings and those of others, to motivate ourselves, and to manage our emotions both with ourselves and in our relationships. EI is of major importance in a physician's daily life. Higher EI is associated with decreased burnout, better rapport building with patients, improved communication skills, among many more.

**Aim:** The authors aimed to look for differences in emotional intelligence (EI) levels among physicians of different specialties, to find out if any potential factors may affect the level of emotional intelligence, and to raise awareness for the importance of EI in physicians' daily life.

**Methodology:** Using a cross-sectional observational approach, a hundred residents and physicians working at the Jordanian University Hospital in 2021 filled a questionnaire that included the Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF) as an instrument to calculate participants' EI and its subscales.

**Results:** The mean global trait EI was  $4.89 \pm 0.80$ . There was a significant association between EI and the specialty of the physician. Psychiatrists had the highest mean global trait EI while general surgeons have the lowest. Higher global trait EI was positively associated with being a specialist. There was a positive correlation between global trait EI and factors like salary, age, and job satisfaction.

**Conclusion:** The study identified several factors that may affect a physician's emotional intelligence level. The specialty of the physician is an important factor when comparing EI. Physician's gender had no role in predicting their EI. Further research should look for explanations for such results, and that would help to construct a better understanding of emotional intelligence as a whole and as part of the doctor-patient relationship.

**Keywords:** Communication; Doctor-patient; EI; Emotionality; Empathy

#### Abstract Number 2023

### Glycemic control improvement amongst patients with diabetes mellitus during COVID-19 lockdown in Jordan

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**Aim:** The purpose of this study is to evaluate the effects of lockdown measures taken by the Jordanian government to contain the spread of the novel corona virus (COVID-19) on glycemic control of patients with diabetes mellitus.

**Methods:** This cross-sectional study was conducted at Jordan University Hospital. A total of 264 patients with type 2 or type 1 diabetes mellitus were included in the study. We evaluated the extent of glycemic control reached by patients with type 2 or type 1 diabetes mellitus by measuring the change in glycosylated hemoglobin (A1C) values, in addition to the number of hypoglycemic episodes experienced by patients during lockdown. We conducted a questionnaire via telephone interviews to record information about drug adherence and availability, diet, physical activity, and telephone consultations with their primary physicians. Paired sample t-test was used to compare values before and after lockdown.

**Results:** Two hundred and sixty-four patients were included in this study. There was a significant reduction in HbA1C values during lockdown ( $p=0.038$ ) with only 33.6% of patients experiencing one or more hypoglycemic episodes suggesting better control of blood glucose levels. Medication adherence was found to be the main factor of improvement with 74.8% of our population being strongly adherent to their medications.

**Conclusion:** In patients with diabetes mellitus, glycemic control was significantly improved during COVID-19 lockdown, which was found to be associated with strong medication adherence.

**Keywords:** Adherence; COVID-19; Diabetes; Glycemic control; Lockdown.

#### Abstract Number: 2024

### Prevalence of Obsessive-Compulsive Personality Disorder in Medical Students

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**Introduction:** Obsessive-Compulsive Personality Disorder (OCPD) is a Cluster C personality disorder and is the most prevalent one with an average prevalence rate of approximately 5% among the general population. It is mainly characterized by perfectionism, rigidity, and preoccupation with details.

**Aim:** The primary purpose of this study was to know the prevalence of OCPD in medical students, investigate the effect of this disorder on students' academic performance, and discover any possible related factors.

**Methodology:** The study included 508 medical students enrolled in the University of Jordan in 2021 and was based on the use of a questionnaire that enquired about participants' sociodemographic and academic data, along with questions that utilized the eight criteria of diagnosing OCPD derived from the 5<sup>th</sup> edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). The questionnaire also contained questions from the Personality Inventory for the DSM-5 (PID-5).

**Results:** Fifty-one of the studied sample either fulfilled the DSM-5 criteria or showed moderate or high expression of rigid perfectionism according to the PID-5. Almost two-thirds of the students eligible to be diagnosed with OCPD reported being overwhelmed with anxiety and stress at times of exams, significantly more than the students who didn't have OCPD.

**Conclusion:** The reported prevalence of 51.18% in medical students is ten times the prevalence of OCPD in the general population. There doesn't seem to be any association between OCPD and the academic performance of students. Students affected by OCPD seem to be under stress and could possibly need mental health support.

**Keywords:** Mental health; Obsession; OCPD; Perfectionism; Personality disorders

**Abstract Number: 2025**

## The impact of COVID-19 pandemic on routine childhood vaccination in Jordan

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**Introduction:** COVID-19 pandemic has affected our everyday life including routine vaccination programs for children. Many studies were done worldwide regarding this problem, yet, none of them were in Jordan.

**Aim:** Our study aims to assess the potential impact of this pandemic on routine childhood vaccination in Jordan.

**Methods:** A descriptive cross-sectional study was done in Jordan University Hospital using an online self-administered questionnaire from 1st October to 15th November 2021 with a sample size of 428 children aged 3 years and below. The data was analyzed using (SPSS) and described by means of frequencies and percentages. The relation between study variables and vaccination delay was assessed using a chi-square test.

**Results:** 428 responses were collected, and it was found that (39.72%) of the sample had vaccination delay during the pandemic. Most of it was in the vaccines given at the age of 18 months (37.64%). As causes for delay, Child sickness followed by quarantine were the top reasons with a percentage of (46.30%), (19.44%) respectively. Also, this paper stated that Father's educational level, child comorbidities and Corona-related causes of delay have significant association with delayed vaccination (P value < 0.05).

**Conclusion:** The potential impact from delayed vaccination during COVID-19 pandemic may raise the risk of vaccine-preventable diseases. Therefore, we must emphasize the importance of vaccination and raise parent's awareness to prevent such outbreaks.

**Keywords:** childhood, COVID-19, delay, parents, pandemic, vaccine, vaccination program.

**Abstract Number: 2026**

## The Prevalence of Internet Gaming Disorder among University Students in Jordan

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**Introduction:** Internet gaming disorder (IGD) was included in the DSM-5 in 2013 and in the ICD-11 in 2018, which made it a rising issue that requires extra attention and further research.

**Aim:** Given this importance, this study was conducted as a first in Jordan to establish the prevalence of internet gaming disorder (IGD) among Jordanian university students.

**Methodology:** To accomplish said aim; an online questionnaire was distributed over multiple social media platforms to collect the needed data, followed by data analysis using IBM® SPSS® Statistics software V28.

**Results:** In total (n=12) out of (n=324) of respondents met the criteria as specified in the IGD-20 items test. IGD students reported 'very good' mean GPA, on average they spent (25-50) JDs per month on games, more than 50% of them were in healthcare and science faculties. Participants were (18-24) years old, (58.3 %) males and 41.7% females, they were mostly from healthcare faculties 60%, there was no significant difference in used gaming platforms and mean amount of monthly money spent on gaming (0-25) JDs. It was found that the most significant contributing item was Tolerance (factor 3) 31.79%.

Prevalence of 3.7% was as expected and mentioned in literature, the characteristics of the student who met the IGD cutoff were unlike what is mentioned in the DSM-5 as they were mostly high achieving students with low amount of money spent on gaming. The different factors of IGD were unequal in their ability to predict IGD among the sample population and as such some factors were more sensitive than others.

**Conclusion:** Future research should aim to collect a larger sample for a nationwide study and target younger age population (13-18) as the age of IGD onset is among adolescents rather than adults. More research to differentiate factors' abilities to predict IGD should be conducted and limitations such as small sample size, online questionnaires and sample mean age should be addressed.

**Keywords:** DSM, internet gaming disorder, prevalence, risk factors, university students, Jordan.

**Abstract Number: 2027**

### **Prevalence and mortality of COVID 19 in variable cancer subtypes with radiographic correlation at the King Hussein Cancer Center**

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**Introduction:** Cancer patients are more susceptible to developing severe COVID-19 infections. This may be correlated with radiographic findings on initial CT scans.

**Aim:** Our study aims to determine the radiological characteristics of COVID-19 among deceased cancer patients at the King Hussein Cancer Center in Jordan utilizing CT scans, and to quantify the mortality rate in with a subgroup analysis of individual cancers and compare them to relevant literature.

**Methodology:** We conducted a retrospective analysis of 785 cancer patients with a positive COVID-19 RT-PCR who presented to the King Hussein Cancer Center (KHCC) inpatient and outpatient departments in the period between September 2020 until December 2020. Patient demographics including age, gender, and primary cancer were extracted from the hospital database. CT scans received by COVID patients were appraised by four expert radiologists independently followed by a consensus to resolve any difference in interpretation. All collected data was analyzed on Microsoft Excel 2013. Categorical data was reported as frequencies with percentage.

**Results:** There was a total of 82 (10.5%) deaths among cancer patients with COVID-19. The mean age among the deceased patients was 58.8 years +\_ 15.5. There were 44 (53.7%) female deaths and 38 (46.3%) male deaths. Breast cancer was the most common cancer diagnosed with COVID-19 in our study. The most frequent COVID-19 related deaths occurred in gastrointestinal (GI) cancer and hematological cancer patients. The highest percentage of deaths relative to their number of cases occurred in multiple myeloma patients. The most common CT findings among

deceased patients were ground glass opacities with or without consolidations. There was a high percentage of pleural effusion findings on CT scans which is associated with a more severe COVID-19 infection.

**Conclusion:** This study evaluates the clinical characteristics of COVID-19 in cancer patients at KHCC. There was an overall low mortality rate among cancer patients diagnosed with COVID-19, and the radiological findings of COVID-19 in the patients who had died were found to be comparable to those of the general population.

**Keywords:** COVID-19, cancer, mortality rate, radiological findings.

**Abstract Number: 2028**

## Isolated Persistent Left Superior Vena Cava Associated with ADPKD: Challenges and Clinical Significance

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**Introduction:** Persistent left superior vena cava (PLSVC) is a venous anomaly seen in 0.3%-0.5% of general population. Mostly, PLSVC coexists with right superior vena cava but in a minority, there is only a PLSVC without a normal or aberrant right superior vena cava called an isolated PLSVC. There are some reported anomalies that can co-occur with PLSVC; however, none have reported an association with Autosomal dominant polycystic kidney disease (ADPKD).

**Case summary:** A 41-year-old man with end-stage renal disease from ADPKD, has underwent central venous catheterization (permacath) to initiate hemodialysis. Upon catheterization, a complete right internal jugular vein septum (bicuspid valve) was found, and the catheter passed to the left side of the mediastinum instead of continuing in its normal pathway. Immediate contrasted venography showed an isolated PLSVC, which was found to drain directly in the coronary sinus after further characterizing the anomaly by imaging modalities.

**Conclusion:** Here we discuss the multiple challenges encountered during the catheterization procedure and we illustrate the anomaly by detailed images and supplementary videos. Furthermore, we discuss the coexistence of PLSVC with renal anomalies, in the context of previous literature.

**Keywords:** Isolated persistent left superior vena cava, end stage renal disease

**Abstract Number 2029:**

## Perceived barriers towards the importance and application of medical research: a source of gender disparity among medical undergraduates

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**Introduction:** Little is known about gender disparity among medical undergraduates in the developing world.

**Aim:** Therefore, this study aims to explore the attitude and barriers among Jordanian medical students, particularly among females.

**Methods:** An online, self-administered questionnaire, developed after an extensive literature review, was disseminated across all six Jordanian medical school targeting more than 5000 medical students. Student t-test and ANOVA were used to document mean differences among different groups. Linear and logistic regression models were used to find predictors of publication and number of publications.

**Results:** A total of 636 students participated in the survey with a female to male ratio of 1.1. Female gender, high academic standing, high confidence, and previous research training were associated with positive attitudes towards research (all, p-value < 0.05). In contrast, female gender, lower academic standing, not having publications or previous research training were associated with higher perceptions of barriers (all, p-value < 0.05). Regression analysis shows that male gender, confidence, lower perception of knowledge barriers, and previous research training are predictors of publication.

**Conclusion:** A significant gender disparity exists in terms of both attitudes and overall barriers among Jordanian medical undergraduates which calls for immediate policy changes as to produce successful clinicians.

**Keywords:** Medical education research; mentoring; undergraduate; medicine

#### Abstract Number 2030

### Association between Placenta Accreta Spectrum and third trimester serum levels of Vascular Endothelial Growth Factor, Placental Growth Factor and soluble Fms-like tyrosine kinase-I: a meta-analysis

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**Introduction:** Antenatal suspicion of Placenta Accreta Spectrum (PAS) is crucial to improve maternal outcomes. Its reliance on ultrasonographic findings, probably supported with color doppler and MRI, has rendered it operator and expertise dependent, with variable reported sensitivities across centers. Accordingly, new scoring systems have been developed to assist in the antenatal diagnosis of PAS, none of which include a serum marker.

**Aim:** The aim of this meta-analysis was to investigate whether third-trimester serum levels of Vascular Endothelial Growth Factor (VEGF), Placental growth factor (PIGF), and soluble Fms-like tyrosine kinase-I (sFlt-I) differ between PAS-cases and controls, thus evaluating their potential use as markers for PAS.

**Methods:** PubMed, Scopus, EBSCO, Web of Science and CNKI databases were systematically searched for relevant articles. Random-effects model was applied to calculate the overall standardized mean difference (SMD) for each marker. Subgroup analysis and meta-regression were performed to assess for potential covariates.

**Results:** Eight studies involving 366 PAS-cases and 518 controls were included. Third trimester sFlt-I levels were significantly lower in PAS-Cases when compared to controls (SMD=-7.76, 95%CI=-10.42 to -5.10). This was, to a certain extent, consistent among studies though they differed in their extent of significance, which could be related to sampling timeframe. Levels of VEGF (SMD=1.59, 95%CI=-0.07 to 3.25) and PIGF (SMD=-0.49, 95%CI=-1.66 to 0.67) were not significantly different between PAS cases and controls, in which studies demonstrated conflicting results.

**Conclusions:** Third trimester sFlt-I levels may be useful to predict PAS. Nonetheless, further studies are recommended to better understand conflicting results before adopting either VEGF or PIGF.

**Keywords:** Biomarkers, Meta-Analysis, Placenta Accreta, Vascular Endothelial Growth Factor A, Vascular Endothelial Growth Factor Receptor-I

**Abstract Number: 2031**

## **Association between neutrophil to lymphocyte ratio and mortality among community acquired pneumonia patients: a meta-analysis**

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**Introduction:** The neutrophil to lymphocyte ratio (NLR) is an emerging biomarker used in the prognosis of many conditions.

**Aim:** We aimed to conduct a meta-analysis to assess the prognostic accuracy of the NLR in determining mortality in patients with Community acquired pneumonia (CAP).

**Methodology:** The Pubmed, EBSCO, and Scopus databases were searched to find all relevant articles. 10 articles with 5220 patients were included.

**Results:** The pooled area under the curve (AUC) of NLR admission levels to predict 30-Day mortality of CAP patients was 0.706; 95% CI (0.631 to 0.781), while the pooled AUC of NLR levels taken at 3-5 days was 0.882; 95% CI (0.818 to 0.945). Meta analysis also showed a significant difference in the NLR between the Survivors and 30-Day non-survivors. This difference was greater when NLR levels were taken at 3-5 days; Standardized mean difference (SMD) = 1.646; 95% CI (0.451 to 2.840) compared to NLR levels at admission SMD = 1.139; 95% CI (0.514 to 1.764). The NLR is an appropriate tool for assessing severity in CAP, especially during the 3-5 day period. This was suggested by many studies.

**Conclusion:** These results show that the NLR has potential to be incorporated in the routine assessment and stratification of CAP patients, especially in the early-stage evolution (3-5 days), keeping in mind the availability and cost effectiveness of this test.

**Keywords:** Community-acquired-pneumonia, Marker, Mortality, Neutrophil-to-lymphocyte ratio

## Surgery and Surgical Subspecialties Abstracts

**Abstract Number: 3001**

### Preoperative anxiety in relation to COVID-19 infection and vaccination

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**Introduction:** preoperative anxiety is a feeling of discomfort and tension that has a significant impact on both the flow of surgery and post-operative recovery process.

**Aim:** To determine the prevalence of preoperative anxiety among adult patients undergoing elective surgical procedures at a tertiary teaching hospital and the effect of COVID-19 and COVID-19 vaccines on preoperative anxiety.

**Methodology:** We used the Amsterdam Preoperative Anxiety and Information Scale (APAIS) to assess patients' anxiety towards surgery and their need for more information. Patients with APAIS (APAIS-A-T) total score  $<10$  were considered low preoperative anxiety group, while patients with APAIS-A-T  $\geq 11$  were considered high preoperative anxiety group.

**Results:** The overall APAIS-A-T score of the 794 included patients was  $8.5 \pm 4.5$ . The mean APAIS-A-T score was  $7.0 \pm 3.8$  among males and  $9.6 \pm 4.6$  among female patients ( $p < 0.001$ ). The APAIS-A-T score for those who have previously underwent surgery under anesthesia was  $8.3 \pm 4.4$ , compared to  $9.5 \pm 4.8$  for those who have not ( $p = 0.002$ ). No significant difference was found between those with previous history of COVID-19 and those who did not ( $p = 0.105$ ), nor between those who were vaccinated and those who were not ( $p = 0.550$ ). Sixty-four (26.8%) of highly anxious patients were afraid of getting infected with COVID-19 during their hospital stay ( $p = 0.009$ ). This fear of COVID-19 in-hospital transmission made 19 (7.9%) of highly anxious patients and 36 (4.5%) of the total sample hesitant whether to undergo this surgery or not ( $p = 0.002$ ).

**Conclusion:** this study demonstrated that 30.1% of patients have high preoperative anxiety, with fear of pain after surgery being the most common factor to be related to anxiety. Controlling spread of COVID-19 plays a role in decreasing preoperative anxiety.

**Keywords:** anxiety; COVID-19; preoperative medicine.

**Abstract Number: 3002**

### A survey of the distribution of and factors affecting the choice of future specialty among medical students at the University of Jordan with a special focus on anesthesia

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**Introduction:** Choosing a medical specialty after graduation from medical school is a decisive decision in every doctor's medical career-life. The choice is the result of interactions between a doctor's personality characteristics, merits of specialty, and any vulnerability to external factors' effects on this decision.

**Aim:** This study aimed to investigate factors affecting future specialty choice among medical students in a Jordanian medical school and compare results with a similar past local study focusing on anesthesia.

**Methods:** We invited students in the school of medicine at the University of Jordan to fill a web-based questionnaire about their preferred future medical specialty and factors that likely influence their specialty choice. A final section addressed their perception of anesthesia as a possible specialty choice and their agreement on suggested advantages

and disadvantages of anesthesiology practice. Frequencies of selections and comparisons based on gender and accomplishment of anesthesia rotation were made using appropriate statistical tests.

**Results:** A total of 366 students (165 males) completed the questionnaire. Most frequent factors affecting specialty choice were as follows: "Earning potential (income)" (60.9%), "Intellectual content of the specialty" (52.7%), "Time for leisure and personal lifestyle" (51.4%) and "Time for family" (47.3%). No significant gender or rotation effects were observed. Internal Medicine and General Surgery were the most frequently chosen specialties (24.0 and 23.5% respectively). Females were most interested in internal medicine, followed by general surgery, pediatrics, and dermatology, while male students were most interested in general surgery, followed by Internal medicine, orthopedics, and ENT.

Anesthesia was considered a possible future specialty by 45% of students, with 6% as first choice and 16% within first three options. Good working hours and work flexibility were the most frequently favored advantages of anesthesia specialty (55.2 & 54.9%, respectively). Quick promotion in work was the only merit significantly different between genders ( $P=0.010$ ).

**Conclusion:** medical students are becoming more self-centered in their choices of future specialties with an apparent interest in financial yield from the medical career and its associated standards of living. Traditional differences between genders in their future medical career selection are decreasing. Although anesthesia is gaining more popularity as a future specialty, its rate of selection is still low and further efforts are still needed to make it a more appealing option.

**Keywords:** Specialty, Choice, medical students, Jordan, Anesthesia

**Abstract Number: 3003**

### **Hemoglobin Drop post total hip arthroplasty, retrospective study at university of Jordan hospital**

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**Introduction** Total hip arthroplasty (THA) is an important surgical treatment for many degenerative hip joint pathologies with secondary osteoarthritis. Hip arthroplasty being major surgery result in significant blood loss. However, patients have lower hemoglobin level post-operatively, remarkably inconsistent with the measured blood loss. In this study we investigated many factors that could be related to the hemoglobin drop post-operatively.

**Aim:** To measure the hemoglobin drop post-operatively and identify the factors that could be related to it.

**Methodology:** From January 2016 to September 2021, 447 patients undergoing THA were included in this study. The demographic and relevant clinical information of the patients were collected. Intraoperative blood loss and pre-operative and post-operative Hemoglobin values were recorded and then the total perioperative blood loss was calculated. Influential factors were further analyzed by multiple and stepwise regression

**Results:** The mean intra-operative blood loss was 494.61 mL and the mean Hemoglobin drop post-operatively was 2.64 mg/dL. Multiple and stepwise regression analysis revealed that hemoglobin drop was positively associated with surgery duration, pre-op hemoglobin levels and pre-operative sodium levels. Patients with Osteoarthritis had a positive Pearson's correlation with BMI and length of stay. Patients with DDH tend to have higher rates of intra-op blood loss.

**Conclusion:** Hemoglobin drop was noted in patients undergoing THA. Surgery duration, intra-operative blood loss, pre-operative Hb and pre-operative sodium levels are influential factors of hemoglobin drop post-operatively. However, its drop seems to not be affected by age, BMI and Hypertension.

**Keywords** Blood loss, blood transfusion, hemoglobin, osteoarthritis, total hip arthroplasty

**Abstract Number 3004**

### **Central venous access: our experience at Jordan University Hospital**

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**Aim:** The aim of the study is to evaluate the complications and outcomes of patients with central venous catheters in context of patients' risk factors, site and location of insertion, and previous insertions.

**Methods:** This retrospective study included patients who underwent central line insertion, tunneled central venous catheters or totally implantable (port) catheters, from 2015 to 2020 at Jordan University Hospital (JUH), a tertiary care teaching hospital. Age, gender, date of admission, date of line insertion, comorbidities, complications, reason for removal were collected.

**Results:** The study recruited 362 patients from 2015 to 2020. Out of the recruited sample, 82.3% of patients underwent tunneled catheter insertion (N= 457), while the other 17.7% were placed totally implantable insertions (n = 98). The majority of catheter insertions were right sided (84.7%). Of the inserted catheters, the majority were placed in the Internal Jugular (77.5%), Subclavian (12.2%), and Femoral veins (10.1%). The most common reasons for catheter removal include infection (30.3%), AVF formation (27.8%), SVC (6.9%), and failure to function (13.7%). Throughout the sample, 63.2% did have any prior lines inserted, 19.5% had one line inserted, 8.5% had 2 lines inserted, and 8.4% had at least 3 or more lines inserted in the past.

**Conclusion:** Our study shows that various risks are associated with central venous catheters, mainly infections, failure to function and obstruction. Multidisciplinary approach to prevent these complications may reduce their occurrence.

**Keywords:** Catheter Infection; Central Venous Catheter; Tunneled Catheter; Port-a-cath; Vascular Surgery

**Abstract Number 3005**

### Glycemic status following sleeve gastrectomy versus Roux-en-Y gastric bypass in patients without diabetes: A systematic review and meta-analysis

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**Aim:** In this meta-analysis, we aim to compare the changes in glycemic status of patients without diabetes undergoing Sleeve Gastrectomy (SG) versus Roux-en-Y Gastric Bypass (RYGB) and incidence of post-operative hypoglycemia.

**Methods:** We included studies from Medline and CENTRAL databases from inception until October 2021 and extracted glycemic outcome values at their furthest follow-up time. The number of participants was 687 from 6 studies.

**Results:** The results revealed no significant difference between patients who underwent RYGB and SG in the means of HbA1c (95%CI: -0.07-0.11) and fasting glucose (95%CI: -0.12-0.02). A significant difference was observed in the means of BMI (95%CI: 0.66-2.37), fasting insulin (95%CI: 0.92-2.41) and HOMA-IR (95%CI: 0.15-0.50) as these measures were lower following RYGB. The pooled prevalence of hypoglycemia was 36% (95%CI: 31%-41%).

**Conclusion:** There was no difference between RYGB and SG in HbA1c and fasting blood glucose. RYGB patients had lower BMI, fasting insulin and HOMA-IR compared to SG patients. The pooled prevalence of hypoglycemia for both SG and RYGB patients was 36%.

**Keywords:** Roux-en-Y Gastric Bypass; Sleeve Gastrectomy; Diabetes; Hypoglycemia; Bariatric

**Abstract Number: 3006**

## **The Value of Auditing Surgical Records in a Tertiary Hospital Setting**

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**Introduction:** Assessing and improving quality of care should be of paramount importance to health care systems and providers.

**Aim:** This study aimed to evaluate the quality of surgical records at the Jordan University Hospital.

**Methodology:** We used the previously validated Surgical Tool for Auditing Records (STAR) to retrospectively evaluate the quality of surgical records of patients who underwent surgery in the general surgery department from 2016 to 2021. Total STAR and section-specific STAR scores were compared using the two independent sample Student's t test on SPSS Statistics, version 23 (IBM Corp, Armonk, NY).

**Results:** A total of 488 records were selected and evaluated using the STAR. The total STAR scores significantly improved steadily throughout the years compared to the baseline in 2016, reaching the highest in 2021. All domains had improved compared to the baseline except for anesthesia records that did not change from an already high baseline. The highest improvements between STAR domains were observed in Initial Clerking and Consent domains.

**Conclusion:** Our study demonstrates that significant improvements in the quality of surgical records can be achieved by simply using an electronic record entry system, personnel education, and systematic auditing.

**Keywords:** Electronic medical records, surgical records, clinical audit, Jordan university hospital, star score

**Abstract Number 3007**

## **Predictive Factors of Biliary Complications after Laparoscopic Sleeve Gastrectomies and Laparoscopic Roux-en-Y Gastric Bypass Surgeries in Jordan University Hospital**

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**Introduction:** Previous studies have confirmed the association between biliary disease and bariatric operations. Biliary complications may include cholecystitis, biliary pancreatitis, cholangitis, biliary polyps, biliary sludge and gallstones. It is believed that cholelithiasis is the result of increased biliary stasis due to alterations in the enterohepatic circulation and hormonal changes associated with weight loss. However, research regarding predictive factors other than the percentage of excess weight loss (EWL) is limited. In addition, preventive measures of gallstone formation and potential related complications are still debated.

**Aim:** The goal of this article is to assess the predictive factors of biliary complications after laparoscopic sleeve gastrectomies (LSG) and laparoscopic Roux-en-Y gastric bypass (LRYGB) to review the possible need for future surveillance via radiological studies.

**Methodology:** A retrospective review of 118 patients who underwent LSG and LRYGB between 2015 and 2016 was performed. Patients with previous cholecystectomies or biliary disease prior to bariatric operations were excluded from the study. Utilizing the hospital's electronic records system, patients were contacted by telephone and were asked a series of questions listed in a custom-made questionnaire.

**Results:** Mean age  $\pm$  SD was  $34.9 \pm 12.0$  years old (68.64% Females). Eleven patients (9.32%) underwent LRYGB, 100 patients underwent LSG and seven patients underwent both, with a preoperative mean body mass index (BMI)  $\pm$  SD of  $45.2 \pm 6.3$ . 29 patients (24.58%) developed postoperative biliary complications. The main biliary complications were as follows: biliary pancreatitis (0.85%), biliary polyps (0.85%), biliary sludge (0.85%), cholecystitis/gallstones (22.03%).

**Conclusion:** In conclusion, it was found that approximately 24.58% of patients have post-operative late biliary complications. Of these patients, predictive factors other than EVL were not significant enough to recommend prophylactic screening via radiological studies.

**Keywords:** Bariatric Surgery, Biliary Complications, Predictive Factors.

**Abstract Number:** 3008

## **Does Red Cell Distribution Width Predict Hip Fracture Mortality Among the Arab Population? A Single-Center Retrospective Cohort Study**

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**Introduction:** Hip fractures impose significant morbidity and mortality. Red cell distribution width (RDW) appears to be an emerging tool in predicting mortality following hip fractures. Several factors can influence the RDW value including genetic factors and ethnicity

**Aim:** The purpose of the study was to assess the relation between RDW level at admission and hip fracture mortality within 6 months among Arab/Middle East populations.

**Methodology:** We conducted a single-center retrospective cohort study including 549 patients (274 female and 275 male) diagnosed with a hip fracture undergoing surgery from February 2016 to December 2019. All included patients shared the same country of origin

which is Arab Middle East country. Statistical analysis, including binary regression, was performed to assess the relationship between RDW and mortality within 6 months of admission. Other predictors of mortality following hip fracture surgery were also assessed.

**Results:** The mean age was 76.42 ( $\pm 9.19$ ) years. Seventy (12.8%) of participants died within 6 months. No statistically significant association ( $P=0.053$ ) between RDW level at admission and mortality within 6 months of surgery was found. Binary regression demonstrated that the only independent predictors of mortality were age ( $P=0.003$ , odds ratio 1.048 with 95% CI 1.016 to 1.080) and male gender ( $P=0.021$ , odds ratio 1.872 with 95% CI 1.100 to 3.185).

**Conclusion:** Although the previous studies reported that RDW is one of the predictors of mortality in hip fracture patients, our study found no relation in the Arab population. This finding may confirm the influence of genetic factors and ethnicity on RDW value. We recommend further large-scale multicenter studies to solidly establish the relationship between RDW and hip fracture mortality among the Arab/Middle East population.

**Keywords:** RDW; hip fracture; mortality; Arab; red cell distribution width

**Abstract Number: 3009**

# Quality Of Life After Hip Fracture

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**Introduction:** Hip fractures are common and serious injuries as they lead to high mortality and morbidity rates, and its effect on the mentality of the patients.

**Aim:** to assess quality of life in hip fractures patients

**Methodology:** a cross-sectional survey, with a sample of 199 patients who were having a femur neck or intertrochanteric fractures. The participants completed EQ-5D-5L questionnaire

**Results:** We found that there is a statistically significant association between increased age and having problems with mobility( $p=.04$ ), and self-care ( $p=.00$ ), We also found a statistically significant association between gender and self-care, as females were more likely to report not having problems with self-care when compared to males two domains showed significant results which are mobility and self-care and the most important factor in predicting the outcome is the age then the type of the fracture

**Conclusion:** our results showed that mobility and selfcare were the most significantly affected quality of life measures, which was more apparent in higher age groups

**Keywords:** quality of life, QOL, hip fracture, intertrochanteric fractures, femur neck fractures,

**Abstract Number: 3010**

# A microbiological profile of osteomyelitis and septic arthritis patients in Jordan University Hospital

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**Introduction:** Acute OM and SA are two invasive infections of bones and synovial joints with high rates of complications if not properly managed.

**Aim:** This prospective study was conducted to formulate a basis on which we can identify the causative agents of acute OM and SA, explore the prevalence of these causative agents, and describe the antimicrobial therapy used to treat them.

**Methods:** Retrospectively, we collected the data from patients' medical records who presented to Jordan University Hospital, Amman, Jordan, between the periods of 2010 and 2021. This study took a place between August 2021 - December 2021 in the Orthopedics department. Our study included 39 patients after applying inclusive and exclusive criteria. Data regarding demographics (age, gender), presentation, site, type of culture, the microorganism isolated, antibiotics used, and duration of therapy were collected and analyzed carefully.

**Results:** The most common causative agent was S.aureus with 15 (38.46%) cases, distributed between 13 cases of MRSA and 2 cases of MSSA. Other cases were distributed between 2 cases of CONS, 2 cases of Klebsiella, 2 cases of mixed cultures, and 12 sterile cultures. Streptococcus, Bacillus, P.auriginosa, E.coli, and TB have been detected in 1 culture for each. The average duration of parenteral therapy was 23.94 days, followed by 4 weeks of oral therapy, with Vancomycin being the most used antibiotic in 26 (66.67%) cases, followed by Cephalosporins in 20 (51.28%) cases, and Tienam in 15 cases. Teicoplanin, Linezolid, and Tazocin were used in six, four, and two cases, respectively. The pattern of clinical presentation was variable between pain (33 cases (84.6%)), swelling (8 cases (20.5%)), inability to bear weight (5 cases (12.8%)) and fever (2 cases (5.1%)).

**Conclusion:** In Jordan University Hospital, MRSA was the most common causative agent of acute OM and SA, and this explains the high use of Vancomycin as it is the drug of choice for this microorganism.

Fever presentation demonstrated a critically low percentage, and we hypothesize that the lower sample size, self-prescribed antibiotics before the presentation, and the delayed diagnosis explain this significant cut

**Keywords:** MRSA, Acute Osteomyelitis, septic arthritis, Vancomycin, antibiotic resistance

**Abstract Number 3011**

### Acute low back pain among both medical and none medical students during COVID 19: A cross sectional study in Jordan.

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**Introduction:** The issues surrounding low back pain (LBP) represent a major concern for public health authorities. It is the most common orthopaedic problem worldwide, affecting adults of all ages.

**Aim:** To study the prevalence and intensity of low back pain among medical students compared to their non-medical peers in Jordanian universities as well as to understand the impact of COVID-19 lockdowns on the frequency of low back pain.

**Methodology:** This is a comparative cross-sectional study that ran from March 2020-August 2021 where data from a total of 106 medical and 56 non-medical students was collected using an online self-administered structured questionnaire sent through social media platforms. Characteristics of low back pain were determined, and pain was also assessed using a numeric pain grading scale ranging from 0 to 10.

**Results:** mean age for medical and non-medical students is 22.29 and 22.63 years old respectively. Majority of participants were females for both groups. The prevalence of low back pain (LBP) is higher for the non-medical group compared to medical group by 1.20%. Most of non-medical students (28.6%) developed pain during June- August and September- November 2020. While medical students (17.0%) experienced pain during March- May 2020. Pain was intermittent and more intense during the day for both groups. For medical students who practiced online learning, 55.0% didn't experience low back pain. In contrary, 55.6 % of non-medical students who practiced distant learning developed low back pain. The two groups reported similar pain score severity of 4.27 and 4.40 out of 10 for medical and non-medical students respectively.

The Prevalence of low back pain among undergraduate students is truly high, more so in non-medical students.

Medical students' group showed no association of studying for long hours and use of computer/laptop with developing low back pain when compared to non-medical students.

**Conclusion:** to conclude, more studies should be done to understand the relation between online learning and the incidence of developing back pain to prevent future complications.

**Keywords:** COVID-19, Low back pain, online learning, undergraduate students

**Abstract Number: 3012**

### Prevalence, effectiveness, and usefulness of use YouTube among medical students in clinical years /physical examination

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**Introduction:** Now in these days YouTube use as educational resource for medical students and provides an adequate resource for learning physical examination in multiple system, taking into consideration that many of YouTube videos providing misleading information.

**Aim:** The aim of this study is to search for the prevalence, effectiveness and usefulness of using YouTube in learning the physical examination among the medical students in clinical years whom studying at faculty of medicine in Jordanian universities. Another scope of the study is to determine what medical topics were studied more by using YouTube as an additional resource.

**Methods:** this is a cross-sectional study that use a google form questionnaire and the target population are 413 medical students in the clinical years (4th, 5th , 6th) at medical schools in Jordanian universities . comparing the usage of YouTube for learning physical examination between different levels of students and subject or course using more was done and P value have been calculated.

**Results:** the result showed that 91% of the students used YouTube as a learning tool, 94% found it useful in their studies and 92.3% learned additional information that they didn't have previously. Furthermore, 90.3% of students used YouTube to learning physical examination ,88.6% found it useful for practicing before OSCE and 78.7% got higher marks in OSCE exams. Also, the study showed that YouTube usage among students in different years and majority of them used it in 4th year .in addition, the main two subject that students found YouTube videos useful are internal medicine and general surgery 84.1% and 64.5% respectively .

**Conclusion:** Medical students are generally pleased about using YouTube for physical examination study and learning throughout clinical years. Educators should encourage students to use YouTube as a valuable educational tool in their classrooms, as well as to develop new updated physical examination videos and general clinical themes to supplement their medical education.

**Keywords:** clinical, medical students, physical examination, YouTube

**Abstract Number: 3013**

### **Knowledge Level of Bladder Cancer Symptoms and Risk Factors in Jordan: A Nationwide Study.**

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**Aim:** This study examined the perceptions and knowledge of bladder cancer (BC) symptoms, risk factors, and variables associated with awareness.

**Methods:** This is a cross-sectional study involving a total of 1737 participants aged  $\geq 20$  years with no history of malignancy. Data were collected using a self-administered questionnaire, and sampled from hospitals, schools, public places, and shopping malls, as well as advertisements on social media platforms. Data were analyzed using descriptive statistics, and chi-square was used to test the relationship between different variables.

**Results:** 961 (55.3%) women and 776 (44.7%) men completed the survey with a mean age of  $45.2 \pm 13$  years. Almost half (54.7%) of the participants graduated from a university and 12% were in the medical field. Only 21.9 % of the study population and 55.1% of those who were in the medical field had prior knowledge of BC. Smoking was selected as the major risk factor for BC by only 9.5% of the participants, and smoking was believed to be twice as likely associated with lung cancer than BC. (83.9% and 41.1%, respectively). Only 26.9% were aware that painless macroscopic hematuria is BC's most common presenting symptom.

**Conclusions:** BC has high prevalence and mortality rates, hence raising awareness among the general population is crucial, particularly among those in the medical field, the less educated, and smokers. Educational programs focusing on tobacco consumption and the early signs of BC should be launched for the public and hospital staff to help spread knowledge about the disease.

**Keywords:** awareness; bladder cancer; health knowledge; patient education; risk factors; smoking/adverse effects; tobacco use; urinary bladder neoplasms

**Abstract Number: 3014**

## **The effect of releasing the tourniquet in total knee replacement before wound closure on the blood loss, joint effusion, hematoma formation and wound complications**

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**Introduction:** Total knee replacement is often associated with considerable amount of blood loss and, to some extent, wound complications. Research has headed towards implying different factors and study their effect on blood loss and wound complication. Despite the wide use of pneumatic tourniquet in TKR surgeries, their efficacy is still controversial when weighing the risks of their application.

**Aim:** The aim of this study is to investigate the association of blood loss and hematoma formation measured by ultrasound and drain content with relation to tourniquet release time in the Jordanian population. Furthermore, exploit the objective measurement of different pouches and correlate the blood loss to emerging factors. Moreover, gain more insight in the optimal time of release of tourniquets and the appropriateness of closed-suction drains.

**Methodology:** This is a randomized clinical trial, comparing blood loss between two groups of patients using different parameters. 113 patients who underwent TKR were selected from the University of Jordan Hospital. They were divided into two groups. Group A had their tourniquet released before wound closure, and group B, had their tourniquet released after wound closure. All patients have been operated at University of Jordan Hospital and by the same surgeon. A written informed consent was obtained from all participants. Exclusion criteria for the study are rheumatoid arthritis, TKR after traumatic event, and revision TKR. The following parameters were obtained from participants to compare blood loss: pre and post-op Hb, post-op Hb drop, drain content and hematoma formation on ultrasound.

**Results:** A total of 113 eligible patients were split randomly into group A (n=58): the tourniquet released before skin closure, and group B (n=55): the tourniquet was released after skin closure. While the results show numerical difference in the parameters used to assess hematoma formation and blood loss between the two groups, those differences were all statistically insignificant.

**Conclusion:** While statistical difference was found between the two groups, its clearly obvious that there is not any significant difference at the clinical level.

**Keywords:** Hematoma in TKR ; Hemoglobin drop TKR ; Ultrasound TKR

**Abstract Number: 3015**

## **Atypical Otolaryngological related manifestations during COVID-19 infection: Incidence, sequelae, identifying risk groups**

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**Introduction:** The COVID-19 pandemic has affected millions of people worldwide since reporting the first case in December 2019. Since then, almost 474,659,674 confirmed cases of COVID-19, including 6,103,355 deaths, was reported to WHO (1). COVID-19 presentations vary widely, most of the cases are respiratory in nature, but every case is so. Gastrointestinal, musculoskeletal, and neurological afflictions have been observed all over the world which is not unprecedented in infections of viral etiology. Some atypical otolaryngologic symptoms were also reported, such as loss of smell and taste, otitis media, tinnitus, and facial palsy. This raises the importance of investigating these symptoms to accurately identify the infected cases and limit the new cases of the disease to control the pandemic.

**Aim:** This study aims to evaluate the otolaryngological symptoms of COVID-19 disease, to assess the prevalence and severity of these symptoms in the affected population and certain demographics, and to determine the duration and chronicity of these symptoms after the resolution of the infection.

**Methodology:** This is a retrospective study where participants were recruited from the Jordan University Hospital (JUH) outpatient department after testing positive for COVID-19 by RT-PCR. Telephone based methodology was used to obtain the required information to fill the survey.

**Results:** 299 patients were included in the study. The age of participants ranged from 2 to 81 years with a mean of 38.9 years and a standard deviation of 15.4. The study included 153(51%) males, and 146(49%) females. Among the sample, 181(60.5%) patients have suffered at least one otolaryngologic symptom, and the most common symptom was decreased or loss of smell, which was reported by 160(53.5%) patients. Hearing loss has happened in 17 patients, in 10 of them the hearing loss persisted after the resolution of symptoms. Also, 27 patients reported new onset tinnitus or exacerbation of preexisting tinnitus, with 7 of them reporting its persistence after resolution of other symptoms of COVID-19 infection. No statistical difference in atypical symptoms was reported between smokers and non-smokers, or obese and non-obese patients.

**Conclusion:** This study highlights important predisposing factors for COVID-19 related ENT complaints. We believe this will help guide health care providers and Otolaryngologists in predicting and identifying such complaints amidst the pandemic. These high-risk populations or individuals should be assessed for otolaryngological symptoms and followed up closely to prevent serious sequelae.

**Keywords:** COVID-19, ENT, Hearing loss, Otagia, Tinnitus, Vertigo.

**Abstract Number:** 3016

**Article review: Intra-nasal lysine-aspirin in chronic rhinosinusitis with nasal polyps.**

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**Introduction:** People with chronic rhinosinusitis with nasal polyps may be sensitive or resistant to aspirin. Chronic sinusitis with nasal polyps is associated with significant morbidity and reduced health-related quality of life. Current treatment modalities include nasal, systemic, and/or synonymous corticosteroids, but these options may be associated with nasal polyps' recurrence and patients may require revision surgery.

**Aim:** In this study, we aimed to investigate the efficacy of other treatment options such as intranasal lysine aspirin as a treatment option for chronic rhinosinusitis with nasal polyps

**Results:** According to the articles reviewed, there are no systematic reviews comparing the effectiveness of treatment options.

**Conclusion:** We conclude that intranasal lysine aspirin is used as an effective treatment option for this disease to improve quality of life with the condition and reduce the need for further treatment options., intranasal lysine aspirin can be an effective option for the treatment of chronic rhinosinusitis with nasal polyps. Intranasal lysine aspirin has been shown to be significantly effective in reducing the size and recurrence of nasal polyps after surgical resection, but not in medical management.

**Keywords:** Intranasal Lysine Aspirin, chronic rhinosinusitis, nasal polyps

**Abstract Number:** 3017

**Olfactory Neuroblastoma; A rare case report**

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**Introduction:** Olfactory neuroblastoma (ONB), also known as esthesioneuroblastoma, is a rare malignant tumor that occurs in the upper vault of the Sino-nasal cavity [8]. Most patients present with unilateral nasal congestion and epistaxis [17]. Management and prognosis depend mainly on the stage and grade of the disease. As it varies from a very benign tumor to a highly aggressive tumor with very low survival rates [13].

ONB accounts for approximately 2% of all sinonasal tract tumors [8]. It has a little male predominance with majority of cases occurring between 35 and 70 years [19]. No specific risk factors or etiologic bases have been found [8]. It is thought that ONB arise from specialized sensory neuroepithelial olfactory cells that are present in the upper section of the nasal cavity [18]. The best imaging modalities for diagnosing and staging ONB are a combination of both CT-scan and MRI [4,5]. The treatment of choice for most ONB is complete surgical eradication of the tumor followed by adjuvant radiotherapy. Follow-up for 10-15 years postoperatively is of high importance due to high recurrence rates [16].

**Case Presentation:** P: In this case report, a 42-year-old Jordanian female presented to the emergency department with severe frontal headache and found to have high blood pressure on physical examination. Head CT-scan and MRI were done; an incidental mass was found in the right nasal cavity. She underwent an endoscopic surgery and multiple biopsies were obtained and sent for histopathology. Results came back with a diagnosis of ONB. The patient comes to the clinic every 2 months for follow up.

**Keywords** Olfactory neuroblastoma (ONB), headache, nasal cavity, malignancy, surgical resection.

**Abstract Number: 3018**

### The impact of weight loss on the sense of smell in bariatric surgery patients

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**Introduction:** Olfaction plays an important role in regulating nutrition, avoiding potentially dangerous situations and modulating behavior and interpersonal relationships. Many common disorders can have negative impact on olfaction, one of these is obesity. Bariatric surgery induce weight loss and current evidence suggests that it can cause improvement in olfaction. However, more information is needed regarding this topic.

**Methods:** 185 patients who underwent Bariatric surgery have filled an observational questionnaire containing 43 questions, 14 of which are part of a Self-Reported Mini Olfactory score, each with two responses, before and after surgery. The scores were compared before and after Bariatric surgery. Data were entered into and analyzed using the Statistical Package for Social Sciences (SPSS), version 25.

**Results:** Final analysis was based on 185 patients, with 142 females (76.8%) and 43 males (23.2%).

There was statistically significant difference in patients with successful surgical outcome ( $p < 0.05$ ), on the other hand there wasn't in those with failure ( $p = 0.625$ ).

There were no significant differences in those with chronic illnesses, underwent head and neck surgery, those who use anti-allergic drugs or those with COVID 19 or without.

There were significant differences between those with rhinitis and polyps and those without before surgery but after surgery there were no significant difference between the two groups.

**Conclusion:** we were able to show that patients with excess body weight loss (EBW) more than 50% had more statistically significant difference in improvement in sense of smell after bariatric surgery than those with Excess body weight loss less than 50%.

**Key words:** Bariatric surgery, obesity, Hyposmia, sense of smell, olfaction

**Abstract Number: 3019**

### A Survival Analysis of Time to Surgery Following Neoadjuvant Chemotherapy in Locally Advanced Gastric Cancer

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**Introduction:** Gastric cancer (GC) is the 5th most common cancer globally, and the 9th most common cancer in Jordan. Time to surgery is not an independent risk factor for mortality or tumor regression. However, it is vital to clarify the interval at which surgery may be delayed without increasing the risk of death. Our study analyzes the relationship between time to surgery (TTS) and survival (Overall survival disease free survival and locoregional recurrence), treatment response and complications.

**Aim:** This study focuses on the influence of time to surgery on the oncologic outcomes of neoadjuvant chemotherapy regimes in gastric cancer patients treated at a single centre.

**Methodology:** Patients with histologically confirmed gastric cancer who underwent NACT followed by surgical resection surgical treatment between 2006 and 2015 were included in this study. Optimal time to surgery was assessed using oncological outcomes, survival, and complete response.

**Results:** A total of 96 patients (63% males) were included in this study with a mean age of 58.6 years (+\_11) The median follow-up period was 50 months. FLOT was given to 57 (59%) patients and ECF was utilized in 39 (40%). Most patients showed adenocarcinoma histology 95.7%.

**Conclusion:** We found that patients undergoing surgical resection following NACT showed the most significant drop in tumor burden between 4-8weeks postoperatively. Therefore, we recommend that surgical booking be done within the first 1-2 months following NACT

**Keywords:** Gastric Cancer, Oncology Surgery, Neoadjuvant Chemotherapy

**Abstract Number:** 3020

### Prevalence of Overactive Bladder and its impact on the quality of life: A cross-sectional study

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**Introduction:** OAB is a prevalent condition affecting both men and women. It is characterized by urinary urgency with or without urge incontinence and often with frequency and nocturia. OAB has shown to worsen the quality of life including social, sexual and psychological domains.

**Aim:** The aim of this cross-sectional study is to estimate the prevalence of OAB, and to incorporate symptom severity, symptom bother and HRQL in the assessment of OAB.

**Methodology:** In this cross-sectional study, 940 participants were categorized into non-OAB and OAB using the Overactive Bladder Symptom Score (OABSS). Additionally, those with OAB were subcategorized into mild, moderate, and severe depending on the total sum of their scores. HRQL and symptom bother were measured using the Overactive Bladder Questionnaire – Short Form (OAB-q SF). Higher symptom scores indicated higher symptom bother and higher HRQL scores indicated better outcome. Multivariate regression analysis was performed, and relative risks expressed as odds ratio were calculated. P value  $\leq 0.05$  was considered statistically significant in this analysis.

**Results:** In this cross-sectional study, the total number of participants were 940 of which 72.6% (n= 682) didn't have OAB and 27.4% (n=258) were found to have possible OAB diagnosis. The median age for study participants was 43 (39 for non-OAB, 50.5 for OAB) (P value 2500 mL (P=0.01), comorbidities (P=0.02), and history of previous UTI. Results of the study also included increased symptom severity with severe stages of OAB (P<0.001) and worse quality of life with severe OAB (P<0.01)

**Conclusion:** Increased symptom severity and worse quality of life are associated with increasing severity of OAB. Integrating the assessment of the quality of life using HRQL measure tools plays a significant role in exploring disease severity.

**Keywords:** Overactive Bladder, quality of life, urge incontinence

**Abstract Number:** 3021

### Quality of Life in Patients undergoing Medical Treatment for Bladder Outlet Obstruction

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**Abstract Number:** 3022

### Depression influence in return to play sport on patients who underwent ACL reconstruction

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**Introduction:** Return to play sports following an ACL repair depends on multiple factors whether they were physical or non-physical. Depression and other psychological factors are being recognized to influence a successful return.

**Aim:** Recognize the effect of depression on returning to play sports following ACL repair, and propose a protective rehabilitation program if possible.

**Study Design:** a cross-sectional study.

**Methodology:** Data will be collected from patients who underwent ACLR via phone interviews using a three-part questionnaire: the first part includes the demographics and ACL injury data, the second part will include questions regarding the patients' psychological status following ACLR ( DASS-21) and the third part will include the ACL-RSI scale.

**Results:** The study included 50 patients of which 42 were males with a mean age of 31.08 (1.3) (Years), while the mean duration between the time of injury and time of surgical operation was 25.85 (7.1) (Months). The mean RSI score among our sample was 54.9 +- 2.16, while the median depression, anxiety, and stress scores were 10 (16), 9 (13), and 14 (21) respectively. There was no significant association between depression and other psychological factors and return to play sport after ACL repair.

**Conclusion:** Depression and other psychological factors play an important role in returning to play sports after ACLR. Other studies showed that there is a relation, however, our study couldn't detect a significant relationship due to the small sample size.

**Keywords:** ACL repair; Depression; Psychological factors; Return to play sports

**Abstract Number:** 3023

### Return to Play After High Ankle Sprains in Athletes, A Systematic Review and Meta-Analysis

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**Introduction:** Syndesmotank sprains are common and challenging injuries for athletes. The management of such injuries is controversial, with a paucity of evidence on treatment protocols and there is unpredictability regarding the time lost to participate in sports following injury.

**Aim:** Review and report the return to play (RTP) time and examine the outcomes and complications of ankle syndesmotank sprains in the athletic population.

**Methodology:** Systematic review and meta-analysis Methods: PubMed, Cochrane Library, and Google Scholar were queried in August 2021 for case series, cohorts, and randomized controlled trials that evaluated return to play time after ankle syndesmotank sprains. The primary outcomes were the prevalence and time to return to play after syndesmotank ankle sprains for both surgical and non-surgical treatment. Secondary outcomes included complications and recurrence.

**Results:** 18 articles were eligible for meta-analysis with a total of 1133 syndesmotank sprains. The overall RTP was 99% (95% CI 0.96, 1.00), the overall mean RTP was 52.32 days (95% CI 39.01, 65.63). Pooled RTP for surgically treated patients was 70.94 days (95% CI 47.04, 94.85, while it was 39.33 days (95% CI 28.78, 49.88) for non-surgically treated cases. A low incidence of recurrence and complications were reported

**Conclusion:** This article reports a high rate of RTP after syndesmotank sprains. Grade of injury and surgical vs conservative management can affect the time to RTP in high level athletes.

**Keywords:** Ankle, Athletes, Meta-analysis, Return to play, Syndesmosis.

**Abstract Number:** 3024

### **Musculoskeletal Pain amongst Medical Students of Two Jordan Universities during Covid-19 Pandemic**

**Omar Q. Samarah M.D., Hana A. Maden, Basheer O. Sanwar, Abdallah Barazani, Fadi Al Hadidi M. D., Khaldoun Bashaireh M. D., Forat Alomoush, Anas Alawneh, Yazan S. Hammad M. D.**

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**Introduction:** The covid-19 outbreak forced the universities to move toward online learning. These changes in the study design reduced the daily life activity and increased the sedentary life pattern contributing to the prevalence of musculoskeletal (MSK) pain in university students.

**Aim:** to evaluate the impact of the e-learning study design during the covid-19 era on musculoskeletal complaints on two Jordanian universities medical students.

**Methods:** A cross-sectional study of 593 medical students in two Jordanian universities (Yarmouk University and the University of Jordan) was conducted. A Modified Nordic Questionnaire was used to assess musculoskeletal pain in 3 body regions.

**Results:** Five hundred and ninety-three undergraduate students at the two Jordanian universities participated in this study. The mean age of the participants was 20.89 years. Most of them were females 369 (62.2%). Overall prevalence of having MSK pain at any site of the studied-body areas was 58.9% in the last week and 78.1% in the past 12 months. 424 medical students had a family history of MSK pain, of those 270 students (63.7%) had MSK pain in the past week. 66.8% of students who had psychosomatic symptoms and 62.3% of those with depressive symptoms during medical studies in the past week had MSK pain. Students who used both tables and beds for studying had the highest percentage of MSK pain. Students with eight hours of studying per day had higher percentages of MSK pain compared to other categories (68.4%). Average hours using a computer per day was significantly associated with MSK pain (p-value =0.032). MSK pain during the past week had a statistical significance with psychosomatic symptoms (p=0.001). Family history of having neck, shoulder, and low back pain was significantly related to the presence of the problem in participants (P-value=0.005). Gender, depressive symptoms, average hours of computer use per day, and average hours of study at home per day did not show significant relationships with MSK pain over the year.

**Conclusion:** high prevalence of musculoskeletal pain among medical students. Clinical significance between musculoskeletal pain and many variables such as hours used on the computer, hours spent studying, family history and psychosomatic symptoms has been observed

**Keywords:** Musculoskeletal pain; Neck; Shoulder; Low back pain; covid-19; Jordan

**Abstract Number: 3025**

### **Pattern of Congenital Upper Limb Anomalies with Implementation of the OMT Classification in a Tertiary Teaching Hospital in Jordan A Retrospective Study**

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**Aim:** To examine the pattern of congenital upper limb anomalies in children seen in a tertiary university hospital and to assess the usefulness of OMT system

**Methods:** We reviewed retrospectively the medical files and the radiographs of all children with congenital upper limb anomalies, who were seen at our orthopedic department between 2014 and 2020. The patient data was extracted from our hospital registry system by using the ICD 10 codes of musculoskeletal congenital anomalies (Q65-Q79). All identified cases were classified based on OMT classification system.

**Results:** there were 282 patients with 356 upper extremity anomalies. 145 patients were males (51.4%), and 137 were females (48.6%). There were 196 malformations (72.4%), 105 being males (53.6%) and 91 being female (46.4%). Of these malformations, the majority of anomalies were on the right upper limb, with 77 cases (39.3%), 64 had a left laterality (32.7%) and 55 were bilateral (28.1%). The most common malformation was radial polydactyly, constituting 41 cases out of the entire 282 patients (14.5%). There were 52 deformations, with females being affected more at 30 cases (57.7%) with equal laterality, 23 cases (44.2%), for each side and 6 bilateral cases (11.5%). The most common deformation was trigger thumb, with 37 cases (13.1%). There were 18 dysplasia cases. 16 patients were diagnosed with syndromes. They had equal gender distribution. Poland syndrome showed the highest frequency between syndromic patients 5 cases and formed 1.8% of total.

**Conclusion:** Malformation category forms the majority of congenital hand and upper limb anomalies in our study. Of this category, radial polydactyly was the commonest. Overall, the OMT classification system was very beneficial in classifying patients into specific categories that enables an easier diagnostic process.

**Keywords:** Congenital upper limb anomalies; Prevalence; OMT classification; malformation; Polydactyly; Syndactyly

**Abstract Number 3027**

### **A Systematic Review of Subacute Thyroiditis Related to COVID-19**

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**Introduction:** The novel severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), which belongs to the family Coronaviridae, is the cause of COVID-19 infection. Its outbreak was declared a pandemic on March 11, 2020. COVID-19 does not involve the respiratory system solely, but other systems were also noted to be affected, including the endocrine, cardiovascular, and gastrointestinal systems. Several case reports and series have been published regarding SAT related to COVID-19 infection, yet management and clinical outcomes of the disease have not been discussed in detail.

**Aim:** This is a systematic review of cases that have been reported to have subacute thyroiditis induced by COVID-19 infection.

**Methods:** A systematic search was conducted throughout multiple databases, including PubMed, Google Scholar, and MeSH network.

**Results:** The total number of reported subacute thyroiditis cases attributed to COVID-19 is 24. There was a female predominance (18 females and 6 males) with a female to male ratio of 3:1. Ages ranged from 18 to 69 years (mean = 38.67). Twenty-four symptoms related to thyroiditis were reported, the most common of which being neck pain

(95.83%, n=23), palpitations (79.17%, n=19), and fever (66.67%, n=16). The outcome was complete resolution in 70% of cases. Discussion: Our systematic review demonstrated many similarities across cited case reports. SARS-CoV-2 is an enveloped virus belonging to the family Coronaviridae with a single-stranded positive ribonucleic acid (RNA) at its core. Subacute thyroiditis is an uncommon disease of the thyroid. It is thought to be a viral disease since a significant number of patients develop the disease during or after an episode of upper respiratory tract infection. Recent studies that have described the pathophysiology of COVID-19 infection suggested the mechanism of SAT related to SARS-CoV-2, raising the suspicion of a causal relationship.

**Conclusion:** The endocrine complications of COVID-19 and their management have been disregarded by most as they are rare. Our knowledge of COVID-19 and its complications is growing rapidly. More favourable outcomes were linked with the use of corticosteroid therapy. Until larger studies can be conducted, the management of SAT caused by COVID-19 remains to be based on each individual case. However, the treatment regimen should include corticosteroid therapy.

**Keywords:** COVID-19, De Quervain's thyroiditis, SARS-CoV-2, Subacute thyroiditis, Thyroiditis, Viral thyroiditis

**Abstract Number:** 3028

### Fluorescein Angiography Practice Trends in A Tertiary Hospital Over One Decade

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**Introduction:** Fluorescein Angiography is an invasive, non-quantitative method, that allows us to visualize the anatomy of retinal vessels distinctly. It has been used for over a decade for the diagnosis of retinal disorders, macular degeneration, and diabetic changes. However, it has been vastly replaced after founding Optic Coherence Tomography, since it provided a noninvasive, three dimensional data generation ability with greater safety and less cost. Nevertheless, Fluorescein Angiography remains the study of choice in some patients with severe eye disease. Due to the evident subjectivity and lack of fixed guidelines for the use of Fluorescein Angiography, we are implementing a study to attempt to establish well defined indications for its use.

**Aim:** To examine the trends seen in Fundus fluorescein angiography (FFA) use over the past decade, assess changes in imaging indications, and describe the effects of the COVID-19 pandemic on trends in imaging.

**Methods:** A retrospective study of 1444 patients (828 males and 616 females) who underwent FFA images from 2010-2021 (excluding the year 2015). Images were reviewed from the FFA machine and indications for imaging were retrieved from the electronic medical system of our center. Indications were then classified into suspected retinal neovascularization, suspected choroidal neovascularization, and others.

**Results:** Investigating retinal neovascularization was the most common indication with 358 (24.8%), compared to only 148 (10.2%) images done to exclude choroidal neovascularization. The peak number of FFA images was obtained in 2012, with a total of 240 images. This number dropped in subsequent years reaching its lowest in 2019 at 41 images due to the COVID 19 pandemic. There was a resumption of images in 2020, with a total of 99 images; however, the number of images dropped thereafter when the optical coherence angiography was introduced in our practice in 2020.

**Conclusion:** A dramatic decline in popularity of FFA was found in recent years. The most common indication for FFA was to investigate retinal neovascularization due to diabetic retinopathy. After the introduction of the Optical Coherence Tomography Angiography (OCTA) device in our center, the rate of FFA imaging decreased by more than 50%. Despite that, FFA still has some advantages over OCTA in assessing posterior segment circulation and plays an integral part in patient assessment.

**Keywords:** Fundus, Fluorescein, Angiography, COVID-19

**Abstract Number: 3029****Normal Macular Thickness Among Jordanians****AlRyalat, S.S.1, Bannoura, R.G.2, Al-Aqil, R.A.2, Al-Gharairi, H.I.2, Al-hyari, A.k.3, Abu-Yaghi, N.E.1**

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**Introduction:** Macular thickness have been a great topic to be covered in researches as many factors can affect the retina specifically the macular part. Systemic and ocular diseases and their association with changes in macular thickness have been studied worldwide. In addition, normal healthy eyes with participants' variation in age, gender and race have been studied to know the normative values of macular thickness.

**Aim:** Since the normative value of the retinal macular thickness is undocumented in Jordan so the aim of this work is to assess the normative values of macular thickness in Jordanians with normal healthy retina.

**Methodology:** 584 patients were randomly selected from volunteers visiting the Jordan University Hospital in Amman, Jordan. Measurements were obtained using the Fourier domain optical coherence tomography (OCT).

**Results:** The average central macular thickness for the included sample was  $228.54 (\pm 22.62) \mu\text{m}$ . the quadratic value of the retinal macular thickness at 3-mm from fovea decreased from the superior value of  $307.18 (\pm 19.85) \mu\text{m}$  ( $P = 0.05$ ) to the inferior value of  $304.84 (\pm 21.76) \mu\text{m}$  ( $P = 0.05$ ) and a nasal figure of  $304.42 (\pm 21.91) \mu\text{m}$  ( $P = 0.05$ ), and the temporal area has the thinnest value of  $293.44 (\pm 19.62) \mu\text{m}$  ( $P = 0.05$ ). Also, the quadratic value of the retinal macular thickness at 6-mm from fovea decreased from the nasal value of  $287.33 (\pm 18.19) \mu\text{m}$  ( $P = 0.05$ ) to the superior value of  $267.51 (\pm 16.64) \mu\text{m}$  ( $P = 0.05$ ) and the inferior value of  $261.84 (\pm 17.99) \mu\text{m}$  ( $P = 0.05$ ), and the temporal area has the thinnest value of  $255.53 (\pm 15.10) \mu\text{m}$  ( $P = 0.05$ ). The thickness was highest within 3- mm diameter from the center and decreased towards the periphery.

Our sample mean macular thickness is  $228.54 \mu\text{m}$ , which is higher than the mean macular thickness of Mexican and new England populations, and lower than the mean of Pakistanis and Indians.

**Conclusion:** Our set of predicted normative data may be used to interpret measurement of the macular thickness in Jordan population. The average fovea macular thickness among Jordanians is consistent with previously reported values.

**Keywords:** Retina, Macular thickness, Jordan, Population, oct.**Abstract Number: 3030****The impact of having a relative in a need for cornea: The Knowledge, Attitude, and Willingness for Corneal Donation (KAWCD) questionnaire****Saif Aldeen AlRyalat (1), Razan Aburumman (2) Luma Taweel(2), Hadeel Al-Rawi(2), Sohayla Dababseh Muawyah Al Bdour (1)**

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**Introduction:** Despite the advancement in the field of corneal transplantation, corneal donation is still the only source for cornea

**Objectives:** In our study, we aimed to find predictors for a person's willingness toward cornea donation, and the impact of having a relative in a need for cornea transplantation on the willingness to donate cornea.

**Materials and methods:** The study included two cohorts to be compared, first degree relatives of patients waiting for corneal transplantation, and general ophthalmology patients who do not have relatives waiting for corneal donation. We designed questionnaire on Knowledge, Attitude, and Willingness for Cornea Donation (KAWCD), a tool specifically designed to measure the knowledge about corneal donation, and the attitude towards it.

**Results:** A total of 269 participants were included in this study, with a mean age of 49.59 ( $\pm 17.24$ ) years. We included 182 (67.7%) participants who did not have a relative with or in need for corneal transplantation, and 87 (32.3%) participants who are first degree relatives to patients on the waiting list for corneal transplantation. Upon assessing factors predicting willingness for corneal donation, we found that attitude ( $p < 0.001$ ; OR 1.126 (95% CI 1.08 to 1.17)) and age ( $p = 0.022$ ; OR 0.973 (95% CI 0.95 to 0.99)) are the only predictors for willingness to donate. We found that the willingness to donate cornea is related to the attitude, rather than the knowledge about corneal donation. In the present study, we observed high levels of willingness to donate cornea among our participants when compared with other countries in the region and worldwide, as 191 (71%) stated that they were willing to donate their cornea, which is above the average (52%) reported by Andrew M Williams in a review article which summarized published studies about cornea donation across 13 countries. we found age to be inversely related to willingness to donate, which is consistent with results reported by Palamer et al. As for the educational status, higher educational levels were reported to positively impact willingness to donate by a previous study in northern Jordan 8, and across many other countries, like Ethiopia, China, and Ghana. Other sociodemographic characteristics, like gender, monthly income, occupation, and religion were found to have no significant effect on willingness to donate. similar results were reported in Palestine

**Conclusion:** We believe awareness campaigns should focus on encouragement to donate corneas, rather than providing information about it.

**Keywords:** Awareness; Cornea; Donation; Keratoplasty; Transplantation

**Abstract Number:** 3031

### Evaluation of fear of falling in patients with glaucoma

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**Aim:** To determine which glaucomatous anatomical visual field defect is associated with fear of falling.

**Methods:** This is a descriptive study. A total of 26 glaucoma patients from the University of Jordan hospital eye-clinic were enrolled in this study to assess the relationship between fear of falling and changes in the visual field and optical coherence tomography, all participants were requested to answer the Fear of efficacy scale (FES-I) questionnaire, the association between VF, OCT/RNFL and Fear of falling were evaluated with MD, PSD, GHT variables and through analyzing Temporal, Superior, Nasal, Inferior of each eye and TSNIT average variable.

**Results:** This study showed that only reduced inferior peripheral field was significantly associated with increased fear of falling. Other findings were not significant and hence no associations were detected.

**Conclusion:** The FES-I instrument was used to assess 26 patients with POAG's fear of falling. As found in this study, reduced inferior peripheral visual field sensitivity was linked to a higher fear of falling.

**Keywords:** fear of falling, FES-I, glaucoma, visual field

**Abstract Number:** 3032

### Knowledge of glaucoma and its risk factors among Jordanian patients with primary open angle glaucoma: a cross-sectional survey

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**Aim:** This study aims to assess the glaucoma knowledge and adherence to care seeking behaviors among Jordanian patients with glaucoma in order to formulate relevant educational policies and compliance assuring strategies.

**Methodology:** A cross-sectional survey was developed after an extensive literature search in order to investigate glaucoma-related knowledge among participants with glaucoma visiting the Jordan University Hospital clinics from October 2021 to February 2022. Responses were compared to a sample of ophthalmic participants with eye conditions other than glaucoma visiting the ophthalmology clinics at the same time frame.

**Results:** A total of 256 participants filled out the survey, of which 53.1% were diagnosed with glaucoma while 46.9% had ophthalmic conditions other than glaucoma. Our sample of participants is characterized by a mean age of  $52.2 \pm 17.8$  years and a male to female ratio of 1.04:1. Overall, participants with glaucoma were more aware of their disease than participants with other ophthalmic conditions. Both groups portrayed variability in their awareness towards types of glaucoma, risk factors, and management. Compared to their ophthalmic non-glaucoma counterparts, those diagnosed with glaucoma face significantly more daily life difficulties due to their ophthalmic disease ( $p < 0.001$ ). Analysis shows that participants with glaucoma have significantly higher knowledge scores ( $P < 0.001$ ) and were able to recognize more glaucoma symptoms than their non-glaucoma counterparts ( $P < 0.002$ ). Similarly, those with positive family history of glaucoma displayed higher knowledge ( $P < 0.005$ ).

**Conclusion:** We have demonstrated that ophthalmic patients display mediocre levels of glaucoma knowledge. Raising awareness through various interventions may improve the lifestyles of patients with glaucoma and alleviate the economic burden associated with treating the disease.

**Keywords:** Glaucoma; Jordan; Awareness; Compliance; Education

**Abstract Number:** 3033

### A rare case of bilateral abdominoscrotal hydrocoele in a 10-month-old infant managed laparoscopically

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**Introduction:** Abdominoscrotal hydrocoeles (ASH) are an increasingly rare form of hydrocoeles. Reported incidence rates are currently estimated between 0.18-3% of all hydrocoele cases. They can present in any age group, however, are more commonly reported amongst the pediatric population. Although not yet confirmed, the etiology of ASH has been under scrutiny for the past two centuries, and scarcity of reported cases hinders this process.

**Aim:** To report a case of 10-month-old boy with bilateral abdominoscrotal hydrocoeles treated with laparoscopic technique is presented.

**Methodology & Results:** this is a case report of 10-month-old boy diagnosed with bilateral hydrocoele and expectant management was advised; with watchful waiting until 1 year of age. He was otherwise fit and well with no significant past medical or surgical history. Next few months since pediatric assessment testicular swelling dramatically increased in size prompted a referral to pediatric surgeons for further assessment and investigation. On examination in the pediatric surgery clinic, he was found to have remarkable swelling of the scrotum; with the left side being positive for translucency, and the right side being negative for the same test. Neither of the testicles were palpable at this point in time. Further investigation with scrotal ultrasonography which revealed massive bilateral abdominoscrotal hydrocoeles with a characteristic dumbbell appearance, homogenous anechoic content, and positive doppler blood flow detected in both testes with no evidence of bowel herniation in either of the inguinal canals. The patient was thus admitted to the day-case unit and Laparoscopic procedure performed.

**Conclusion:** Abdominoscrotal hydrocoeles are rare in children, Identifying ASH as a diagnosis can in many cases be a challenging. Knowing the embryological origin as well as the common presenting features is pertinent to making an accurate diagnosis. Clinical examination is oftentimes sufficient to make the diagnosis, however confirmatory ultrasonography is recommended. appropriate surgical management can ensue, and serious complications are thus avoided.

**Keywords:** Abdominoscrotal hydrocoeles , hydrocele , pediatric, scrotal swelling

**Abstract Number: 3034**

## **Career Regret and Health-related Quality of Life Among Medical Students: A Nationwide Cross-sectional Study in Jordan**

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**Introduction:** Medical students have a lower quality of life (QoL) when compared to the general population. This lower QoL is associated with multiple factors such as burnout and depressive symptoms. QoL can be reflected in the degree of career satisfaction and career regret.

**Aim:** We aim to study the prevalence of career regret in Jordanian medical students and its association with QoL and other related factors.

**Methods:** This national cross-sectional study consisted of an anonymous online survey distributed to medical students enrolled in all six Jordanian medical schools over a period of 6 weeks. A validated tool was used to assess QoL and students were asked a series of questions related to their career satisfaction and career regret.

**Results:** A total of 544 medical students completed the survey. The mean age was  $21.5 \pm 1.63$  years (range 17–29), with 45.6% being males. The overall mean physical health score was  $45.9 \pm 5.17$  and the overall mean mental health score (MCS) was  $42.04 \pm 5.52$ . 76.3% of students have regretted studying medicine, citing stress as the main reason. There was a significant relation between the year of study and the percentage of career regret. Additionally, mean MCS was significantly lower in students who were frequently or always thinking about dropping out of medical school.

**Conclusion:** The high percentage of career regret and the low mental QoL in Jordanian students are alarming findings, highlighting an underlying source of psychological distress in Jordanians. This calls for further investigations into the psychological health of medical students, as well as interventions to prevent the development of consequences that can impact both students and their future patients.

**Keywords:** Developing countries; Health policy; Medical students; Stressors; Quality of life; Regret

**Abstract Number: 3035**

## **Predictors of readmissions after Bariatric surgery in Jordan University Hospital**

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**Introduction:** Obesity is a recognized global health issue that affects a variety of aspects of health and wellbeing, either directly or indirectly. Middle eastern countries in general, and Jordan specifically, are not excepted from the burdens of obesity. A variety of strategies have been tried by obese patients to reduce their weight and therefore its consequences. One of the most successful therapeutic options for weight loss is Bariatric surgeries. With patients heading toward bariatric surgeries in greater numbers, there becomes a greater need to investigate its sequelae.

**Aim:** To Predict the possible risk factors for readmission after weight-loss surgeries.

**Methodology:** This is a retrospective cohort study carried out at the Jordan University Hospital (JUH) and includes patients that underwent LSG (laparoscopic sleeve gastrectomy), and LGBS (laparoscopy Roux-en-Y bypass surgery) between the dates of 1/1/2016 and 31/12/2019. Age, gender, pre-op weight, pre-op nonbiliary complication, smoking history, and length of hospital stay, were obtained from the database of the department of surgery.

**Results:** 702 patients were identified. The total readmission rate within 6 months after surgery was 46.5% (327 patients). The most common cause of readmission was laparoscopic cholecystectomy (17%), followed by MGBS (15%), nausea and vomiting (12%) and abdominal pain (10%). Smokers and 2nd hand smokers were at a higher risk of readmission due to laparoscopic cholecystectomy, MGBS, nausea and vomiting, decreased oral intake, UTI, pancreatitis, thiamine deficiency and anemia. Among the readmitted patients hypertension, DM, OSA and GERD were the most common co-morbidities, which significantly increased the readmission rates. Patients who were readmitted reported excess weight loss one-month post-surgery of an average 10.46%, which increased to an average of 28.01% 6 months post-surgery. The most common reason for readmission in our population was gallstone disease, followed by nausea/vomiting and stomach pain.

**Conclusion:** Obesity is a worldwide pandemic with a rapidly increasing number of patients, and so is the use of weight-reduction surgeries, which has led to the increase in the complications reported due to the widespread use of these surgeries. The most common cause of readmission among patients who have undergone bariatric surgeries is biliary complications, followed by nausea and vomiting. Moreover, several factors predicted the likelihood of readmission.

**Keywords:** Bariatric, Complications, Obesity, Readmission, Surgery.

**Abstract Number:** 3036

**A survey of the perceptions and attitudes of clinical medical students at the University of Jordan on the factors affecting their learning in the operating theaters and their personal experiences in that.**

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**Introduction:** The operating room is a unique learning area in the surgery course. Undergraduate medical students find this place challenging because of the many factors that may influence students learning. No previous local study addressed these factors before in Jordanian medical schools

**Methods:** A questionnaire was formulated based on previous literature on learning in the operating room. Suggested factors were grouped under five key domains: emotional, socioenvironmental, educational content, educator-related, and organizational. Responses were dichotomous as Yes/No on the effect of each factor on learning. Further, questions were asked about students' personal experience with each factor during the surgical clerkship and summarized as good/ bad. Finally, students were asked about the effect of their operating theater experience on their consideration of surgery as a possible future specialty and their overall satisfaction during their operating room experience. Results were compared across gender and academic year levels.

**Results:** Each type of emotion was experienced by about half of the study students in the operating room. Male students showed significantly higher levels of stress than females. Emotional factors were perceived by 91% of students as influencing learning in OR with male patients. All social factors were considered influential, with a friendly atmosphere voted most, followed by team harmony and interaction. Teaching standard theater etiquette and protocols was the most voted education factor in its influence on learning (84%), followed by "focusing on clinical correlation". (80%). Students' willingness to interact and provide commentary and questioning were the most influential educator-related factors (87 and 85%, respectively). Finally, the Opportunity to see the operating surgical field was the most voted organizational factor in its influence (83%), followed by prior medical students' orientation of the operation rooms area (77%).

**Conclusion:** In conclusion, students seem to be aware of the factors affecting learning in the OR. However, they are not well satisfied with the current handling of these factors. These factors should be addressed, and efforts should be made to improve their status.

**Keywords:** operating room, learning, surgery

## Obstetrics and Gynaecology Abstracts

**Abstract Number: 4001**

### **Predictive Factors of Pelvic Organ Prolapse and The Impact on Quality of Life: A Case-Control Study**

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**Introduction:** Pelvic organ prolapse is a common gynecological condition with significant morbidity. Symptomatic prolapse has a substantial effect on the quality of life causing physical, social, and psychological limitations. The study aims to identify factors significantly associated with prolapse development and incorporate quality of life as PRO in identifying disease severity.

**Aim:** To assess symptoms of bladder, bowel, and sexual function in women with pelvic organ prolapse and to compare them according to a standard staging system (0-IV) . To assess quality of life of women suffering from pelvic organ prolapse (daily activity, physical/ social role, personal relationship, emotions, and sleep / energy). To investigate the relationship between pelvic floor, prolapse and selected factors that may contribute to pelvic organ prolapse among women.

**Methods:** We conducted an age-matched case control study among women attending the Obstetrics and gynecologic clinics in Amman, Jordan. A total of 300 women were selected to participate (150 controls and 150 cases). Cases (POP Stage  $\geq$  I) and controls were identified using the Pelvic Organ Prolapse Quantitative Examination Tool. P-QOL was utilized as a measure for the impact on the quality of life. Univariate analysis was performed, and odds ratios were determined. A P value  $\leq$  0.05 was considered statistically significant.

**Results:** A total number of 300 women (150 cases and 150 controls) participated in the study. The mean age was 46.6 for cases (SD= 19.49) and 45.55 for controls (SD=10.02). Increasing BMI (OR= 2.7 [95% CI: 1.5 -5]), smoking history (OR= 1.9 [95% CI: 1.01 -3.5]) and being a housewife (OR= 2.17 [95% CI: 1.18 -4]) were the lifestyle factors significantly associated with prolapse development. Diabetes was associated with a two times fold increase in prolapse occurrence. As for the gynecological and obstetrics factors, we identified  $\geq$ 4 gravidity (OR=4.1 [95% CI: 1.1 -15.6]),  $\geq$ 4 parity (OR=4.9 [95% CI: 1.9-12.8]),  $\geq$ 4 vaginal deliveries (OR= 4 [95% CI: 1.8 -8.8]) as factors with the highest relative risk for POP. History of POP surgery and episiotomy were detected to be significantly associated (P value  $<$ 0.001). Participants who reported a family history of prolapse were 3 times at higher odds. Age at first delivery  $>$  24 years (OR= 0.45 [95% CI: 0.25 – 0.8]) and high education level (OR= 0.44 [95% CI: 0.2 -0.7]) both showed to decrease the relative risk of prolapse development.

**Conclusion:** Factors significantly associated with pelvic organ prolapse are high BMI, diabetes, lower education level, increasing number of pregnancies, vaginal deliveries, episiotomy, family history of POP and previous prolapse repair surgery.

**Keywords:** Pelvic organ prolapse, incontinence, quality of life

**Abstract Number: 4002****Knowledge and Attitude Regarding Gestational Diabetes Among a Jordanian Population and Associated Factors****Thekrallah, F.M.1, Alobaid, L.S.2, Alshemmari, N.M.2, Aldehani, A.M.2, Alshuraian, A.B.2, Alhendi, T.A.2, Alenezi, L.A.2, Abdin, B.H.2, Tutunji, L.F.3**

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**Introduction:** Gestational diabetes mellitus GDM is a serious disorder posing risks to both mother and child and burdens healthcare systems. The prevalence is higher in low- and middle-income countries where resources are challenged and is highest in Africa and the MENA. GDM prevalence in Jordan is among the highest in the world estimated at 13.5% GDM awareness may play a key role in the optimal management of GDM however few studies addressed this issue in Jordan.

**Aim:** To assess knowledge and awareness towards GDM among Jordanians and associated factors.

**Methodology:** A cross sectional study using a self-administered questionnaire targeted Jordanians on social media groups in addition to visitors to the University of Jordan outpatient clinics between December 2021 and January 2022. The questionnaire obtained informed consent and consisted of sections on demographics, risk factors to GDM, level of awareness, GDM complications and participant lifestyle practices. Statistical analysis was performed using SPSS version 25. Continuous variables were summarized using mean and standard deviation. Categorical variables were summarized using frequencies and proportions. Multivariate analysis explored associated factors.

**Results:** 501 participants responded, of which 381 were included in the final analysis, most of the population were female 78%, 52 % married and around 44% still single, and 60% within the childbearing age group. About 41% were employed, and 38% had an income below 400 JDs and another 30% had an income between 400 and 600 JDs reflecting Jordan as a low middle income country. The main source of information was word of mouth from family and friends 32% Vs healthcare staff and medical brochures combined at 25.8%. About 82.9% had heard of GDM, but only 23.4% had a high level of GDM awareness, whereas 15% had a low level of awareness and the majority 61.6% had a moderate level of awareness.

Multivariate analysis demonstrated that increased awareness was significantly more associated with being female (OR 3.21, CI 1.75-5.91, P value <0.001) having had children (OR 11.76, CI 1.55-89.10, P value 0.017) and having a family history of GDM (OR 6.51, CI 1.55-27.41, P value 0.011) in addition to history of recurrent abortions and getting pregnant above the age of 30 Lower GDM awareness was associated with lower income of less than 400 JDs (OR 0.38, CI 0.18- 0.80, P Value 0.010)

**Conclusion:** Our results demonstrate that the Jordanian population has a moderate level of GDM awareness and that there is a need to raise awareness among males, younger and nulliparous women in addition to women of lower socioeconomic background. having a history of GDM in previous pregnancies (OR 8.28, CI 0.99- 9.33, P value 0.048)

**Keywords:** Attitude, Awareness, Gestational Diabetes Mellitus, Jordan, Knowledge, Risk Factors.

**Abstract Number: 4003****Awareness and Attitude regarding Hypertensive Disorders of Pregnancy and Preeclampsia among Jordanian Women.****Feda Thekraallah, F.A.<sup>1</sup>, Yasmin Bilal Mohammed Altrabsheh, Y.A.<sup>3</sup>, Alaa Ali Alomoush, A.A.<sup>3</sup>, Aseel Abdelsalam Alnjadat, A.A.<sup>3</sup>, Aseel Majed Alkarmi, A.A.<sup>3</sup>, Shouroq Khalid Althahabi. S.A.<sup>3</sup>, Omar Ayman Alsahli, O.A.<sup>3</sup>**

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**Introduction:** Hypertensive disorders in pregnancy HTNP and Pre-eclampsia PET are serious conditions prevalent worldwide and constitute a major leading cause of maternal morbidity and mortality. Awareness constitutes an important factor in prevention and control of disease. Very little is known about HTNP and PET awareness among women in Jordan.

**Aim:** To assess risk factors, awareness, and attitude towards HTNP and PET during pregnancy among Jordanian women.

**Methodology:** A cross-sectional study was conducted using an online self-administered questionnaire between January and February 2022. The questionnaire was disseminated via social media Jordanian women's groups in addition to direct interviews of patients visiting the outpatient clinics at the university of Jordan Hospital, The questionnaire included an introduction with informed consent followed by a section on risk factors to HTNP and PET, this was followed by a section on awareness of symptoms diagnosis and complications. The questionnaire ended on a section on attitude.

Data analysis was done using IBM SPSS Statistic version 23.0. Descriptive statistics were employed, and logistic regression will be used to study associated factors with increased knowledge and attitude towards HTNP and PET.

**Results:** A total of 197 women participated in this study. Almost half of them were aged 18-29 years (43.1%). Only 7 (3.6%) have suffered from preeclampsia. 162 (82.7%) had heard of HTNP and PET, more than half of the women got their information from family and friends 88 (52.4%).

Most of the women agreed that women with preeclampsia should do a regular blood pressure checking after birth 180 (92.3%). The majority also agreed that healthy diet, exercising and regular antenatal care visits help in the prevention of preeclampsia and Gestational Hypertension.

**Conclusion:** Further studies are needed to fully assess Jordanian women's knowledge about preeclampsia and hypertensive disorders of pregnancy. A greater level of community awareness regarding risk factors, signs and symptoms, and the proper practices and lifestyle to maintain a healthy blood pressure would help in reducing the severe complications of preeclampsia. We suggest that engaging an educational program as part of prenatal care would have a positive effect on health outcomes and help in reducing both maternal and fetal morbidity and mortality.

**Key Words:** Hypertensive disorders of pregnancy, preeclampsia, awareness, Jordanian women.

**Abstract Number: 4004**

**Cervical cancer screening in Jordan, a review of the past and an outlook to the future; facts and figures.**

**Fram, K.M.1, Saleh, S.S.1, Fram, F.K.2, Fram, R.K.2, Asakarne, S.G.2, Khreisat, F.A.2, Al Daradkah, J.B.2, Sweis, N.S.2, Sweis, N.S.2.**

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**Aim:** This study's objective is to assess the attitude, knowledge, and behavior of Jordanian women towards cervical cancer screening and its phenomenal role in preventing the disease and to identify the defects and obstacles in the national screening programs for early detection of cervical cancer.

**Methodology:** We conducted our prospective study via a questionnaire that included the demographic data, knowledge, behavior, and attitude among Jordanian women about the cervical screening program using face to face interviews. Data were entered, edited, and analyzed by SPSS version 20 statistical package.

**Results:** Among 655 responders answered the questionnaire, the awareness about this health hazard was limited as 340 women (51.9%) reported to have no idea about the smear, the level of education plays an important role about the value of this test, although, 350 women (53.4%) were of higher level of education, where, 84 women (12.84%) were not happy to be screened, and 53 women (8.09%) were afraid from the result to turn out positive for malignancy. The scandalous upshots reported that 600 women (91.6%) having no idea about the role of vaccination against this threatening disease.

**Conclusion:** Screening programs occupy a limited place and space among the health care providers' priorities. The health education and national awareness strategy regarding cervical cancer screening should be adopted and implemented at primary health care units. The media with its different facets must take responsibility and share this burden to educate the public against cancer. Nowadays, Pap smear is contestably the best method available for cancer detection. The once in a lifetime screening strategy should be adopted urgently, with it being the most important step

at this stage since it represents the minimum correct starting point to lessen the future burden on the national healthcare system and benefit the health of the target groups.

**Keywords** screening; cervical cancer; women attitude; vaccination; media role.

#### Abstract Number 4005

### Gaining prowess in the art of hysterectomy, reflections and complications; a teaching hospital experience.

**Kamil M. Fram<sup>1</sup>, Farah Fram, Rand Fram, Banan Tarawneh, Mahmoud Eid, Tala Dabit, Juman Lahham, Basel Massad, Sanad Abdallat, Haider Chichan, Akram Al-Hadidi, Haya barake, Noor Tarawneh.**

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**Aim:** the purpose of this audit is to analyze the indications, complications, and the final histopathology reports of all hysterectomies done under our care during the study period at Jordan University Hospital. The ultimate goal of the study is to clarify the importance of acquiring brain surgical skills during practice and follow-up. It should be a target present in teaching hospitals that adopt educational residency programs

**Methods:** This is a retrospective study involving all patients who underwent hysterectomy from January 2017 till January 2020.

**Results:** a total of 245 patients underwent hysterectomy (regardless of the type) during the study period. The most common indication was abnormal vaginal bleeding followed by malignancy. The most common intraoperative complication was bladder injury followed by bleeding. The most common postoperative complication was wound infection followed by hematoma. The most common histopathology was benignly followed by malignancy.

**Conclusion:** hysterectomy is a surgical procedure commonly performed to alleviate health welfare: nevertheless, in some situ, actions it is portrayed as a lifesaving procedure. Unsurprisingly, the significance and consequences of related complications mandate for patients planned for the procedure to be appraised thoroughly and adequately before surgery. The aim and art of refining and improving acquired surgical skills and experience portrayed intraoperatively errors a decline in complications rate. Time and practice aid to the ascending linear curve of gained surgical skills, which mirrors a gradual drop in the complications rate.

**Keywords:** hysterectomy, perioperative complications, blood transfusion, histopathology.

#### Abstract Number: 4006

### The shift in COVID-19 vaccination policy for pregnant women, from restricted to required, and the confusion that ensued.

**Kamil M. Fram<sup>1</sup>, Shawqi Saleh<sup>1</sup>, Farah Fram<sup>2</sup>, Banan Tarawneh<sup>3</sup>, Noor Tarawneh<sup>3</sup>, Farah Al-Qudah<sup>3</sup>, Rand Fram<sup>2</sup>, Taiba Khalaf<sup>2</sup>, Shrouq Almasoud<sup>2</sup>, Bader Almukaimi<sup>2</sup>, Sondos Tawasfshy<sup>2</sup>, May Aladrah<sup>2</sup>, Majd kharabsheh<sup>2</sup>.**

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**Introduction:** the world has been thrown in turmoil in the last three years after the emergence of the COVID-19 pandemic and as the secrets of this pandemic are yet to fully unravel, new policies and recommendations are made every day. Bearing in mind that women acquire unique physiological and immunological changes during pregnancy,

making them at risk of developing a more severe course of COVID-19 infection compared to their non-pregnant peers.

**Aim:** This study aims to conduct a systemic review concerning the approach of pregnant women towards vaccination necessity and safety against COVID-19.

**Methods:** a cross-sectional study was carried out at the outpatient clinics at Jordan University Hospital (JUH) for all pregnant women during the period of the survey October 1st, 2021, till December 31st, 2021, focusing on the source of information about the vaccine, receiving the vaccine, and the reasons for rejecting the vaccine, especially during pregnancy.

**Results:** a total of 468 pregnant women were interviewed. The single primary source of information about the COVID-19 vaccine was the traditional media; audio-visual and print media, being the most important as reported by 191 women (40.81%), while possible harmful of the fetus was the single main reason for refusal vaccination during pregnancy as reported by 111 women (23.72%).

**Conclusion:** the reluctance toward vaccination is primarily driven by the fierce media campaign that portrayed its initially ambiguous effects on the pregnancy and fetus in a negative light, in conjunction with the open media platforms that enabled semi-experts to issue medically inaccurate statements and information's and further complicated the matter by planting the seed of fear and mistrust of the public in the health care system and providers. More public health care awareness regarding the safety of the COVID-19 vaccine is needed.

**Keywords:** COVID-19, vaccination refusal, side effects, safety in pregnancy.

**Abstract Number:** 4007

### **Bariatric surgery and pregnancy; a retrospective cohort study**

**Nadia Muhaidat<sup>1</sup>, Satani G Sharkas<sup>2</sup>, Lara Al-Abdallat<sup>2</sup>, Tala Dabit<sup>4</sup>, Tala Hyasat<sup>5</sup>, Omar Odeh<sup>6</sup> & Ahmad Almuhatseb<sup>7</sup>.**

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**Introduction:** Bariatric surgery is gaining popularity and it's impact on future reproductive potential pregnancies is indeed an important consideration.

**Aim:** The aim of this retrospective cohort study is to identify the effect of bariatric surgeries on subsequent pregnancies complications and outcomes, labor and neonatal complications.

**Methodology:** This study involved a single-center retrospective review of 66 females of reproductive age (18-48) who underwent bariatric surgery in the period of 2014 and 2020. Data was obtained through an online questionnaire filled by data collectors through a phone interview with the participants. In addition to reviewing their past medical records. Statistical analysis was done using SPSS version 20.

**Results:** The results revealed a significant increase in the incidence of low-birthweight babies post bariatric surgery ( $p=0.041$ ). In addition, significant decrease in the incidence of gestational diabetes was demonstrated. Women in our study were also less likely to have a miscarriage after the bariatric surgery.

**Conclusion:** Pregnancy following bariatric surgery poses different challenges. Further future large scale, multi-center research is required to fully understand the reproductive and obstetric implications of bariatric surgery. Moreover, Patients should receive education on the effect of bariatric surgery on their future pregnancies.

**Keywords:** Abortion; bariatric; birth-weight; conception; infertility, Jordan, pregnancy, weight-loss.

**Abstract Number: 4008**

## **Menstrual Symptoms after COVID-19 Vaccine: A cross-sectional investigation in the MENA region**

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**Introduction:** Since the emergence of COVID-19 vaccinations, many women around the world are reporting abnormalities in their menstrual periods post-vaccination.

**Aim:** The aim of this study is to investigate the prevalence and impact of menstrual abnormalities after the COVID-19 vaccine among females residing within the Middle East and North Africa (MENA).

**Methods:** The study utilized a cross-sectional online self-administered survey from July 2021 to August 2021 targeting females living in the MENA region above the age of menarche who had received vaccine and were not pregnant or Lactating, and don't have a history of primary ovarian insufficiency, hypothalamic menopause, or have undergone a hysterectomy. The survey was distributed regionally via social media.

**Results:** A total of 2269 females were included in our study, with a mean age of  $34.3 \pm 8.5$  years. About 66.3% of participants reported menstrual symptoms post-vaccination, of which 46.7% experienced them after their first dose. However, in 93.6% of participants, the symptoms resolved within 2 months. Vaccine type did not significantly influence the incidence of abnormalities ( $p > 0.05$ ). Participants who had confirmed previous COVID-19 infection had a very similar percentage of menstrual abnormalities compared to people who didn't have COVID-19 infection or symptoms suspected of COVID-19 infection and didn't test (67.5%, 66.8%, respectively); nevertheless, those who had experienced the COVID-19 vaccine general side effects had significantly more abnormalities ( $p < 0.001$ ). Compared to their pandemic status, females reported significantly more abnormalities post-vaccination.

**Conclusion:** The study showed a possible link between the COVID-19 vaccine and menstrual abnormalities that have impacted their quality of life.

**Keywords:** COVID-19; MENA; menstrual abnormalities; menstrual cycle; vaccine

**Abstract Number: 4009**

## **Semen analysis trends from 2011 to 2020 in Jordan University Hospital**

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**Aim:** To explore the semen analysis trends in Jordan University Hospital for the past 10 years.

**Methodology:** A retrospective chart review was conducted all JUH lab records which includes a semen analysis for patients. Data was analyzed and cleaned on SPSS.

**Results:** The study explored semen analyses records of 3871 recruited from Jordan University Hospital. The entire sample mean age is  $35.9 \pm 7.6$  years. Normospermic men had lower percentages of immotile sperms and higher motile sperms (all  $p$ -value  $< .001$ ). Increasing age groups were significantly associated with worse motility ( $p$ -value: .002) and increased immotility ( $p$ -value: .037). Age is negatively and significantly correlated with sperm volume, motility type 1 to 3, and total motility ( $p$ -value  $< .001$ ). In terms of motility trends over the years, Jordanian sperm motility rates were significantly improved.

**Conclusion:** Our study demonstrated that semen quality had significantly improved across the last 10 years in our Jordanian cohort. Furthermore, we have observed that semen quality in terms of motility decays with increasing age.

**Keywords:** Sperm; Jordan; Motility; The University of Jordan Hospital, Semen Analysis, Age

**Abstract Number: 4010**

## **The experience of giving birth during covid-19 pandemic and its relation to postpartum depression in Jordan, a retrospective cross sectional study**

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**Introduction:** Since 2019, corona virus is considered a worldwide health threat. The pandemic and its consequences from restrictions to risks have impacted our lives in all aspects.

**Aim:** This study aims to assess the experience of giving birth during the pandemic and whether it is related to postpartum depression.

**Methods:** A cross-sectional study was conducted which involved women who gave birth during the pandemic across the Hashemite Kingdom of Jordan. An electronic questionnaire adapted from the QACE questionnaire was distributed among women who gave birth during this period in Jordan, and 491 women responded. The sample size was statistically determined to be representative of the population.

**Results** revealed that getting infected with the virus throughout the pregnancy did not affect the childbirth experience in respect to the parameters measured, but other factors such as the type of hospital did, as giving birth in a private hospital was associated with more positive experience than giving birth in a military, academic, or public hospital. The way of delivery is another factor affecting the experience of delivery, women who underwent cesarean section reported less delivery-related pain than normal vaginal delivery, vacuum or forceps delivery, or induction.

**Conclusion:** Our results revealed that having postpartum depression is related to giving birth in the pandemic and its circumstances. Furthermore, it affected first time mothers more than women with previous deliveries, increasing the risk for Given the consequences of postpartum depression on the mother, the baby, and family, there is a serious need to intervene to improve maternal psychological health during this stressful time.

**Keywords:** COVID 19, Postpartum depression, Jordan

**Abstract Number: 4011**

## **Awareness of the need of ultrasound during pregnancy among pregnant women in Jordan ; qualitative cross-sectional study.**

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**Introduction:**

Ultrasound during the pregnancy is an imaging technique that uses sound waves to visualize the foetus and the foetal related tissues. Ultrasound is an important tool that is used during the pregnancy period. This tool has proven its effectiveness; however, its safety is still a controversial topic in research. Unfortunately, in Jordan ultrasound examination is perceived to be done more than necessary which affects the health care system in a negative way.

**Aims:** To assess the mothers' knowledge about the need of ultrasound and its possible safety issues, and to assess the ultrasound practice in pregnancies in Jordan.

**Methodology:** A cross-sectional study where the data was collected in Jordan using a questionnaire, that was designed by the researchers. The questionnaire was used in two forms (online and paper form), the paper form was used to collect data from the ladies in Jordan University Hospital (both the clinics and the inpatient department) and the online form was sent to ladies that were mentioned in The JUH records.

**Results:** Data were collected in 2022. The questionnaire was delivered to 1380 lady but only 1070 met the inclusion criteria. Our results show that mothers in Jordan have ultrasound scans more than recommended, and 77% of mothers think it is mandatory. Higher income was related to more knowledge about the need of ultrasound. Previous obstetric and gynecological disease contribute in the thought of abdominal ultrasound to be scary.

We successfully managed to approve one of our three hypotheses, which is that the ultrasound examination has negative effect on the socioeconomic status of the families. However, we found that there is no significant relation in our remaining two hypothesis which are, that the multiparity increases the knowledge of the mother about ultrasound, and that the number of ultrasounds over-diagnoses finding. There were some limitations, these were using two types of questionnaires, some participants misunderstood the questions and left questions not answered.

**Conclusion:** Low-risk pregnancies in Jordan have unnecessary many ultrasound scans. Participants with low income and those with obstetric complications have some worrisome about using ultrasound. From our study we highly recommend that the number of ultrasounds done in low-risk pregnancies should be reduced and we need to improve public awareness about safety and frequency of ultrasound needed during in pregnancy to avoid misuse.

**Keywords:** Awareness, Jordan, Mothers, Pregnancy, Ultrasound

**Abstract Number: 4012**

### **Risk Factors for Postpartum Depression; Retrospective Study**

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**Introduction:** Postpartum depression is one of the most common complications of childbearing. In the literature, it is often defined as an episode of depressive disorder that occurs in the postpartum period. And evidence suggests that postpartum depression has serious consequences on the quality of life of all family members, increases the risk for familial conflicts, leaving great bad effects on maternal–infant interaction.

**Aim:** Our aim is to investigate and shed the light on the determinants of development of postpartum depression and mainly maternal age among women in Jordan. In addition to provision of more information on postpartum depression and estimation of the prevalence of the illness among Jordanian mothers.

**Methodology:** This is a retrospective cross-sectional type of study. Data needed for this study collected from the electronic files, mainly for women ageing from 20 to 30 from the Jordan University Hospital (JUH), in the interval from the 1st of January 2014 to the 1st of March 2021 using the computerized medical files. Main outcome measure is the percentage of patients who developed postpartum depression within 6 months of childbirth. SPSS used for the statistical analysis.

**Results:** 60 records were studied, depression was prominently found in 46.7% of them who were in the age group between 20 & 30 Years, and many have shown prominent features and sustained postpartum depression. Around the half of the study sample has delivered via cesarean section (53.3%). The vast majority were not known to have any chronic disease nor past psychiatric illnesses. Mothers who breast fed their babies were around 81.7% of the study sample.

**Conclusion:** There are no statistically significant differences at the level of significance ( $\alpha \geq 0.05$ ) in postpartum depression due to the age variable.

**Keywords:** Health, Jordan, Maternal Age, Maternity, Postpartum Depression, Pregnancy Complications.

**Abstract Number: 4013**

### **ABO and Rh Blood Groups Distribution Among Pregnant Women Attending to Obstetrics and Gynecology Clinic in Jordan University Hospital.**

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**Introduction:** The ABO and Rh Blood grouping systems are some of the important systems in the medical field which express the presence or absence of some antigens in the red cells. Those differences rule many operations like blood transfusion, hematological diseases, and other immunological diseases.

**Aim:** The aim of this study is to evaluate the percentages of ABO and Rh blood groups between pregnant women and the Hemolytic disease consequences.

**Methods:** In a retrospective cohort study conducted among pregnant women in the Jordan University hospital (JUH) in the interval between 1/10/2016 till 31/9/2021 with a sample size of 20136 Jordanian pregnant women. The data was analyzed using the last version of IBM SPSS software. Collected data contained ABO and Rh numbers.

**Results:** Among 20136 pregnant women, the majority of the participants had an O blood group with 7840 (38.9%), followed by the A blood group with 7506 (37.3%). According to the RH categories, the positive category scored a higher percentage than the negative category with an incidence of 18159 (90.2%). There was no relationship between ABO and Rh groups with a pvalue of 0.926 (>0.05).

**Conclusion:** The frequency of ABO and Rh(D) blood groups among pregnant women at JUH antenatal care clinic in Amman, according to the collected data, shows that the majority of patients have O blood group and Rh(D) positive, which eliminates the critical consequences generated by ABO- Rh incompatibility.

**Keywords:** ABO system, Hemolytic disease, Jordan, Pregnant women, RH system

**Abstract Number: 4014**

### **Jordanian Gynecologists' Perception of PID Prevalence in Jordan**

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**Introduction:** Pelvic Inflammatory Disease (PID) is an upper genital tract infection caused by a variety of aerobic and anaerobic microorganisms that ascend from the cervix or vagina into the endometrium, fallopian tubes, or adjacent structures.

**Aim:** The purpose of this study is to investigate the gynecologists' Perception of PID Prevalence in Jordan.

**Methods:** Using a cross-sectional study, online questionnaires were collected from one hundred and seventy-two attendings and residents in Jordan. Overall, the majority of respondents were females (57%), working in the private sector (62.8%), in the age range between 25 and 45 years (55.8%), and got their postgraduate training in Jordan (50.6%).

**Results:** Most gynecologists in our study (68.6%) said that we have a PID problem in Jordan, younger doctors (25-34 years old) and residents were more likely to think that PID is a problem in Jordan ( $p=0.037$ ) ( $p=0.024$ ) respectively. Gynecologists in the Ministry of Health were the most to answer that more than 10% of their patients might have PID( $p=0.013$ ). Only 100 gynecologists put pregnancy test as part of their workup, and 127 gynecologists order mid-stream urine analysis, since cystitis is the second most common cause of chronic pelvic pain in their experience, only preceded by endometriosis. Confusion was apparent in choosing the investigation most reliable to diagnose PID, most gynecologists chose blood cultures. When it came to management, 87.2% chose Metronidazole as part of their treatment regimen, 82.6% and 62.2% chose Doxycycline and Ceftriaxone. There was a strong agreement that PID causes infertility (95.9%) and pelvic adhesions (96.5%), 81.4% agreed that PID does not lead to cancer, but when it came to recurrent miscarriages, some gynecologists agreed that PID is a possible cause (57%) and the rest disagreed.

**Conclusion:** PID is an underdiagnosed disease in a country that has low rates of sexually transmitted diseases like Jordan. Gynecologists from different sectors had different thoughts on the prevalence of PID in Jordan. PID's clinical presentation is vague, and it's a difficult diagnosis to make; thus, more clinical education should be directed towards this disease. Clear guidelines about diagnosing PID should be adopted.

**Keywords:** Chronic Pelvic Pain, Gynecologists, Jordan, Pelvic Inflammatory Disease (PID), Perceptions

**Abstract Number:** 4015

### **Use of capillary blood glucose in screening and diagnosis of gestational diabetes in comparison to OGTT in terms of accuracy and convenience**

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**Introduction:** Gestational diabetes (GDM) is a major health burden affecting a significant number of women worldwide, with the incidence increasing due to many factors such as maternal obesity.

Current guidelines state that the gold standard screening and diagnostic tool is oral glucose tolerance test (OGTT). OGTT is demanding on pregnant women as well as hospitals and laboratories.

**Aim:** In this study we will assess the accuracy of capillary blood glucose (CBG) as a screening and diagnostic test for GDM in comparison to OGTT as gold standard, in addition to comparing the convenience and feasibility of both tests through a self-administered survey.

**Methodology:** A prospective study was carried on pregnant women attending the Jordan University Hospital antenatal clinic care in their 24th -28th week of gestation, and who had been recommended to take a 75 gm Oral Glucose Tolerance Test, between December 2021 and February 2022. Each patient was given an Accu-Check Instant blood glucose meter and measured seven CBG readings throughout the day (pre-prandial, 2 hr post prandial following breakfast, lunch and dinner and a bedtime reading).

**Results:** Fasting capillary glucose, 2hr post lunch, and the average of the 7 readings were significant ( $p = 0.014, 0.007, 0.007$  and  $AUC = 0.9, 0.94, 0.94$  respectively). The previous measurements have 100% sensitivity and 80% specificity (with cut off values of 98.5, 142.5, and 107.6 respectively). CBG was more convenient than OGTT procedure. In addition, the overall complications are much less after CBG compared to OGTT.

Multiple CBG readings had good accuracy in diagnosing GDM, with high sensitivity and specificity for calculated cut off values. And the results showed that its more convenient than OGTT .

**Conclusion:** Based on our study, multiple CBG readings showed promising results and good potential to be used in GDM diagnosis, especially in low income and resource-constrained countries.

**Keywords:** CBG, Diagnosis, GDM, Glucose meter, OGTT, Screening.

## Paediatrics Abstracts

**Abstract Number: 5001**

### **Impact of COVID-19 Pandemic Lockdown on the Incidence of Precocious Puberty in Jordan**

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**Introduction:** In March 2020, the WHO declared COVID-19 as a worldwide pandemic, leading to total lockdown in most countries including Jordan. People of all age groups were affected differently and in many aspects. In our study, we focused the attention on female children in Jordan and studied the impact of the lockdown on the number of diagnosed cases of central precocious puberty. Precocious puberty is defined as the onset of any secondary sexual development at an age that is 2.5 standard deviations (SD) earlier than the population, which is usually considered below the age of 8 years in females.

**Aims:** Our aim was to study the impact of the COVID-19 pandemic lockdown on the number of diagnosed cases of central precocious puberty among female children in Jordan.

**Methods:** This is a retrospective study reviewing the medical records of female children who presented with central precocious puberty to the pediatric endocrine clinic at JUH; between May 2018 and May-2021. We had compared the clinical characteristics, hormonal profile, and radiological findings between patients who were divided into two groups: patients presented after the start of the COVID-19 pandemic in Jordan (between May 2020 and May 2021) and patients presented prior to than pandemic ( between May 2018 and May 2019).

**Results:** Among a total of 57 female children who presented with central precocious puberty, 33 (57.1 %) patients and 24 (42.9 %) patients presented during and prior to the COVID-19 pandemic respectively, p-value = 0.00. The average age at presentation for patients presented during the pandemic was  $8.49 \pm 1.23$  years while for those presented prior to the pandemic was  $8.21 \pm 0.97$  years, p-value = 0.35. There was no significant difference in hormonal levels between the 2 groups except for estradiol level which was higher in patients who presented during the pandemic, p-value = 0.03. Brain and pituitary MRI had significantly higher odds of being abnormal in the post-pandemic group (OR=0.13, p-value = 0.03).

**Conclusions:** The pandemic lockdown has affected the number of diagnosed cases of central precocious puberty, making it important to further study the risk factors contributing to this finding.

**Keywords:** Children; COVID pandemic; Jordan; Precocious puberty

**Abstract Number: 5002**

### **Developmental Delay and Epilepsy: Clinical and Radiological Characteristics**

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**Introduction:** Epilepsy is the name of a brain disorder characterized predominantly by recurrent and unpredictable interruptions of normal brain function, called epileptic seizures. An epileptic seizure is a transient occurrence of signs and/or symptoms due to abnormal excessive or synchronous neuronal activity in the brain [1]. Neuroimaging, specifically MRIs, are an important part in the diagnosis of epilepsy, and should be done for all patients with epilepsy. Recent studies suggest different diagnostic rates of neuroimaging in the role of newly diagnosed epilepsy. The adult population is well studied and reported in the literature while the data in the pediatrics population is not well studied. In Addition, limited studies were done in the Middle east area and none was done in the Jordanian population.

**Aim:** We aim to report what kind of neuroimaging findings we find in epilepsy patients with or without developmental delay in the Pediatric Jordanian population, as well as how various variables either demographic or clinical characteristics affect the yield of neuroimaging.

**Methodology:** This is a retrospective review of the medical records of patients diagnosed with epilepsy with or without developmental delay and had magnetic resonance imaging (MRI) done at Jordan University Hospital (JUH) during the period from February 2019- March 2021.

**Results:** 107 children were enrolled in the study, there were 62 patients (57.94%) males and 45 patients (42.06%) females. Abnormal MRI was found in 55 patients (51.4%). 44 patients (41.12%) had focal seizures, while 63 patients (58.88%) had Generalized seizures. Abnormal neurological exam in 32 patients (29.9%). 45 patients (42.06%) had Developmental delay. 42 patients (39.3%) of had their first seizure before the age of two years and 65 patients (60.7%) patients at the age of two or more. Parent's consanguinity was reported in 50 patients (46.73%), also family history of seizures was reported in 44 patients (41.12%).

**Conclusion:** we conclude that patients with abnormal physical examination have a higher rate of relevant brain MRI findings while other clinical aspects (type of seizure, gender, age at time of seizure, developmental delay, family history of seizures, parent's consanguinity) do not increase the probability of positive neuroimaging.

**Keywords:** Afebrile seizures, epilepsy, neuroimaging, MRI, cMRI, Pediatrics.

**Abstract Number:** 5003

### **Pseudotumor Cerebri Syndrome in children: clinical characteristic and re-classification**

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**Introduction:** Pseudotumor cerebri syndrome (PTCS) is characterized by signs and symptoms of raised intracranial pressure, absence of mass, hydrocephalus, or meningeal abnormalities on neuroimaging, and normal cerebrospinal fluid (CSF) composition.

**Aim:** To describe the clinical characteristics of children with pseudotumor cerebri syndrome (PTCS) who were diagnosed according to the modified Dandy criteria and to reclassify them according to the newly proposed diagnostic criteria by Freidman.

**Methodology:** This retrospective study included the period from January 2016-to July 2021.

**Results:** 50 patients were included; 34 males and 16 females with a male to female ratio of 2.1:1. The average age at onset of symptoms was 8 years. Obesity was noticed in 6 (12%) patients; 34 (68%) had symptoms upon presentation. The most common presenting symptom was headache (28 patients; 56%), papilledema was present in 33 (66%) patients. Most patients (37 ;74%) had an initial CSF pressure  $\geq 280$  mmH<sub>2</sub>O. At last follow-up, papilledema resolved in 11 /32 (34.3 %) patients, and headache resolved in 17/23 (74%) patients. 22/50 (44%) patients fulfilled the definite criteria proposed by Freidman, 11/50 (22%) fulfilled the probable, 10/50 (20%) were categorized as possible, and 7 (14%) patients were categorized as unmet.

**Conclusion:** PTCS is a chronic condition. Managing patients who do not have papilledema or who do not meet the newly proposed higher CSF pressure is challenging. Although, applying the newly proposed criteria captured most of our patients, however, around one quarter were managed based on clinical experience. This study indicates a strong need for future guidelines tailored specifically for children, taking into consideration that the cut-off point of CSF pressure might not be similar for all populations

**Keywords:** Children, Freidman criteria, Headache, Idiopathic Intracranial Hypertension, Papilledema, Pseudotumor Cerebri

**Abstract Number: 5004****Fears and Intentions of Parents to Vaccinate Their Children Against COVID-19 using Theory of Planned Behavior: An Original Study**

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**Introduction:** The Jordanian government prioritized vaccination for adults over the age of 65 at the start of the vaccination campaign, while children under the age of 18 were still not allowed to get vaccinated. The Jordanian government approved the vaccine for children over the age of 12 on July 25, 2021. It is critical that children receive the COVID-19 vaccine. While COVID-19 is usually mild in children, some may become severely complicated, very ill, and necessitate hospitalization. Reduced transmission rates reduce the likelihood of new variants mutating, making them more contagious and causing more serious disease-related complications. Another reason why childhood immunization is critical is to promote the health of people who live with children.

**Aim:** The primary objective of this study was to determine the intention of parents to give a COVID-19 vaccine to their children in Jordan, using the theory of planned behavior.

**Methodology:** 396 parents filled out an online questionnaire in a cross-sectional manner throughout the months of November and December 2021. Convenient random sampling was used.

**Results:** The multiple regression of the four sub-variables of intention antecedents and its impact on the parents' intention to vaccinate their children against COVID-19 explained (80.7%) of the variation of intention, where ( $R^2=0.807$ ), ( $F=408.749$ ) ( $Sig= 0.000$ ). Which indicates that there is a significant statistical impact of antecedents of intention (Attitudes, Social Norms, Behavioral control, and the Fear) on the parent's intention to vaccinate their children against COVID-19.

**Conclusion:** The antecedents of intention (Attitudes, Social Norms, Behavioral Control, and Fear) had a statistically significant effect on parents' intention to vaccinate their children against COVID-19. Since attitude had the highest impact on intention, we recommend that decision makers endorse campaigns that encourage positive attitudes towards the vaccine. This could be accomplished by tackling social media misinformation, addressing efficacy and safety concerns, and finally being transparent with the public.

**Keywords:** coronavirus, covid-19, fear , theory of planned behavior , vaccines in children

**Abstract Number: 5005****Every newborn is equal: bottlenecks and strategies in the health-care system, National survey on care of newborns with hypoxic-ischemic encephalopathy**

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**Introduction:** Hypoxic ischemic encephalopathy (HIE) is one of the most serious birth complications affecting full term infants and the only current available neuroprotective therapy to treat HIE is therapeutic hypothermia. (1) National guidelines about identification and management of newborns with perinatal asphyxia have been developed and distributed to the treating pediatricians and neonatologist in Jordan in 2017 (2). As there are no reports to assess the status of care and management of HIE patients in Jordan, so we aim at this study to investigate the current practice in Jordan

**Aim:** To investigate current practices of related physicians, regarding diagnosis, management of new-born with HIE and therapeutic hypothermia (TH) application in Jordan.

**Methods:** Cross-sectional survey.

Setting: All regions and all health sectors in Jordan, during August to October 2021

Subjects: Pediatrician and neonatologist treating newborns with HIE completed self-administered online survey. A total of 70 physicians were recruited and 57 responded

Main outcome measure(s): Current HIE practices of Pediatrician and neonatologist toward awareness of national guideline, Diagnosis Transfer, Application of TH, care

Analysis: was done by using SPSS program

**Results:** A total of 57 people took part, with 38 of them treating HIE patients. One-third of those polled were unaware of Jordan's national HIE guidelines. One-third of all neonates who are affected are transferred. Among those taking part who are treating afflicted individuals; The majority (roughly 70%) began TH with servo-controlled cooling devices and measured blood glucose in the first 6 hours, they used Apgar score to assess the infant's condition at birth, did first hour postnatal blood gas, performed early neurological manifestations, and used Sarnat staging to determine severity to confirm the HIE diagnosis. In 63.2 % of cases, TH were continued for 72 hours. In 47.4 percent of cases, participants reported that their hospitals provide long-term neurodevelopment follow-up care.

The brain activity monitoring devices used were available in a range of levels from moderate to low. The most often used cooling device is a whole-body servocontrol cooling device.

**Conclusion:** In Jordan, there is a significant disparity in available resources, as evidenced by the fact that not all hospitals offer the same level of care. To address the management of this fourth cause of mortality in these precious newborns, a Quality Based Healthcare System (QBHCS) must be implemented. through advocacy and capacity building, and formation of a coordinated team of related providers from both the public and private sectors to begin disseminating the national guideline and providing training and investment in new interventions that will improve Jordan's child health facilities

**Keywords:** Newborn, Service, Jordan, Hypoxic Ischemic encephalopathy

**Abstract Number:** 5006

### A Questionnaire-Based Observational study on the Appropriate Use Of Proton Pump Inhibitors Among Medical Students “Walk To Talk “

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**Introduction:** One of the broadly talked about a class of medications for their extravagantly expanded abuse is proton pump inhibitors (PPIs). Although they are known to be profoundly useful, it is accounted for several adverse manifestations. Health care professionals can assume an essential part in controlling its irrational use.

**Aim:** The purpose of this study was to explore the knowledge, attitude, and behavior of Jordan University students of the Amman region of Jordan on the use of PPIs by conducting a cross-sectional study.

**Methods:** The study data were obtained through a validated self-administered questionnaire covering knowledge (20 items), attitude (6 items), and behavior (7 items). Furthermore, demographic questions were placed to decide their effect on the intended three domains. The results were analyzed by descriptive analysis and affirmed by the multinomial regression method using SPSS-IBM 26.

**Results:** Of 136 respondents who completed the questionnaire, the mean age was  $22.78 \pm 1.52$  years, with a minimum age of 18 years old and maximum of 26 years old. The majority were males of 74 (54.4%) and the highest age category was 21-23 years old with 87 (64.0%) The 6th academic year had the highest percentage of 85 (62.5%) and the least category was the 1st year of 1 (0.7%). A significantly higher proportion of knowledge score exhibited by higher levels of GPA, the p-value (p-value= 0.000). We could not find any significant relationship between the prescription or dispense of PPI in the five questions, all the p-values were more than 5%. The odds ratio of knowing is more in ages of 21-23 and better than ages range of 24-26, young ages were having less knowledge. A positive correlation was observed between attitude and knowledge scores, ( $r = 0.149$ ,  $P = 0.029$ ). No correlation between behavior and

knowledge scores ( $r = 0.038$ ,  $P = 0.588$ ), and a significant negative correlation was found between attitude and behavior towards PPI use ( $r = -0.201$ ,  $P = 0.007$ ). The average score for behavior was just 13.0 percent, while knowledge was 61.0 percent, and attitude was 65.67 percent

**Conclusion:** The study indicated that the overall awareness and knowledge between participants was not very high. We showed that there was a lack of awareness concerning the rational use of PPI in Jordan, especially in early study years among medical students. Thus, it is necessary to call for action on the improvement of PPI awareness and medication-taking behaviors to reduce PPI overuse and to promote the rationality of PPI application.

**Keywords:** Attitude, Awareness, Behavior, Jordan, Knowledge, Proton Pump Inhibitors, PPI, Students, Study Years, University of Jordan

**Abstract Number:** 5007

### Secondary Hemophagocytic Lymphohistiocytosis in a Neonate with SARS-CoV-2 Infection

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**Introduction:** Infants born to a COVID-19 positive mother are susceptible to infection either vertically or horizontally, the mechanism is not completely understood; regardless, it is rare that an infant infected with the SARS-CoV-2 virus would suffer from serious, life-threatening complications.

**Case report:** Our patient is a newborn who tested positive for COVID-19 two days after birth; Unfortunately, we suspect that the virus triggered hemophagocytic lymphohistiocytosis (HLH) which led to the patient's death, after 51 days of being born, due to severe respiratory failure.

**Conclusion:** Infants and children suffer from milder symptoms than adults when infected with COVID-19 for reasons not well understood, although multiple hypotheses have been made which are discussed in this paper. However, there is a slight possibility that the SARS-CoV-2 virus could cause HLH and MIS-C. Therefore, we concluded that the utmost precautions should be taken by obstetricians and neonatologists when dealing with a COVID-19 positive mother during delivery and postnatal care to prevent transmission of the virus to the neonate.

**Keywords:** Lymphohistiocytosis, Hemophagocytic; COVID-19; Newborn; Respiratory Distress Syndrome; Pediatric multisystem inflammatory disease, COVID-19 related.

**Abstract Number:** 5008

### Parental knowledge and attitude toward asthma in Jordanian children

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**Introduction:** One of the most crucial issues in public health is to control asthma in children by preventing asthma attacks and improving symptom control. A parent has a major role in controlling asthma in their children, but sufficient knowledge, positive attitudes, and correct practices are essential.

**Aim:** This study aimed to analyze a parent's knowledge, attitudes, and practices (KAP) and their relation to the severity and control of asthma in their children. The secondary objective was to identify the factors associated with parent KAP scores.

**Methodology:** A random sample of 49 parents (42 mothers and 7 fathers) of asthmatic children was chosen. Any parent with a child diagnosed with bronchial asthma for at least 3 months and

aged between 4-14 years who attended the pediatric respiratory clinics in the university of Jordan hospital between 1st of December 2021 to 17th of February 2022 was eligible to be included.

**Results:** Asthma was believed to be a non-contagious condition in only 10.2% of respondents and only 28.6% knew that it cannot be prevented by vaccination. The majority of parents were anxious about involving their children in vigorous exercises and sports (71.4%), while more than half (67.3%) prohibited them from going outdoors. Regarding asthma prevention, all parents were able to enhance prevention at home and take environmental modification measures, (98%) of parents avoided contact triggers like dust and pollens. Regarding treatment during attacks, all parents were able to give the correct drug at the proper time, most parents were able to use inhalers in mild symptoms (98%). There's no statistically significant correlation between knowledge, attitude, and practice with a mother's age, education, and occupation.

**Conclusion:** In conclusion, The Questionnaire for Parents attitude and knowledge toward asthma is a useful tool to measure the knowledge, attitudes, and practices of parents of asthmatic children. More research should be conducted with a bigger sample size to identify the correlations and to analyze parents' knowledge attitudes, and practices and their relation to severity and control of asthma.

**Keywords:** Asthma in children, Control of asthma, parental KAP.

**Abstract Number:** 5009

### Adult congenital heart disease in a developing country, data from a single center highlighting emerging challenges

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**Introduction:** The number of adult patients with congenital heart disease is steadily increasing, which represents a major issue in the cardiovascular field. In Jordan, there is a lack of data on the prevalence and characteristics of adult CHD.

**Aim:** This study aims to evaluate the characteristics of adult patients with CHD at Jordan University Hospital between 2015 and 2021 and highlight the need for multidisciplinary specialist clinic to care for those patients who require many specialties.

**Methodology:** Adult patients with CHD (18 years or older) who visited pediatrics JUH clinics between January 2015 and December 2021 are included in this hospital-based, single-center, retrospective analysis. The demographic characteristics, primary diagnosis, age at diagnosis, current status, catheterization or surgical data, complications, and survival data of these patients were collected from their electronic records in JUH.

**Results:** Of 268 patients, the majority of patients were young adults, with a mean age of 33.49(± 13.1 years) and 58.6% being females. The atrial septal defect was the most common diagnosis (36.2%) followed by a ventricular septal defect (13.8%) and cyanotic heart diseases accounted for 22% of all congenital heart diseases. The majority had moderate disease with (49.6%). (33.6%) of the patients have had previous cardiac surgery and (51.1%) have had previous catheter-based interventions. Eisenmenger syndrome was encountered in (3%) of the patients and down syndrome was the most frequent syndrome, with (3.3%). In this study, 12 patients (4.5%) were found to be dead.

**Conclusion:** Adult CHD is becoming more common, as an expanding demographic, our study highlights the need for more experienced doctors and specialized facilities to help them spend their full life potential.

**Keywords:** Atrial septal defects, Adult Congenital heart diseases, Jordan university

**Abstract Number: 5010**

### **Quality of Life Among Adolescents with Congenital Heart Disease In Jordan from Parents perspective**

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**Introduction:** Quality of life (QOL) is an important measure for patients with many diseases including congenital heart diseases (CHD). While several studies have reported on QOL of patients with CHD in different countries, and sometimes with conflicting results, no similar studies have yet been conducted in Jordan.

**Aim:** The aim of this study was to assess the QOL for CHD patients among Jordanian adolescents from the perspective of parents.

**Method:** A cross-sectional survey was utilized with a sample 25 patients (15 male; 10 female) aged 13-18 years old and who were receiving care at the University of Jordan Hospital. Data were collected on patients' sociodemographic characteristics and QOL.

**Results:** The mean QOL score was 49.6, ranging from 23 to 101. Higher scores indicate worse QOL. Almost 75% of the studied sample scored less than 60 which suggests reasonable QOL total scores. No significant correlation was found between total QOL scores and gender nor the severity of the disease. However, there was a significant correlation between age and total QOL scores so that older adolescents reported poorer QOL.

**Conclusion:** Generally, QOL is fairly good for adolescents with CHD in Jordan from the perspective of parents but seems the older they get the poorer their QOL becomes, which accords with some previous studies in other countries.

**Keywords:** Quality of Life, Adolescents, Congenital Heart Disease, Jordan

**Abstract Number: 5011**

### **Association Between Carbonated Drinks Consumption and Serum Vitamin D Levels, a Cross-Sectional Study**

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**Introduction:** Low vitamin D levels are extremely prevalent in Jordan. Regular carbonated/soft drinks consumption has been increasing drastically over the last 30 years worldwide. The relation between these two parameters is poorly tested in the MENA region and even worldwide.

**Aim:** This study tests if there is a significant association between carbonated drinks consumption and low serum vitamin D levels.

**Methodology:** This is a cross-sectional study conducted between November and December 2021, that used a survey to collect data from patients in different waiting areas at Jordan University Hospital clinics. Participants were 12 years or older who had vitamin D levels tested within 1 year of the survey. Consent was obtained from the parents for children between 12 and 18 years.

The survey included an introduction with informed consent, followed by a section on demographics and a section on lifestyle including diet exercise and smoking in addition to a final section on consumption of carbonated beverages. Vitamin D levels were obtained from medical records.

Data were analyzed using Microsoft Excel, Descriptive statistics were employed, and Pearson's correlation was used to assess the level of correlation between vitamin D levels and carbonated drinks consumption. Univariate analysis was further conducted to calculate the Odds ratio. Figures and plots were done using Python.

**Results:** The study included 300 participants, of which were females (77%). The average age of participants in the study was 44.6 year and had a mean of 4.17 children.

The mean BMI was  $27.9 \pm 5.83$  putting the population in the overweight range, about 50% of the population did not do exercise and a high 14% were smokers. About 41% of the population consumed junk food.

The average vitamin D serum level was low at 26.3 and the median 22.9 About 68.3% had a low vitamin D level of less than 30ng/mL and about 64% were taking vitamin D supplements. In addition, a significant percentage about 87.3% reported having a low vitamin D level in the past. Of the 23.3% who consumed carbonated drinks, 44.7% consumed Pepsi, followed by 9% Coca-Cola and about 12.4% consumed primarily diet carbonated drinks.

Pepsi consumption showed a statistically significant negative correlation with vitamin D serum level ( $P=0.000014$ ,  $R=-0.249$ ,  $OR=2.23$ ), other drinks carbonated drinks showed no significant correlation ( $P>0.05$ ).

**Conclusion:** We conclude that Pepsi has a negative correlation with serum vitamin D levels and more research should be conducted on the correlation between cola drinks and vitamin D serum levels. The population needs counseling on the amount of Pepsi consumed to try and limit the problem of low vitamin D levels in Jordan.

**Keywords:** Carbonated, Drinks, Cola Drinks, Low Vitamin D Levels, Jordan

**Abstract Number:** 5012

## **Awareness and Attitude towards Primary Healthcare among a Jordanian Population**

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**Introduction:** Primary health care should be the first level of connection between healthcare providers families and communities. However, there is a lack of information regarding the awareness of the Jordanian population towards primary healthcare, and the presence of primary health care alone is not enough to guarantee the utilization of provided services; the level of community awareness can affect the use of these services

**Aim:** to assess the knowledge and attitude of Jordanians towards primary health care, and associated factors

**Methodology:** A cross-sectional community-based study using a self-administered electronic questionnaire conducted on individuals living in Jordan between January and February 2022 administered through social media groups that covers varies locations in Jordan in addition to randomly selected individual at various locations including the University of Jordan Hospital and Clinics.

The questionnaire consisted of an introduction with informed consent followed by a section on demographics then awareness and utilization of primary health care services in Jordan, and finally a section on attitude and different barriers to access primary healthcare.

Descriptive statistics will be employed in addition to logistic regression to study factors affecting the knowledge and attitude towards primary healthcare, with a p value less than 0.05 considered statistically significant

**Results:** Data were collected from 201. About 46% were male and the mean age was 36.33 years, 73.6% lived in Amman, and 51% were married.

The average number of children per family was 1.65 children, about 22% had no insurance coverage, 33% had private insurance, 21% had Military insurance, 15% Ministry of Health insurance and only 10.4% had the University of Jordan insurance coverage.

The population was healthy with only 24% suffering from a chronic disease with Hypertension being the most prevalent (46%) followed by Diabetes, Dyslipidemia, and thyroid disease at 20.8% each.

Looking at awareness about two thirds (61.2%) had not heard of the term primary health care, however, 52.7% thought that PHC offers emergency treatment, only 17.4% of the surveyed population demonstrated high awareness Regarding attitude, about 60.2% had a PHC close by, however, only 36.3% utilized its services., lack of confidence in the quality of services was the main barrier (49.8%), Only 14.9% cited cost as a barrier and 16.9% due to lack of insurance, and only 7% cited transport and distance as a barrier.

Regarding which services a respondent would use the highest percentage 49.7% would use acute care ER services, only 31.6% would use geriatric services 26.4% pediatrics and 25.4% obstetrics and gynecology.

About 72.6% favored mobile clinics in neighborhoods and 68.2% favored home visits.

**Conclusion:** Most respondents were not aware of the concept of primary healthcare, the most utilized service was acute care and emergency treatment, cost and insurance were not significant barriers to PHC utilization, but lack of confidence in the quality of services offered. About two thirds of respondents favored having mobile clinics and home visits.

Awareness campaigns should target the Jordanian population explaining the concept of primary healthcare, and the population should be encouraged to utilize preventative care management, chronic disease management specially hypertension, diabetes, and dyslipidemia, in addition to geriatric, pediatric and antenatal and post-partum services.

**Keywords:** Primary Healthcare, Awareness, Attitude, Barriers, Jordanian population

**Abstract Number:** 5013

### **Multisystemic Inflammatory Syndrome in Children. A Case Series of Jordanian Children**

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**Introduction:** Coronavirus disease (Covid-19) an infectious disease first reported in late December 2019 in Wuhan, China. As of April 2020, increasing reports described a presentation in children comparable to incomplete Kawasaki disease (KD) or toxic shock syndrome.

Multisystem inflammatory syndrome in children (MIS-C) is the name given to that disorder characterized by fever, rash, conjunctivitis, peripheral edema, gastrointestinal problems, shock, and increased markers of inflammation and heart injury

The initial treatment recommendation for MIS-C was using the expensive IVIG.

A recent WHO report recommended using corticosteroids in addition to supportive care for the treatment of hospitalized children who meet the WHO definition for MIS-C. Very scares publications exist on the status of MIS-C in Jordanian children.

**Aim:** To report on a cohort of 3 Jordanian children with Covid-19 related MIS-C, their diagnosis, treatment with steroids and Aspirin, and their outcome.

**Case Series:** Our case series reports on the presenting history, clinical, laboratory and echo findings of 3 Jordanian children with MIS-C who met the WHO diagnostic criteria.

All patients initially received IV corticosteroid followed by a 2-week oral regiment, in addition to low dose Aspirin for a total of 8 weeks.

Follow up at 4 weeks and 8 weeks post onset of fever demonstrated complete resolution of symptoms, normalization of inflammatory markers and normal echocardiography.

**Conclusion:** Jordanian children with MIS-C diagnosed according to the WHO diagnostic criteria were successfully managed with steroids and Aspirin, as an alternative to IVIG with excellent outcome.

This is in support of the WHO recommendations to use steroids specially in low- and middle-income countries for effective treatment of MIS-C.

Larger studies are required to further look into this syndrome and the use of steroids in its management.

**Key Words:** COVID-19 infection, Multisystem inflammatory syndrome in children, MIS-C, Jordanian Children, Steroids, Aspirin

**Abstract Number:** 5014

### **Knowledge and Awareness regarding Nocturnal Enuresis Among Jordanian Parents**

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**Introduction:** Nocturnal Enuresis (NE) is a common problem affecting both children and their parents psychologically and socially. Defined by the DSM-5 as bedwetting of at least two times a week for at least three consecutive months in a child aged 5 years or above in the absence of congenital or acquired defects of the central nervous system

Little is known regarding the awareness of the general population regarding NE in Jordan.

**Aim:** To assess the prevalence of NE and the parental knowledge awareness and attitude regarding NE in Jordan and associated factors.

**Methodology:** A cross-sectional study utilizing a self-administered questionnaire conducted between January and March 2022 on Jordanian social media groups in addition to parents attending outpatient clinics at the University of Jordan Hospital. The questionnaire consisted of an introduction with informed consent, followed by sections on demographics, parental NE awareness and attitude. Data were analyzed using Excel and Python.

Descriptive statistics were employed in addition to logistic regression to identify significant associated factors.

**Results:** 329 consenting parents participated in this study. The prevalence NE was 38% and based on the DSM V definition it was 12.2%.

High parental awareness was only present in 14.9% although about 90% believed the children need evaluation by the physician only 22% did. Regarding parental approach to NE, about 73.9% would restrict fluid before bedtime and 71.4% would ask the child to void before sleep. About 54% would wake the child up from sleep and only 36.8% would reward the child for dry nights

Regarding parental preference for treatment about 69% expressed their preference to behavioral therapy, 30% to drugs and only 14.6% to bedwetting alarms.

**Conclusion:** Our findings suggest that nocturnal enuresis is a common problem among Jordanian children, especially with family history of enuresis.

Enuresis is a public health problem and efforts at all levels should be made such as increasing awareness and educating families to be a source of encouragement and support to help the children to deal with these struggles specially when it comes to rewards behavioral modification and the use of bedwetting alarms.

**Keywords:** Awareness; Children; Jordan; Nocturnal Enuresis; Prevalence.

**Abstract Number:** 5015

### Evaluation of Attitude and Practice of Self-medication among a Jordanian Population

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**Introduction:** Self-medication is the consumption of medications to treat self-diagnosed disorders or symptoms without medical opinion.

**Objective:** to assess and evaluate the attitude and practice of self-medication among the Jordanian population, and associated factors

**Methods:** A cross-sectional online self-administered community-based questionnaire conducted in Jordan over a 2-week period in February 2022, distributed via different Jordanian social media platforms.

The questionnaire included an introduction with informed consent, followed by a section on types of medications used without a prescription and type of symptoms and diagnosis a final section investigated the side effects incurred. data were analyzed using (SPSS) version 22.

Descriptive statistics were employed and logistic regression to test for associated factors.

**Results:** Of the 1073 respondents, 715 (66.6%) reported taking a drug without a doctor's prescription in the past six months, and 400 (37.3%) reported that they are likely or highly likely to take a drug without a prescription in the coming six months, it also showed that painkillers were the most common the type of drug taken

About (68.4%) depended on their pharmacist for information and mild symptoms prompted the respondents to not seek a doctor's opinion the most common symptom being headache and flu,

Among those who self-medicate, 98% reported feeling better after taking the drug. Only 6.85% of the respondents reported side effects, and 81.5% said that they had read the medication package insert provided with the drug prior to taking it.

**Conclusion:** Self-medication is an important health issue, there's a high prevalence of self-medication among the Jordanian population. Public health education and awareness are important to limit the behavior of self-medication.

**Keywords:** self-medication, Jordan, prescription, over the counter

**Abstract Number: 5016****Impact of overweight and obesity on health-related quality of life: a retrospective study from a tertiary center.**

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**Aim:** To evaluate if body Mass Index (BMI) in children is correlated to Apnoeahypopnoea Index (AHI), mean partial pressure of carbon dioxide (PCO<sub>2</sub>) in a capillary blood gas and laboratory results and quality of life, which are all indexes associated with severe obstructive sleep apnea (OSA).

**Methods:** A cross sectional study where fifty obese and morbidly obese children (mean age 10.97) referred for polysomnography were recruited. Body Mass Index (BMI) was calculated for each child. All polysomnography variables were collected from the sleep laboratory and laboratory results were collected from the medical records. OSA-18 questionnaire was filled by parents at the night of the polysomnography. Consecutive obese patients 3 to 14 years of age who underwent polysomnography (PSG) and diagnosed with OSA based on the apnea-hypopnea index (AHI) was analyzed, all the parents of obese OSA child answered OSA -18 QOL questioners and the hospital records in term of demographic, clinical and laboratory data were reviewed, and data was collected.

**Results:** In total, 50 children diagnosed with OSA were included in the analysis (31 boys and 19 girls). 26% were overweight and 74% were obese. Half of the children have severe OSA (AHI more than 10 /hour). The AHI was significantly higher in female than males and the results of PSG were more severe in females, the QOL many of lab results was found to be affected by OSA.

**Conclusion:** obesity is a major risk factor for OSA and its severity, there are gender differences in term of AHI and PSG results, the QOL and many of laboratory findings will be affected by OSA.

**Keywords:** Obesity, Overweight, Jordanian children, Quality of Life, Obstructive Sleep Apnea

**Abstract Number: 5017****Impact of online learning on Low Back Pain Intensity, Prevalence, and Associated Risk Factors among university student in Jordan: A Cross-Sectional Study:**

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**Aim:** To evaluate the prevalence and characteristics of low back pain LBP among university students in Jordan following online learning, and associated factors.

**Methodology:** A cross sectional study conducted between February and March 2022, through a self-administered questionnaire using Google Forms and distributed via social media platforms for Jordanian universities, , in addition to direct interviews with university students. Statistical analysis was done using Microsoft excel and IBM SPSS Pearson's correlation R-value and Chi square P-value were used for data analysis.

**Results:** 216 students from universities across Jordan responded and were 48.1% males (104) and 51.9% females (112) whose mean age was for males (22.65) and for females (21.38), average BMI was for males (25.05) and for females (21.96), 67% of participants practiced regular physical activity during the last 12 months, the median physical activity time was 1 hour daily. The life-time prevalence of LBP prior to the covid-19 online learning period among males was 48.1% (50) and for females was 54.5% (61), in contrast the LBP prevalence during the covid-19 online learning period was 46.15% (48) for males and 46.4% (52) for females.

Overall, university students in Jordan experienced low intensity LBP with minimal effect on their daily activities. LBP was found out to be weakly correlated with physical activity hours in men (R-value=0.12) and women (R-value=0.12), also the data showed statistical significance between the two parameters in women (P-value=0.006) but no statistical significance in men. No correlation has been found between BMI and LBP for males (0.127) and females (0.147). Also the chi-square p-value did not show any statistical significance for males (0.2) and females (0.12). LBP and online learning hours results showed statistical significance for females (P-value=0.06) with a weak correlation (R-value=0.14), and no statistical significance for males (P-value=0.6) with no correlation (R-value=0.6)

**Conclusion:** LBP is a very prevalent condition among university students in Jordan, with students mostly experiencing low intensity LBP and with minor effect on their daily lives. LBP has been found to be associated with physical activity hours in males and online learning hours in females.

**Keywords:** Low Back Pain, University Students, Jordan, Online Learning.

**Abstract Number:** 5018

### Knowledge, Attitude, and Awareness of Medical Students towards Palliative Care and its Specialty

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**Introduction:** Palliative care is a crucial part of integrated, patient-centered health services. It aims to improve the quality of life, manage, and relieve pain and suffering of patients with serious complex life-threatening illnesses, taking into consideration the physical, psychosocial, and spiritual aspects. It is an ethical obligation and responsibility of the medical professionals to provide such care for the ones who need it. However, students in medical schools have little to no knowledge about palliative care despite its importance.

**Aim:** To evaluate the knowledge, awareness, attitude, expectations as well as interest of medical students in Jordan towards palliative care.

**Methodology:** Questionnaire-based cross-sectional study targeting medical students in Jordan. The questionnaire was designed using Google™ Forms and included 6 sections which included an introduction and informed consent. Followed by demographics, The third and fourth sections consisted of 22 5-point Likert scale items that assessed the attitudes (15) and expectations (7), respectively. the questionnaire assessed the knowledge and awareness through 14 true/false items. A final section was on the desire to pursue palliative as a career.

**Results:** 215 medical students responded to the survey, most of whom were females (63.3%), with a high proportion (80.9%) from the University of Jordan. The mean age was 20.1 and a vast majority (92.1%) had no previous training in palliative care. Their attitude tended to be positive towards palliative care except when they were asked about opioid usage both in addictive potential and its usage at the end-of-life.

Moreover, they lack the knowledge in the ability to relieve cancer pain. As for expectations, a bigger proportion of medical students believed that psychological suffering can be as severe as physical suffering (86.9%) and that depression is treatable among patients with terminal illnesses (62.2%). But they also viewed that caring for dying patients as depressing (42%).

Most of the participants reported feeling guilty after the death of a patient (69.75%). Finally, knowledge and awareness assessment results have shown a marked lack of knowledge when asked about pharmaceuticals. The participants have also misunderstood opioid dosing and its relationship with respiratory depression, which highlights the importance of initiating palliative care training curricula.

**Conclusion:** The importance of implementing new medical school curricula that include PC is imperative, for both patient care, and physician confidence in dealing with end-of-life patients.

**Keywords:** Attitudes, End-of-life, Expectations, Knowledge, Medical students and Palliative Care

**Abstract Number:** 5019

### COVID-19 infection and vaccination status among medical students in clinical years at the university of Jordan hospital

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**Introduction:** Since the beginning of COVID-19 pandemic, medical students especially the clinical years students, were among the first lines to be exposed and got infected with COVID-19, affecting their education, training, mental health, and many more adverse effects.

Jordan underwent many waves of COVID-19 infections, and the population was exposed to different strains.

Few studies were conducted on COVID-19 infections in medical students in Jordan.

**Aim:** To investigate the COVID-19 infection status and vaccination status among medical students in their clinical years.

**Methodology:** This is a cross-sectional study, conducted on 133 medical students in their clinical years at the University of Jordan Hospital, during February and March 2022.

An online questionnaire was distributed on social media groups for the 4<sup>th</sup> 5<sup>th</sup> and 6<sup>th</sup> clinical year medical students.

The questionnaire consisted of an introduction and informed consent followed by sections on demographics, medical history, whether students were infected with COVID-19 confirmed by PCR testing, their presenting symptoms, management. Sections on vaccination status followed with types of vaccines taken, number of doses and any side effects post vaccination. Statistical analysis was conducted using SPSS software program.

**Results:** 70 students (52.6%) got infected at least once with COVID-19 since the pandemic. A minority of them were asymptomatic (5.7%), however the majority had mild symptoms most commonly fatigue (71.4%), fever in (48.6%), headache (50%). respiratory and other symptoms like GI symptoms (10%) and back pain (1.4%) were reported.

The duration of symptoms was less than a week for two thirds of infected students.

Regarding management of the infection, (14.3%) had not received any treatment. Pain killers were the most treatment used, as (68.6%) used them, followed by Vitamin C, Vitamin D and Zinc supplements.

(97%) received COVID-19 at least 2 doses of vaccination in which Pfizer was the most common type (58.91%). The most common Side effects of the vaccine is injection site pain (63.5%), fever (21%), and sleep problems (17%).

39 students (30.2%) did not have any side effects of vaccination

**Conclusion:** The incidence of COVID-19 infection among clinical years medical students is high compared to other studies and general population. Although the incidence is high, most symptoms are self-limiting and don't require ER visits or ICU admission.

The vaccination rate is very high which may be attributed to high awareness among medical students.

The vaccination is considered safe since one third report no side effects and most side effects are attributed to site injection pain and fever

**Keywords:**

COVID-19 infection, COVID-19 vaccination, Jordan, Medical students.

**Abstract Number: 2020**

### Awareness of Gout Patients Towards their Disease and Treatment Options

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**Introduction:** In order to manage gout properly, gout patients need to be conscious regarding the impact of multiple triggers like diet, alcohol use, BMI and others on their disease course.

**Aim:** In this research we aimed to examine the beliefs and knowledge of gout patients concerning their disease management and treatment to point out the barriers to optimal patient self-management

**Methods:** This cross-sectional study recruited forty people with gout from the rheumatology clinics at Jordan University Hospital. Patients were asked to fill a questionnaire, using simple questions to assess their basic knowledge and awareness regarding their disease and treatment options. Data were analyzed using SPSS v.20.

**Results:** Out of forty participants, the majority were males (57%), with a mean age of 52.6. Seventy-five percent (30 patients) claimed that the cause of an acute gout attack was an increase in the level of uric acid. In terms of weight, 75% answered that weight gain is an influential factor affecting gout occurrence. Among the 70% patients (28) who

believed that foods and drinks may be a trigger to acute attacks, meats were the most common food type chosen. Moreover, only 32% (13) of the sample identified psychological stress to lead to an attack. Among urate-lowering medications to be used for a long-term treatment, allopurinol was the most commonly used drug followed by colchicine. Finally, NSAIDs were the most used drugs both acutely and prophylactically, followed by steroids.

**Conclusion:** It was noted that out of our sample of 40 gout patients following up at the university of Jordan rheumatology clinic half of the patients had sufficient previous information regarding their disease. Nevertheless, among this percentage, the degree of awareness was variable.

**Key Words:** Gout, Awareness, Jordanian patients,

**Abstract Number:** 5021

### **Awareness, Beliefs and Attitude towards Anemia among Jordanian Population.**

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**Introduction** Anemia is a common health problem characterized by drop in hemoglobin below a defined cut-off value which affects the blood's capacity to transport oxygen throughout the body, it's caused by a variety of factors (nutritional, inflammatory, genetics).

**Aim:** To assess the awareness of anemia among the Jordanian population as well as analyze the attitudes and its consequence.

**Methodology:** A cross-sectional observational study done to collect the data via electronic google form aiming individuals  $\geq 18$  years in all governorates of Jordan between the period of February 18<sup>th</sup> to February 26<sup>th</sup> of the year 2022 aiming non-medical sector, excluding medical students and any healthcare providers who filled up the form.

**Results:** 24.9% of the whole study population (with healthcare providers) reported to have anemia (mainly iron and B12 deficiency anemia), seen more among females than males (79%). Without healthcare providers, 39.2% don't know about anemia subtypes. The most reputable type is iron deficiency (84%), the least one is folic acid deficiency and SCD (25.3% for each). A quarter didn't hear about thalassemia and G6PD while 64.9% didn't hear about SCD. More than 80% support doing any screening tests for any type of anemia and encourage donations for patients.

**Conclusion:** More awareness campaigns (which include the definition, risk factors, clinical presentation and the ways of prevention) are needed regarding nutritional anemia (B12 and folic acid) since they are the least reputable ones. However, the government have to work more on the premarital screening of inherited blood disease which might help in preventing them despite the high level of awareness among Jordanians.

**Keywords:** Anemia; Awareness; Nutrition; Perception.

**Abstract Number:** 5022

### **Survey of 2019 University of Jordan - School of Medicine Alumni 3 years after Graduation**

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