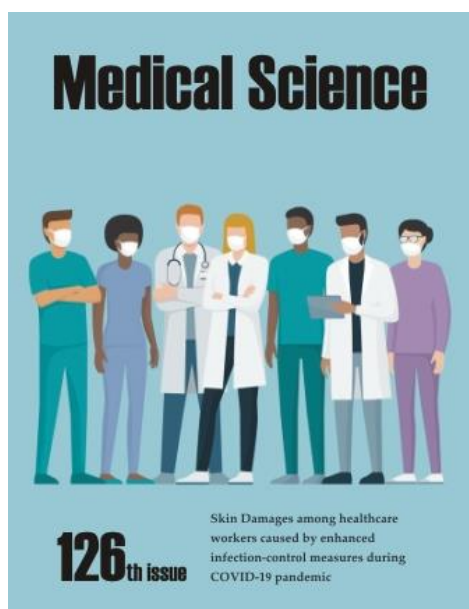


Medical Science

About the Cover



Background: The purpose of this study was to determine the prevalence of occupational skin diseases among health care workers during the COVID-19 pandemic in a general hospital in the center of Saudi Arabia. *Methods:* This cross-sectional study was conducted from March – May 2021, at King Khaled General Hospital, Al-Majmaah, Saudi Arabia. A self-administered online questionnaire was distributed among healthcare professionals. The questionnaire asked about the severity of skin damage and the frequency or duration of various infection-prevention measures. *Results:* About 68.2% had newly onset of obvious skin damage while 31.8 % didn't had the skin damages, 21.6% of the new onset of obvious skin damages on fingertips, 46.6% in hands, 22.4% in palms, 3.4% on the face, and 6.0% under the eyes. Around 30% of the symptoms at the damaged site had itching, 44.7% dryness, 12.8% burning/pain, and 12.8% had tenderness. Around 17% of the type of skin lesion was peeling, 28.2% fissure, 18.8% erosion/ulcer, 24.7% redness, 4.7% papule (pimples), and 7.1% were others. *Conclusion:* Due to heightened preventive measures, frontline doctors are at a higher risk of acquiring skin damage. To address the risk factors and limit skin damage, appropriate measures should be performed. For the best results, persistent instances should be referred to a dermatologist (Ref: Algaadi SA, Alanazi ASA, Alsaadoon SAH, Alqabbani AAA, Alomair SAS. Skin Damages among healthcare workers caused by enhanced infection-control measures during COVID-19 pandemic – A cross-sectional study from Saudi Arabia. Medical Science, 2022, 26, ms321e2148).

Skin Damages among healthcare workers caused by enhanced infection-control measures during COVID-19 pandemic – A cross-sectional study from Saudi Arabia

Salim Ali Algaadi, Abdulaziz Saqer A Alanazi, Saleh Asaad Hamad Alsaadoon, Abdulrahman Ali Abdullah Alqabbani, Saud Abdulaziz Saud Alomair

Background: The purpose of this study was to determine the prevalence of occupational skin diseases among health care workers during the COVID-19 pandemic in a general hospital in the center of Saudi Arabia. *Methods:* This cross-sectional study was conducted from March – May 2021, at King Khaled General Hospital, Al-Majmaah, Saudi Arabia. A self-administered online questionnaire was distributed among healthcare professionals. The questionnaire asked about the severity of skin damage and the frequency or duration of various infection-prevention measures. *Results:* About 68.2% had newly onset of obvious skin damage while 31.8 % didn't had the skin damages, 21.6% of the new onset of obvious skin damages on fingertips, 46.6% in hands, 22.4% in palms, 3.4% on the face, and 6.0% under the eyes. Around 30% of the symptoms at the damaged site had itching, 44.7% dryness, 12.8% burning/pain, and 12.8% had tenderness. Around 17% of the type of skin lesion was peeling, 28.2% fissure, 18.8% erosion/ulcer, 24.7% redness, 4.7% papule (pimples), and 7.1% were others. *Conclusion:* Due to heightened preventive measures, frontline doctors are at a higher risk of acquiring skin damage. To address the risk factors and limit skin damage, appropriate measures should be performed. For the best results, persistent instances should be referred to a dermatologist.

Medical Science, 2022, 26, ms321e2148

Awareness of hypertension prevention among high school students of Riyadh, Saudi Arabia

Yasir I Alsenaidi, Saleh H Alorainy, Abdulmalik S Alawam, Suliman S Abuhaimad, Tariq S Dabil, Fahad S Alhussainan, Moath A Alkeaid

Introduction: Hypertension is widely spread in Saudi Arabia, often individuals do not know they are suffering from this disease or the implications. This study aims to determine the level of awareness stemming from youth residents of Riyadh, Saudi Arabia when it comes to hypertension and preventable actions. *Methods:* This is a community-based, cross-sectional study conducted among high school students studying in different regions of Riyadh, Saudi Arabia. Questionnaires were distributed among students and included demographic characteristics, attitude towards hypertension and a 20-item questionnaire to measure the hypertension awareness and prevention. *Results:* 503 students took part (54.7% males). Overall mean awareness scores were 12.8 (SD 3.85) out of 20 points. 60% were considered having moderate awareness, 25.2% good awareness and the remaining had poor awareness levels (15.3%). Factors associated with increased awareness scores were female, attending private schools, and undergoing screening tests. While being diagnosed with hypertension was the only factor associated with decreased awareness scores. *Conclusion:* The awareness of the students regarding hypertension and its prevention was adequate. Female students who were studying at private schools and who had undergone screening tests demonstrated better awareness levels compared to others.

Medical Science, 2022, 26, ms322e2333

Correlation between cerebrospinal fluid routine and microscopic examination with clinicopathological parameters in patients with meningitis

Prajapati Swapnilraj R, Panchal Akshay H, Ankita Priyadarshini

Background: Cerebrospinal fluid examination is very useful and important in patients with neurological disease such as meningitis. CSF examination with quantification of polymorphs, lymphocytes and total count are the standard procedure in suspected case of infection. Our objective is to determine the correlation between clinicopathological parameters, routine and microscopic values. *Material and Method:* Total of 145 patient's reports included who were clinically suspected and underwent lumbar puncture from January 1st to 31st December 2021. *Result:* Meningitis was diagnosed in 82 male and 63 female patients over one year period. Fever was present in 99.3% patients with 65.5% experiencing headache, 56% vomiting with 68.9% experiencing neck stiffness and 73.1% had rash on the body. All symptoms showed significant p-value except headache when correlated with age group. Clinicopathological parameters significantly correlated with routine and microscopic values. *Conclusion:* CSF parameters are very useful as point of care tool for assessing patients with meningitis. Our study showed a very significant correlation between laboratories with clinicopathological parameters which can help clinicians for proper management of disease.

Medical Science, 2022, 26, ms323e2337

Knowledge, Attitude and Practice (KAP) towards control and preventive measures of hypertension among primary healthcare physicians in Jeddah City, Saudi Arabia, 2022

Ayat I Althobaiti, Hani A Alghamdi

Background: Hypertension remains a huge challenge globally and in Saudi Arabia in particular. Almost all patients with hypertension in Saudi Arabia are followed up at primary health care (PHC) centers. Therefore, we assessed the knowledge, attitude, and practice (KAP) towards control and preventive measures of hypertension among PHC physicians. *Methods:* This was a cross-sectional study carried out using an online questionnaire on PHC physicians from April 2022 to December 2022. We performed descriptive statistics and the Student t-test, ANOVA and Chi-Square test were used to compare and determine associations among variables, with $p < 0.05$ for significance. *Results:* Our study received responses from 214 physicians, mostly female (55.1%), and aged

25 – 35 years (74.8%). The mean KAP scores were 15.74±2.39, ranging from 6.0-19.0, 47.14±5.12, ranging from 33-57 and 32.39±5.93, ranging from 8-40, respectively. Knowledge positively correlated with attitude ($R=0.551$) ($p<0.001$) and practice ($R=0.369$) ($p<0.001$), and attitude correlated with practice ($R=0.241$) ($p<0.001$). Female gender, family medicine degree and older age were positively correlated with all KAP scores ($p<0.05$). Family medicine studies ($p<0.001$), > 2 years of experience ($p=0.004$) and managing > 30 patients (and $p=0.022$), and attending hypertension courses ($p=0.004$) positively correlated with attitude, practice, and knowledge, respectively. *Conclusion:* This study showed that PHC physicians had good knowledge, attitude and practice towards control and preventive measures of hypertension. However, updating and adjusting courses on hypertension and post-course follow-up to ensure the practice of acquired knowledge are recommended.

Medical Science, 2022, 26, ms324e2404

Knowledge, attitude, and practices of burn first aid and its preventive measures among undergraduate medical students of Umm Al-Qura University: A cross-sectional study

Omar Safran Alhothali, Reem Abdullah Alharthi, Ammar Safran Alhothali, Lujain Ahmad Alzahrani, Aroob Mohammed Amin Abdulhalim, Mohammed Amro Fouda, Fares Alaa Sultan, Alaa A Sultan

Background: Burns are common and highly preventable injuries and affect people worldwide. Burn first aid could speed up the healing process and reduce healthcare costs. The main objective from this study is to evaluate medical students' perceptions of burn first aid in the Makkah city, Saudi Arabia. *Materials and Methods:* A cross-sectional survey was conducted among medical students at Umm Al-Qura University in Makkah city. For data collection, an online questionnaire created and Google Forms was used. The data were collected online between December 2021 and January 2022. The questionnaire included 13 questions on the demographic, the participants' academic criteria and evaluated participants' awareness level on burn first aid. *Results:* The study included 378 students from the preclinical and clinical levels. Approximately 92% of participants achieved a poor knowledge score. Female students had a significantly higher percentage of those who had good knowledge about burn first aid compared to male students ($p<0.05$). In addition, the internet and social media (50.4%) were the primary sources of information regarding the prevention of burn injuries among participants, followed by the college curriculum (45.8%). *Conclusion:* The level of burn first aid awareness was poor among most medical students at Umm Al-Qura University. The use of social media to raise health awareness looks promising.

Medical Science, 2022, 26, ms325e2397

The effect of level of doing sports activities and attitude towards recreational activities on burnout level and COVID-19 phobia in physicians

Sibel Yıldırım, Seda Kiraz

It has been recommended to implement physically active lifestyles against the negative consequences of the COVID-19 pandemic. During the pandemic process, many healthcare professionals had to lead a stressful life due to long hours of intensive healthcare. This situation directly affected the burnout levels of physicians as well as indirectly affected patients seeking treatment. The goal of this study was to look into the effects of physicians' levels of participation in sports, their attitudes toward sporting recreational activities, and the effects of COVID-19 phobias on burnout. 272 physicians participated in the study. The Health Belief Scale Regarding Sports Recreational Activities (HBSSRA), Maslach Burnout Scale (MBI), and COVID-19 Phobia Scale (C19P-S) were used during data collection. Spearman correlation coefficient was used for correlation analysis, Kruskal-Wallis test was used to compare groups, and logistic regression analysis was used to establish a model. MBI total and emotional exhaustion scores were significantly different according to the physicians' participation levels in sportive activities ($P=0.740$, $P=0.136$). Statistically significant correlation was found between HBSSRA and MBI total scores ($r=-0.313$, $P=0.009$). The probability of emotional exhaustion was 1.45 times higher in physicians with low level of participation in sports activities. The increase in HBSSRA scores had a protective effect on emotional burnout ($P=0.028$, OR: 0.72). We are hopeful that the findings obtained from physicians will highlight the importance of sports and recreational activities, paving the way for improvement strategies that will benefit those who are most affected by the COVID-19 crisis.

Medical Science, 2022, 26, ms326e2334

CASE REPORT

Effectiveness of preliminary physiotherapy intervention in a child with tubercular meningitis along with acute ischemic infarct

Kamya Jitesh Somaiya, Rakesh Krishna Kovala, Pallavi Harjpal

Acute bacterial meningitis (ABM) is a condition with a high incidence, high fatality and morbidity rates. The phenomenon Hydrocephalus, periventricular infarcts, optochiasmatic and spinal arachnoiditis, and tuberculous mass lesions in the brain are just a few of the consequences associated with tuberculous meningitis. We conducted a full neuro physiotherapy evaluation. We developed a rehabilitation program based on the data, which proved to be highly efficient in improving the child's condition and functional abilities. They had been complaining of fever for 1.5 months, decreased oral intake for 7 days, and tightness in all limbs with difficulty utilising the right upper and lower leg for 7 days when they came to see us. The child was also unable to communicate with a left-sided facial deviation. According to all tests, the patient acquired Tuberculous Meningitis with an acute cerebral infarct on the left side, resulting in right side hemiplegia and communicating hydrocephalus. The child's functional ability

was greatly enhanced as a result of the physiotherapy rehabilitation we used. The facial muscle strength had improved, head control had improved, food intake had improved as swallowing and drooling of saliva had improved with overall increase in muscle strength.

Medical Science, 2022, 26, ms327e2219

Goal-oriented rehabilitation in a 15-year-old case of cystic bronchiectasis secondary to Pierre-robin sequence- Case report

Vishakha Tayade, Vishnu Vardhan

Background: Bronchiectasis is marked by persistent respiratory infections, a productive cough, shortness of breath, and a decreased ability to exercise. In Pierre robin Mandibular distraction is a current effective therapeutic approach for elongating the jaw and resolving obstruction of the respiratory system. The goal of the treatment is to relieve the dyspnoea and increase the chest expansion. Treatment options may involve modified postural drainage positioning, breathing exercises, acapella device, aerobic exercises, and mandibular distraction with physiotherapeutic management. *Case presentation:* A 15 years old girl visited the hospital with complaints of dyspnoea (MMRC grade IV), productive cough, weight loss for one month, and a history of pulmonary arterial hypertension 2 years back. *Investigations:* investigations include HRCT scan of the thorax which revealed patchy areas of centrilobular consolidation and 2D echo shows severe pulmonary arterial hypertension. *Treatment:* Physiotherapy management included patient education, breathing exercises, airway clearance techniques, acapella device, positioning and mandibular distraction. Outcome measures have shown improvement in aerobic capacity and performance of activities of daily living.

Medical Science, 2022, 26, ms328e2267

ANALYSIS

Healthcare associated infection in maternity and pediatric hospital, Arar, Saudi Arabia

Nawal S Gouda, Basem Salama

Introduction: Healthcare-associated infections (HAIs) are avoidable complications from health care of health care, result in significant patient morbidity and mortality) and prolong the duration of hospital stay and economic cost. It used as an accurate indicator of the quality of health care system. The aim of the current study was to analyze the HAIs rates, to define how many and what kind of HAIs were occurred, the causative organism, type of drugs used in treatment of infection and to identify the risk factors associated with HAIs. *Method:* A nested case-control study included women hospitalized for more than 48 hours at obstetrics and gynaecology wards in the maternity and pediatrics hospital. *Results:* Overall incidence rate of HAIs was (7.8%). *Staphylococcus aureus* was the most frequent isolated pathogen (26.3%) followed by, *E. coli* (21.6%). Urinary tract infection was the most common type (49.3%). Women hospitalization more than 7 days, exposed to indwelling urinary catheter and peripheral IV catheter, aged 35 years or above, underwent to surgical operation and diabetic were at high risk of HAIs(OR >1.5). *Conclusion:* A Healthcare-associated infection requires intensified monitor and implementation of various effective prevention policies to reduce the occurrence of HAIs.

Medical Science, 2022, 26, ms329e2194

Prevalence of electronic and tobacco cigarette smoking among health sciences students in Saudi Arabia

Khalid Al-Regaiey, Sultan Meo, Mansour Alobrah, Bandar Aljammaz, Tareq Alalwan, Sulaiman Alzomia, Ahmad Alsobay, Muhammad Iqbal

Objevtives: Electronic cigarette (e-cigarette) smoking or vaping is a trending habit and has gained popularity worldwide, irrespective of its harmful effects on health. This study intended to estimate the usage percentage and factors leading to the smoking of e-cigarettes among students of health sciences specialties. *Methodology:* A survey was carried out between June 2021 and September 2021 among students of different health disciplines. A self-administered questionnaire consisting of 18 validated questions was used. *Results:* Out of 600 randomly selected participants, a total of 364 responded. The overall prevalence of vaping was 29.9%, while conventional cigarette smoking was (13.5%). Vaping was more prevalent in male students (68%) compared to females (32%). A prevalence ratio of 2.42 indicated that vaping for male students was about 2.5 times higher than female students. We found that male students vape more than female students by 2.5 times, based on a calculated prevalence ratio of 2.42. The main reason for vaping was entertainment (45.1%), followed by the desire to quit regular cigarettes (28.8%). *Conclusions:* In conclusion, prevalence of e-cigarette smoking was higher than conventional cigarette smoking. It is crucial that health professional should have adequate knowledge and education about the harms and benefits of e-cigarettes.

Medical Science, 2022, 26, ms330e2391

The impact of medical knowledge on modifying the Lifestyle among medical students of King Abdulaziz University clinical years

Abdualrahman S Aldharrab, Abdullah M Nammazi, Muhanad H Saigh, Abdullah M Alqarni, Abdulelah S Alasiri, Fahad S Almalki, Ayman Z Elsamanoudy

Background and aim of the work: It has been understood that students at medical schools are more mindful of the value of living a healthy lifestyle than others. So, the current study aims to investigate the medical Knowledge of a healthy lifestyle among the

clinical years' students and the impact of modifying the Lifestyle. *Methods:* This cross-sectional study was conducted to assess the Knowledge and attitudes of a sample of the medical students at King Abdulaziz University, Faculty of Medicine, Saudi Arabia, regarding the impact of medical Knowledge on modifying their Lifestyle. It included 330 medical students between the ages of 19-24 years from preclinical years and Clinical years' students in the faculty of medicine. A self-reported questionnaire was employed to evaluate the impact of medical Knowledge on modifying their Lifestyle. *Results:* In total, 336 medical students participated in our study (48.5% males and 51.5% females). The smoking rate among the preclinical students (28.3%) was higher than the clinical students (13.9%). Smoking was also prevalent in both genders. Consumption of energy drinks was more common among preclinical students ($P<0.05$). No difference was detected between preclinical and clinical year's students or between male and female students. *Conclusion:* Our results revealed that clinical years' students are more kept in a healthy lifestyle than preclinical years' students. These conclusions are supported by the prominent findings of the lower incidence rates of smoking, and energy drink consumption, besides the better sleeping quality in clinical students.

Medical Science, 2022, 26, ms331e2358

Knowledge of neurological symptom of covid-19 among general population in Al Qassim region: A cross-sectional study

Norah Alharbi, Basil Abdulrahman Alharbi, Turki Ibrahim Aloraini, Ali Saleh Alsughayyir, Naif Suliman Alaqil

Background: The neurological involvement of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has been reported in studies and its effect on the respiratory system. This study intended to assess the knowledge of neurological symptoms of COVID-19 among the Al'Qassim population, Saudi Arabia. *Methods:* This cross-sectional study was conducted on 529 Al'Qassim residents through an online survey. A COVID -19 online questionnaires was distributed via various messenger groups and social media. The questionnaire comprised of three sections to collect data regarding demographics, self-reported knowledge of neurologic symptoms, and neurological symptoms of COVID-19 for those who contracted COVID-19. For quantitative variables, mean and standard deviation were used, whereas for categorical variables, frequency and proportion were used. *Results:* Among the study population, the majority (35.34%) were aged between 18 to 24 years, and females (70.32%) outnumbered males (29.68%). The majority of the participants had acceptable (41.78%) knowledge of neurologic symptoms. The self-reported prevalence of COVID-19 among the respondents was 19.66%. *Conclusion:* Most respondents showed an acceptable to excellent knowledge of neurologic symptoms of COVID-19. However, this study found that females and younger age groups had better knowledge even though there was no statistical significance. Hence, health education intervention must be conducted targeting the vulnerable population to raise awareness of the disease's neurologic symptoms for early identification and prompt treatment.

Medical Science, 2022, 26, ms332e2154

CASE REPORT

Rehabilitation for femoral retroversion an uncommon phenomenon post supracondylar femur fracture - A case report

Kamya Jitesh Somaiya, Pratik Arun Phansopkar, Neha Vinay Chitale

The most frequent cause of the malrotation of the femur, which frequently goes undiagnosed, is supracondylar femur fractures. This case describes a 55-year-old man who had a supracondylar femur fracture in his right lower limb. Because of the neglect, the patient has an external rotation deformity. An external rotation deformity was present in the right lower limb. This patient received physiotherapy treatment. The exterior rotation deformity needed to be corrected was the major priority. Exercises with resistance bands, Mulligan Mobilization, and Myofascial Release Technique were used. The Lower Extremity Functional Scale, the SF36 for Quality of Life, and Manual Muscle Testing were only a few of the outcome measures used. When scores were compared before and after physiotherapy, a significant positive effect was seen. The external rotation deformity of the hip can be treated with physiotherapy, which also helps the patient's quality of life. The patient's condition and quality of life were significantly enhanced by the treatment plan we adopted to fix the External Rotation Deformity.

Medical Science, 2022, 26, ms333e2217

Successful treatment of uterine arteriovenous malformation by conservative management: Case report

Samih Kajoak

Uterine arteriovenous malformation (UAVM) is a potentially fatal disorder caused by abnormal and nonfunctional connections between veins and arteries in the myometrium. It's consistently related to uterine trauma or prior pregnancy. A 32-year-old patient presented with severe vaginal bleeding as well as a 30-day history of abnormal vaginal bleeding. She was diagnosed with UAVM by transabdominal ultrasound color Doppler. MRI confirmed the diagnosis of UAVM. Therefore, she was given oral progesterone 5 mg three times a day for 21 days as a conservative treatment. She was followed for a year, remained asymptomatic and conceived spontaneously, and had a low-risk pregnancy, with good maternal and fetal outcomes. Since the treatment, the patient has not suffered any serious uterine hemorrhage.

Medical Science, 2022, 26, ms334e2312

Early detection of acute renal failure by serum cystatin C in type 2 diabetes patients in Parul Sevashram hospital at Waghodia, Vadodara

Disha A Chanderla, Dhruvi M Patel, Ketan Mangukiya

Aim: The early stages of acute renal failure are poorly diagnosed by current routine tests. We studied the correlation between cystatin C and creatinine in Type 2 diabetes patients. *Introduction:* The present study was carried out on 52 subjects with type 2 diabetes mellitus. All subjects were tested for various parameters like, serum cystatin C, serum creatinine, HbA1C, FBS, and, PP2BS. Analysis of Glomerular filtration rate was done using national kidney foundation formula. To analyze data Excel is used for SD value and Social Science Statistics for P value. *Method:* ScyC levels increased significantly in type 2 diabetes patients ($p < 0.001$) as compare to SCr level. A positive correlation was present between ScyC and SCr ($r = 0.309$, $p < 0.005$). Both SCysC ($r = -0.184$) and SCr ($r = -0.309$) had adverse correlation with eGFR ($p < 0.005$). *Result:* Serum cystatin C can be recognised as an immediate marker to detect nephropathy and renal dysfunction in diabetic patients than serum creatinine. Furthermore, this study needs to be conducted with a largest population to confirm this.

Medical Science, 2022, 26, ms335e2368

ANALYSIS**Sars-cov-2 vaccination and associated side effects among Saudi general population**

Samah Alrehaili, Lujain Bin Othman, Sarah Khunfur, Nasser Alwaqdi, Abdullah Alamri, Faris Alzahrani

Background: Unless vaccines are approved and widely used, there will be over 400 million cases of coronavirus illness (COVID-19) in 2019. This is less than two years after the World Health Organization called it a pandemic. Vaccines, on the other hand, may have individual-level side effects that warrant additional research. *Objective:* The study's aim was to identify the adverse effects reported by the Saudi population in relation to the COVID-19 vaccines. *Methodology:* A cross-sectional observational study was held in Saudi Arabia between March 1, 2022, and April 15, 2022. *Results:* The study comprised 3463 adults ranging in age from 18 to 94 years old, with an average age of 33.4 years. The type of vaccine had a statistically significant association with fever, joint pain, lower limb edema, nausea, abdominal discomfort, sweating, distal limb tingling, vertigo), chest pain, sleepiness or drowsiness, and arrhythmia or tachycardia. *Conclusion:* The lower incidence of fever, joint discomfort, lower limb edema, nausea, abdominal pain, sweating, distal limb tingling, vertigo, drowsiness, and tachycardia were associated with Pfizer vaccine. Lower incidences of chest pain were associated with AstraZeneca vaccine.

Medical Science, 2022, 26, ms336e2359

Laser polarimetry of human biological tissues as an effective method of differential diagnosis, using the prostate gland as an example

Vyacheslav Sokol

Laser polarimetric technologies (LPT) for the assessment of biological tissues (BT) are a promising scientific direction of research, which is based on the evaluation of changes in the light beam that illuminates the examined tissue. These methods have proven themselves well in many medical fields, such as oncology, gynecology, operative surgery, pathological anatomy, forensic medicine, etc., and allow us to establish pathological changes in BT, the temporal dynamics of these changes, and also expand our knowledge about the morphological structure of various tissues and body systems. In this work, we demonstrated the possibility of using Muller-matrix polarization tomography (MMPT) of linear birefringence (LB) of fibrillar structures of histological preparations of the prostate gland (PG) for the recognition of adenomas, poorly differentiated carcinomas and normal tissues. Histological sections of PG (normal $n = 30$, adenoma $n = 60$, carcinoma $n = 60$) were studied by means of differential MMPT LB of fibrillar structures of preparations with further statistical processing of the obtained results. Calculations of the M , V , As and Ex , which characterize the polarization-reproduced diffuse tomograms of the LB were statistically significant (p_1 ; p_2 ; $p_{1,2} < 0.05$) for diagnostic use in differentiation tumor processes of the PG. As a result of the calculation of the balanced accuracy of statistical processing of coordinate distributions of the LB value of all groups for the differential diagnosis of adenoma and poorly differentiated prostate carcinoma samples in comparison with normal tissue, satisfactory ($V > 81.3\%$) and excellent level of values (M , As , $Ex \rightarrow 85-93\%$) were established).

Medical Science, 2022, 26, ms337e2430

Physical activity prevalence and barriers among type 2 diabetic patients, Kudai and Al-hijra primary health care center, Makkah, Saudi Arabia

Abduljabbar Alfetni, Mohammed Alqahtani, Abdulrahman Alhumaid, Abdullah Alhazmi, Bakr Alqahtani, Khaled Alghamdi, Zeyad Alsaedi, Waleed Alsulaimani, Raad Alqurashi, Abdullah Binhumaid, Moaz Alfattani, Eyad Shelaiyah, Olfat Qaffas

Background: Physical activity (PA) is regarded a cornerstone of diabetes management in patients with type 2 diabetes mellitus (T2DM). PA has variety of benefits to diabetic patients as it improves control of their blood glucose levels and reduces glycosylated hemoglobin, decreases patient's mortality risks (20 to >37 % reduction), improves cardiovascular outcomes, insulin secretion and

enhance body weight maintenance. *Methods:* We used a valid questionnaire called the International Physical Activity Questionnaire (IPAQ) to estimate the prevalence of physical activities among patients with type 2 diabetes mellitus, in addition to barriers that prevent them from practicing exercise. *Result:* This study had a total of 157 individuals. 51.6% engaged in low-intensity physical activity, 28.7% in moderate activity, and 19.7% in high-intensity physical activity. Laziness and lack of energy (40.8%), health related issues (38.9%), lack of nearby dedicated facilities (30.6%), lack of time (29.9%) and weather conditions (27.4%) were the most common barriers prevent patients from practicing physical activity among T2DM patients. Female patients were more uncomfortable to engage in exercise in public areas compared to male patients (21.9% vs. 6.5%). *Conclusion:* Physical activity was importantly related to age, educational level, occupation, and working hours per day among patients with T2DM. PA was generally reduced in the majority of the patients in our study.

Medical Science, 2022, 26, ms338e2152

Occurrence and determinants of psychiatric disorders during COVID-19 pandemic among subjects in Jeddah city, Saudi Arabia

Fathi M El-Gamal, Saeed A Al qahtani, Abdullah R Alnaggar, Latifah A Ahmad, Dalal B Alnajjar, Rama S Bakadam

Objectives: This study aimed to evaluate COVID-19 that has an impact on the incident of psychiatric manifestations among the subjects in Jeddah city. *Methodology:* A cross sectional study conducted among general population of Jeddah, and the participants were selected by using convenient sampling method from June 2021 till July 2021. *Results:* This study included 1501 subjects, males (47.2%) and females (52.8%). Most of the people who participated were 40 years (66.8%). Participants who got infected with COVID-19 were (24.9%). The severity of the symptoms of COVID-19 infection was mild in those aged 19 – 41 years, moderate in those aged 12 – 18 years, and severe in those aged 41 – 60 years. Greater proportion of those who were infected with COVID-19 was non-health care workers Suffered from change in the rate of sleep and appetite compared to the controls (p value < 0.05). Greater proportion of patients who had COVID-19 infection underwent improvement of psychological symptoms after quarantine compared to those who did not catch the disease (p<0.05). *Conclusions:* We found that participants who got infected with COVID-19 the majority had a score between moderate to extremely severe score in stress, anxiety and depression categories. We encourage patients who got infected with COVID-19 consider seeking psychological assessment and checkup.

Medical Science, 2022, 26, ms339e2272

Relationship between menstrual cycle changes and types of covid-19 vaccines among women living in Riyadh, Saudi Arabia 2022

Asma Mushabab Alahmari, Shady Kamel Abdu El Rahman

Background: Women across the world reported menstrual cycle changes after receiving COVID-19 vaccines. This may increase vaccine hesitancy. The aim of this study is to assess the impact of COVID-19 vaccines on menstrual cycle among women living in Riyadh. *Methods:* The study utilized online self-administered questionnaire targeting females at the childbearing period, eligible to receive COVID-19 vaccine and not pregnant. *Results:* In our study, a total of 762 females with a mean age of (32.19±8.71) years. Participants were, mostly, unemployed (59.6%) non-smoker (93.6%) married (61.1%) Saudis (88.5%), (63.2%) carried a bachelor or diploma degree, (81%) were stressed. About quarter had thyroid disorders, received medications and were previously infected. (96.9%) were vaccinated and (87.3%) got 2 doses. The bulk received Pfizer-BioNTech vaccine (1st dose=80.7%, 2nd doses=75.4%). (82%) noticed changes and (80.6%) experienced symptoms 1-3 months after vaccination, (17.4%) delayed menses. Abdominal pain (24.4%) was predominant. Females with previous infection had less menstrual changes after vaccination (P-value= 0.001, AOR=0.475, CI 95%= 0.323-0.700). Having symptoms was significantly different between education levels. "Diploma or bachelor's degree" vs "High school or less" (P-value =0.004, AOR=2.054, CI 95%= 1.257-3.356), "Postgraduate studies vs High school or less" (P-value=0.002, AOR=2.492, CI 95%= 1.396-4.448). COVID-19 vaccination was not associated with neither menstrual changes nor symptoms related to it. *Conclusion:* Previous infections had a protective effect against changes in menstruation after receiving the COVID-19 vaccines. Those at school age and postgraduate suffered more. Vaccination itself didn't cause neither changes nor symptoms related to menstrual.

Medical Science, 2022, 26, ms340e2306

Outcomes of COVID-19 in sickle cell disease patients

Mahmoud Sulub Alsomali, Osama M Binbakheet, Mohammad Salem Alshammari, Raffan Abdullah Alghamdi, Sara Adel Aljumaan, Abdul Aziz Abdullah Al Tamimi, Lyana Nabeel Abdrabalnabi, Almaha Bassam Albalwi, Eliya Hussain Almubarak, Mannar Mohammad Saud Al Masaud

Coronavirus disease 2019 (COVID-19), is an acute respiratory disease that spread widely around the world, causing increased morbidity and mortality. This was a retrospective observational analytical study from April 2020 to August 2021 in admitted COVID19 patients with Sickle Cell Anaemia, in King Saud Medical City. The study aims to evaluate the outcomes of COVID-19 in Sickle Cell Anaemia patients. Analyse the different prognostic factors to identify prognostic factors associated with mortality. The present study is composed of 13 SCD patients (53.8% male's vs 46.2% females) with a mean age of 29 years old. 6 patients (46.2%) had blood transfusions and 2 patients had bilateral infiltration after a chest x-ray. Patients who required intubation were 15.4% (n=2). 69.2% of the patients were being admitted and the median days of the hospital were 6 days. Finally, the primary

limitation of this observational study is the few numbers of SCD who had COVID-19, which raises the possibility of type II statistical error due to the lack of power.

Medical Science, 2022, 26, ms341e2416

Coinfection of HPV18 with some high-risk less frequent HPV subtypes

Musa Abdalla Ali, Saleh Hussein Bensumaidea, Hussain Gadelkarim Ahmed

Background: High-Risk Human Papillomavirus (HR-HPV) is a major health concern worldwide. Thus, this study aimed to assess the coinfection of HPV18 with some high risk less frequent HPV genotypes including HPV subtypes 31, 33, 35, 39, 45, 52, 56, 58, 59 and 66. *Methodology:* This is a retrospective study of 200 cervical samples retrieved from Yemeni histopathological laboratories exist in Hadhramout, Yemen. All samples were formalin-fixed paraffin wax-processed tissues. All specimens had a previous diagnosis of cervical cancer by conventional histopathology. *Results:* The most common pathological condition was squamous cell carcinoma (SCC), followed by adenocarcinoma, CIN3, and CIN1, accounting for 53.3%, 12.7%, 10.7%, and 10%, respectively. Coinfection with HPV 18 was detected in 12.5% with 3% with HPV 31, HPV35, and 3% with HPV58. *Conclusion:* Infection with HPV is widespread and the causes of increased cases of cervical cancer. The most common genotypes of HPV that coinfect with HPV subtype 18 are HPV31, HPV35, and HPV58.

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RESEARCH

The effects of intra-articular MgSO₄ in osteochondral lesions: An experimental study

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Objectives: The aim of the study was to assess the efficacy of intra-articular administration of MgSO₄ in an osteochondral lesion model created experimentally in rabbits. *Methods:* A total of 22 New Zealand rabbits were used in the study for the creation of a standard osteochondral lesion in the right femur medial condyles. Twice a week for periods of 6 and 8 weeks, MgSO₄ (0.1ml) at a dose of 500µg was injected intra-articularly to the magnesium group and 0.1ml saline solution to the control group. At 2 weeks after the final injection, all the animals were euthanised. An osteotomy was performed to include the region where the osteochondral defect was formed, and each sample was placed in 10% formalin solution. Morphological evaluation and scoring was performed. The samples were stained with hematoxylin-eosin and safranin-O, then histopathological evaluation and scoring was performed. *Results:* The histopathological scores of the Mg-6-week group were determined to be significantly higher than those of the control-6-week and control-8-week groups ($p=0.025$, $p=0.012$). The macroscopic scores of the Mg-6-week group were determined to be significantly higher than those of the control-6-week group ($p=0.003$). In the histological examination, the osteochondral defect area of the Mg groups showed intense healing from hyalin cartilage whereas in the control group, healing was seen to be weighted towards fibrous cartilage. *Conclusion:* The intra-articular administration of MgSO₄ in the osteochondral lesion model created experimentally in rabbits was determined to have made a positive contribution to histopathological and morphological healing.

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Assessment of endothelial function in prediabetes using Flow Mediated Dilatation (FMD) by applying sphygmomanometer cuff in a limited resources rural setup: A case control study

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Background: Diabetes mellitus is a life-threatening disease that affects both developing and industrialised countries. Prediabetes is a state where identification of the risk factors can help in preventing the complications of diabetes. Coronary artery disease and cardiovascular disease result from atherosclerosis seen in hyperglycemic states which is manifested early on as endothelial dysfunction. In this study, we used flow mediated dilatation (FMD) of brachial artery with ultrasound which gives knowledge about endothelial function in disease as well as health. *Aims:* To assess endothelial function in individuals diagnosed with prediabetes using FMD of brachial artery and compare it with healthy non-diabetic subjects. We also assessed if FMD was affected by anthropometric parameters or lipid profile. *Methods:* This case control research comprised of 50 patients who met the American Diabetes Association prediabetes criteria (ADA) and 50 controls. Clinical history was taken and data related to brachial artery diameter at baseline and post hyperemia was taken and FMD% was calculated. *Results:* Out of 50 patients, 4 patients had FMD (<4.5%) and were classified as having endothelial dysfunction. It was found that patients classified as Obese as per BMI (kg/m²) were significantly higher in cases that had FMD<4.5% (27.08 ± 0.97 vs. 23.51 ± 2.54 , p value=0.008). *Conclusion:* Individuals with prediabetes did not have significantly lower brachial artery diameter at baseline, post-hyperemia brachial artery diameter and FMD. But we found that diameters of the brachial artery at rest and post stress and FMD% were significantly affected by parameters like LDL, waist circumference and BMI.

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Integrative management of complicated crown fracture

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This case study explains and investigates a tooth fragment reattachment procedure used to repair crown fracture in anterior teeth. Such therapy provides for a more traditional approach towards traumatic coronal lesions while yet retaining aesthetics & function. The authors presented a clinical case scenario of a complicated crown fracture of a lateral incisor. This case is marked by trauma caused by a sports injury, which necessitated a variety of therapeutic options. We used a simple and conservative approach that did not require any tooth preparation. Adhesive reattachment is an uncomplicated technique for achieving greater aesthetic and functional results. According to our clinical experience, when both the tooth and the fractured fragment are intact, performing the technique of reattachment without tooth preparation is a predictable and a very efficient process. Reattachments techniques have outweighed resin composite restorations by resulting in better short as well as medium term outcome.

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Differences of sex development (DSD) in 46XY, 5-alpha-reductase-2 deficiency patient for vaginoplasty: A case report

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Male pseudohermaphroditism, a syndrome defined by inadequate differentiation of male genitalia in 46, XY patients, is caused by steroid 5-alpha-reductase 2 deficiencies, an uncommon ailment. Here, we discuss the case of a 13-year-old from Wardha, Maharashtra, who was identified as female by relatives and who displayed primary amenorrhea, ambiguous genitalia, and absence of breast development. Every serum hormone profile showed testosterone levels of 460ng/dl (normal), dihydrotestosterone levels of 16ng/dl (decreased), and an elevated T/DHT ratio. Chromosome analysis identified a 46, XY karyotype. A Phallus reduction and Mcindode vaginoplasty were carried out, along with clitoroplasty, orchiopexy, and gonadoplasty, and estrogen-based hormone replacement therapy was initiated. In conclusion, babies with unclear genitalia or adolescents or young adults with the recognizable phenotypic and blood hormone profiles may have 5-alpha-reductase 2 deficiencies. However, the psychological aspects put more of an emphasis on the patient's quality of life as it relates to their health, as well as their family's adjustment and their psycho-social and psycho-sexual development.

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ANALYSIS

Correlation between CT severity scores and oxygen requirement amongst adult cases with COVID-19 pneumonia

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The clinical status, i.e. oxygen need, of adult COVID-19 infection cases were linked with the 25 Point CT severity score in this investigation. An observational case control study after institutional research review board approval (NKPSIMS & RC and LMH / IEC-RADIOLOGY/ 06/2020) including 123 case record of symptomatic cases presented to our hospital and who were RTPCR positive for COVID-19 infection, was collected for 3 months (August 2020 to Oct 2020). All patients underwent non-contrast HRCT scan on TOSHIBA Activion 16 slice CT (computed tomography). In our study, the mean age amongst the cases was ranging from 51-60 years [69.9% males, 30.1% females]. The oxygen requirements, as well as other variables such as age and sex, were found to be strongly correlated with CT severity score. CT severity score shows positive correlation with requirement of oxygen in cases with COVID-19.

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Post COVID-19 vaccination side effects among Mutah University's students, Jordan

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Background: A number of vaccines were introduced to fight the COVID-19 pandemic; however, questions have been raised about their safety. *Aims:* The objective of this study was to assess the adverse effects that students at Mutah University who received various COVID-19 vaccines reported experiencing. *Methods:* A cross-sectional online survey employing a well-designed questionnaire was undertaken to look for any side effects that university students might have experienced after receiving a single or double dose of several COVID-19 vaccines. *Results:* The study sample consisted of 416 university students, of whom 61 percent were women and around 38 percent had COVID-19. In addition, 70.9 percent of research participants received the Pfizer vaccine, 28.1 percent got the Sinopharm vaccine, and just 0.7 percent and 0.2 percent, respectively, selected the AstraZeneca vaccine and the Moderna vaccine. Localized discomfort following injection (reported by 75% of participants), fatigue (reported by 56.6%), headache (reported by 52.4%), myalgia (reported by 49%), fever (reported by 43%), chills (reported by 37.3%), and arthralgia (37.3 percent) were the most common adverse effects. *Conclusion:* Majority of short-term side effects of COVID-19 vaccines are mild. Nonetheless, additional studies are required for evaluating their long-term side effects.

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A retrospective investigation on risk factors of chronic kidney disease in Al-Qunfudah populations, Saudi Arabia

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Background: Chronic renal impairment is a major health problem in Saudi Arabia the risk of this health problem as diagnosed in advanced stages, especially during the screening examination. *Objective:* The aim of our work is to clarify the major CKD risk factors among patients attending the nephrology clinic at Qunfudah general hospital. *Method:* Data were collected from the patients' files using a data collection form in addition to using medical records during the period from 2020 to 2021. *Result:* According to our work we found that 80% of chronic renal impairment patients are hypertensive while 40% of them are diabetic, on the other hand, 29% of them obese, and 3% of them are smokers, receiving NSAIDs. *Discussion:* The risk factors were found to be leading and were similar to other research done in countries such as the United States, Japan, and Kuwait. *Conclusion:* These results may be used as a database which may result in the establishment of solid primary preventive programs.

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