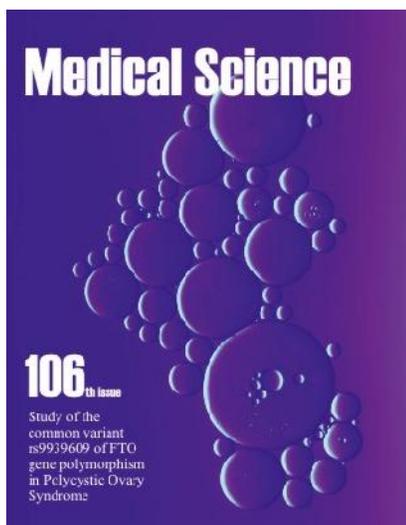


Medical Science

About the Cover



Background: Genes associated with obesity might play a role in pathogenesis of PCOS such as fat mass and obesity associated (*FTO*) gene. *Objective:* To investigate the association between the common variant rs9939609 of *FTO* gene with PCOS in Egyptian women in respect to obesity and insulin resistance. *Methods:* This study was conducted on (50) Egyptian female patients diagnosed as PCOS according to the criteria of Rotterdam Revised (2003) (Group I, patients) and (50) age-matched apparently healthy females (Group II, controls). PCOS patients were classified according to obesity as well as insulin resistance. Detection of *FTO* rs9939609 polymorphism was done by real time polymerase chain reaction. *Results:* This study revealed a significant difference between group I and group II as regards *FTO* genotypes A/A, A/T and T/T with increase in frequency of A/T and T/T genotypes in PCOS patients (56% A/T and 8% T/T) compared with controls (4% and 0% ; respectively). *Conclusion:* *FTO* gene variant rs9939609 is associated with PCOS susceptibility in Egyptian women. The association has been demonstrated in both obese and non-obese patients as well as in PCOS patients with insulin resistance and non-insulin resistance. (Ref: Wessam El Sayed Saad, Aziza Ahmed El Sebai, Maram Mohamed Maher, Alaa Mahmoud Heikal. Study of the common variant rs9939609 of *FTO* gene polymorphism in Polycystic Ovary Syndrome. *Medical Science*, 2020, 24(106), 3845-3854).

Healthcare students' perception about mental illnesses– A cross-sectional study

Muhammad Zahid Iqbal, Ahmed A. Albassam, Ziyad S. Almalki, Salah-Ud-Din Khan, Muhammad Shahid Iqbal

Objective: This study evaluated perceptions of healthcare students of a university regarding mental illnesses (MIs). *Methods:* The convenience sampling method was adopted to target the study participants and to obtain the data. A self-developed and validated research questionnaire was used to collect the data. Descriptive and inferential statistics were performed using the Statistical Package for Social Sciences (SPSS) version 24.0. *Results:* A total of 284 students from three healthcare faculties were involved in the study. Around 95 (33.5%) students were from the faculty of medicine, 94 (33.1%) from the faculty of pharmacy, and 95 (33.5%) were from faculty of dentistry who participated in the study. Out of 284 study participants, females were 180 (63.4%), and males were 104 (36.6%). The majority of the respondents (>60%) had an appropriate perception of MIs. *Conclusion:* This study observed proper awareness and positive perception of MIs among healthcare university students.

Medical Science, 2020, 24(106), 3835-3844

Study of the common variant rs9939609 of FTO gene polymorphism in Polycystic Ovary Syndrome

Wessam El Sayed Saad, Aziza Ahmed El Sebai, Maram Mohamed Maher, Alaa Mahmoud Heikal

Background: Genes associated with obesity might play a role in pathogenesis of PCOS such as fat mass and obesity associated (FTO) gene. *Objective:* To investigate the association between the common variant rs9939609 of FTO gene with PCOS in Egyptian women in respect to obesity and insulin resistance. *Methods:* This study was conducted on (50) Egyptian female patients diagnosed as PCOS according to the criteria of Rotterdam Revised (2003) (Group I, patients) and (50) age-matched apparently healthy females (Group II, controls). PCOS patients were classified according to obesity as well as insulin resistance. Detection of FTO rs9939609 polymorphism was done by real time polymerase chain reaction. *Results:* This study revealed a significant difference between group I and group II as regards FTO genotypes A/A, A/T and T/T with increase in frequency of A/T and T/T genotypes in PCOS patients (56% A/T and 8% T/T) compared with controls (4% and 0%; respectively). *Conclusion:* FTO gene variant rs9939609 is associated with PCOS susceptibility in Egyptian women. The association has been demonstrated in both obese and non-obese patients as well as in PCOS patients with insulin resistance and non-insulin resistance.

Medical Science, 2020, 24(106), 3845-3854

The Effects of Itraconazole on the Lipid Profile in Humans and Rabbits

Abdulmajeed Alajlan, Sami Alsuwaidan, Ali Mustafa, Omar Alshiekh, Huda Alkreathy

Objectives: To investigate the effects of the azole antifungal agent, itraconazole, on the lipid profile of patients attending the dermatology clinics and any changes in serum creatinine associated. Also we aim at investigation of lipid profile of normo-lipidemic rabbits and any changes in serum creatinine associated with the use of these antifungal agents in the experimental animals and compare the outcome between humans and rabbits. *Methods:* In this study the effects of the antifungal drugs, itraconazole on the levels of serum lipids (triglycerides, cholesterol, high density lipoproteins and low density lipoproteins) and serum creatinine were investigated in humans and rabbits. Blood samples were taken before and 1 week following drug treatment. Blood samples were analyzed using commercially available kits. Treatment with itraconazole (200 mg/day) for one week in humans caused significant reductions in serum triglycerides, total cholesterol and LDL-cholesterol levels without any statistically significant alterations in HDL-cholesterol levels. In animal experiments blood samples were taken before and one, four, and six weeks following treatment with drugs. Blood samples were analyzed using commercially available kits. *Results:* Treatment with itraconazole 1 week to humans produced no significant changes in serum creatinine. The present results indicate that itraconazole, when used in therapeutic doses in humans, produced a significant effect on the levels of serum lipids except that of HDL-cholesterol. Treatment of rabbits with itraconazole (40 and 80 mg/kg/day) for six weeks produced a significant reduction in serum triglycerides and total cholesterol levels. However, its effects on HDL-cholesterol and LDL-cholesterol were not statistically significant. Treatment with itraconazole for six weeks in rabbits produced no significant changes in serum creatinine. *Conclusion:* The present results show clearly that itraconazole may have beneficial effects in patients who are suffering from hyperlipidemia and are in need of itraconazole for treatment of fungal infestations. Furthermore, when itraconazole is simultaneously prescribed together with lipid lowering drugs especially HMG-CoA reductase inhibitors such as lovastatin the level of creatine kinase, aldolase, lactate dehydrogenase, aspartate aminotransferase, and alanine aminotransferase must be continuously monitored to avoid rhabdomyolysis. However, itraconazole, when used in therapeutic doses, produced significant reductions in the serum lipids of rabbits without any significant changes on the HDL or LDL-cholesterol levels.

Medical Science, 2020, 24(106), 3855-3867

CASE REPORT

Dental management of a patient with epidermolysis bullosa: a case report

Ahmed Albariqi

Introduction: Epidermolysis bullosa (EB) is a group of rare inherited disorders characterised by formation of blisters following minor trauma to the skin or mucosal surfaces. There are four major forms of EB- simple, junctional, dystrophic and Kindler syndrome.

According to the form of EB, the oral and dental manifestations are varied in the frequency and severity. *Case Report:* A 6-years old girl with a dystrophic form of EB was attended in our dental care centre in 2018. On examination, the child had multiple blisters on her elbows, feet, knees. Clinical and radiographic examinations revealed multiple carious lesions affecting almost the present primary dentition, with moderate gingival inflammation. *Treatment:* The patient had oral hygiene and dietary instructions, restorative dental treatment, extraction of badly decayed teeth. The patient was routinely followed up every three months for up to 1 year. On the last recall visit, the patient presented with good oral health status.

Medical Science, 2020, 24(106), 3868-3873

Polyradiculoneuropathy, Organomegaly, Endocrinopathy, Monoclonal Plasma Cell Disorder, and Skin Changes (POEMS) Syndrome: A case report

Raneem Alraheili, Turki Alwasaidi

Polyneuropathy, Organomegaly, Endocrinopathy, M Proteins, and Skin changes (POEMS) syndrome is a rare type of plasma cell dyscrasia. It is a paraneoplastic syndrome with multiple systemic manifestations. Diagnosis of POEMS syndrome is commonly challenging, due to its multisystemic involvement and its rarity. This case report described a 60 year old female patient who suffered from POEMS syndrome. The patient's symptoms were complicated. Initially, she was misdiagnosed as pulmonary tuberculosis. Subsequently, POEMS syndrome has been diagnosed based on clinical features and laboratory findings. After the diagnosis of POEMS syndrome, she treated with lenalidomide – dexamethasone regimen. The patient completed seven cycles with a significant response followed by a high dose of melphalan chemotherapy with autologous hematopoietic stem cell transplantation as consolidation therapy.

Medical Science, 2020, 24(106), 3874-3880

ANALYSIS

Knowledge of mental health challenges among healthcare students – Findings from a medical university

Ahmed A Albassam, Muhammad Zahid Iqbal, Fahad I Al-Saikhan, Salah-Ud-Din Khan, Muhammad Shahid Iqbal

Objective: This study aimed to determine the knowledge about mental health challenges (MHCs) among healthcare students in a medical university. *Method:* A cross-sectional study was performed among healthcare students of a university to determine knowledge about MHCs with a validated research tool using a convenient stratified sampling technique. The Pearson Chi-Square test was used with Fisher's Exact and Phi Cramer's V values were obtained to determine the differences among the studied variables. The Statistical Package for Social Science (SPSS) Version 24.0 was used to analyze the data. *Results:* Among 284 students, female students had more adequate knowledge than males. The majority of the participants had adequate knowledge about MHCs. Among the different age groups, the students of 25-30 years' groups showed better results in terms of adequate knowledge of MHCs. *Conclusion:* Overall good knowledge of MHCs was observed among the healthcare students.

Medical Science, 2020, 24(106), 3881-3890

Oral healthcare attitude among students of a medical university

Muhammad Zahid Iqbal, Salah-Ud-Din Khan, Muhammad Shahid Iqbal

Objective: This study determined the attitude of university students about oral healthcare practices. *Method:* A cross-sectional study was conducted to assess the attitude of university students about oral healthcare in a medical university. A self-developed and validated study tool was distributed among the study participants using a convenient stratified sampling technique. The selected participants were students from four faculties of a university. The Statistical Package for Social Science (SPSS) Version 24.0 was used to analyze the data. *Results:* Among 324 study participants, 118 (36.4%) students were from faculty of pharmacy, 81 (25.0%) medicine, 67 (20.7%) biotechnology, and 58 (17.9%) were from business faculties. Out of a total of 324 participated students, female students were 234 (72.2%), and male students were 92 (27.8%). *Conclusion:* Overall, a good and positive attitude was observed regarding oral healthcare practices among the students.

Medical Science, 2020, 24(106), 3891-3900

Attitude of future healthcare professionals towards Ebola virus disease

Ahmed A Albassam, Muhammad Zahid Iqbal, Fahad I Al-Saikhan, Salah-Ud-Din Khan, Muhammad Shahid Iqbal

Objective: The objective of the study was to determine the attitude of future healthcare professionals regarding the Ebola virus disease (EVD) in a medical university. *Method:* A cross-sectional study was conducted using a convenience sampling method. A self-developed and pre-validated tool was used to collect data from students studying in three healthcare faculties of a university in Malaysia. The Statistical Package for Social Science (SPSS) Version 24.0 was used to analyze the data. *Results:* More female students 170 (62.3%) participated in the present study than the male students 103 (37.7%), out of a total of 273 studied students. The majority of the students who had a positive attitude towards EVD were from the final years than the pre-final year students. *Conclusion:* Overall positive attitude observed among the studied future healthcare professionals. The present study concluded that pharmacy students had a more positive attitude than the two other faculties students i.e. dentistry and medicine.

Medical Science, 2020, 24(106), 3901-3910

New tendencies of proteolysis/fibrinolysis pharmacological modulation with experimental Alzheimer's disease

Olga Kmet, Nataliia Filipets, Taras Kmet, Yurii Vepriuk, Kateryna Vlasova

Nowadays effective methods to prevent and treat Alzheimer's disease are lacking, therefore exploration of new tendencies concerning pathogenic therapy of the disease remains of topical interest. The fact that evaluation of biochemical condition of the damaged organs and systems assumes investigation of proteolysis/fibrinolysis markers deserves attention, since changes of the markers are considered as pathophysiological basis of many diseases and as a target of protective therapy. Therefore, objective of our study was to examine the effect of carbacetam, GABA-receptors modulator, and enalapril, angiotensin-converting enzyme inhibitor, on the proteolytic and fibrinolytic activity of the cerebral cortex and hippocampus of rats with Scopolamine-induced Alzheimer's disease. The experiments were conducted on nonlinear laboratory albino male rats with their body weight of 0.18-0.20 kg. Alzheimer's disease was simulated by administration of scopolamine hydrochloride (Sigma, USA) at a dose of 1 mg/kg for 27 days. Carbacetam and enalapril were administered intraperitoneally at a dose of 5 mg/kg and 1 mg/kg, once daily for 14 days. The indices of proteo- and fibrinolytic activity were determined in the homogenates of the cerebral cortex and hippocampus. Under conditions of Scopolamine-induced Alzheimer's disease proteolytic and fibrinolytic activity of the cerebral cortex and hippocampus of rats was found to increase. After carbacetam was administered to rats with Alzheimer's disease during 14 days, collagenolysis and enzymatic fibrinolytic activity in the cerebral cortex decreased, and low molecular proteinolysis – in the hippocampus only. Under enalapril effect proteolysis/fibrinolysis indices decrease in both structures of the brain examined. The results obtained confirm participation of the proteolytic and fibrinolytic systems in the mechanisms of neurodegeneration, and are indicative of reasonability to initiate pathogenic correction by means of the modulators of renin-angiotensin and GABA-systems under conditions of Alzheimer's disease development.

Medical Science, 2020, 24(106), 3911-3917

Basal Cell Carcinoma in Iraq: An Observational Study

Firas Fakhir Altameemi

Objective: The study aimed to detect the association between demographical, clinical, and pathological characteristics of Basal Cell Carcinoma (BCC) in Iraq. *Methods:* An observational study was conducted from June 2019 to June 2020. A total of 233 lesions on the skin belonging to 200 patients who were suspected to have BCC by clinical examination in Misan Radiation Oncology Center. A histopathological examination was done for each excisional biopsies. *Results:* There were no significant differences between the gender, and smoking with BCC prevalence, whereas statistical differences were observed regard residency, and work. The nodular type was more common clinical types at 57%. The sensitivity of using dermatoscopic in the examination of BCC was much higher than that of clinical diagnosis (97.6% vs 93.9%), thus it had high accuracy (90.1% vs 76.8%). *Conclusions:* Dermatological examination proved to be more sensitive and accurate than clinical examination in the diagnosis of BCC. Males are more evident to develop BCC than females.

Medical Science, 2020, 24(106), 3918-3922

Clinical value of the inflammatory markers for predicting the severity of community-acquired pneumonia in children

Olena Koloskova, Tetiana Bilous, Lorina Ivanova, Olena Korotun, Roman Tkachuk, Tetiana Shchudrova, Mariana Hrytsiuk, Volodymyr Bilous, Fedir Herman

The research aimed to study the association of clinical course and inflammatory markers with the risk of severe community-acquired pneumonia in children and to define the diagnostic and prognostic significance of individual markers. A new modified prognostic scale, which includes clinical, laboratory and instrumental indicators, was used for the retrospective analysis and risk stratification of the severe pneumonia course in children. The study involved 70 pediatric patients with community-acquired pneumonia divided into two clinical groups – patients with the low (group I) and moderate (group II) risk of severe pneumonia. A complex examination of patients included the study of the leukogram, serum ceruloplasmin levels, and cellular composition of spontaneous and induced sputum, as well as analysis of the extent and duration of antibacterial therapy. It was found, that in comparison to the group I, in patients from the group II clinical signs of disease and laboratory markers of inflammation remained longer, which required extended and more aggressive antibacterial therapy. It was shown, that the use of the modified prognostic scale is beneficial for optimization predicting severity and management of community-acquired pneumonia in children.

Medical Science, 2020, 24(106), 3923-3930

Second hip fracture in osteoporotic patients and its risk factors in Al-Ahsa, Saudi Arabia: A case-control study

Mohammad K Alsaleem, Ali A Alsakkak, Adia A Almutairi, Zahrah A Al Abdullah

Background: Osteoporosis is a systemic disorder characterized by microarchitectural deterioration of bone and decreased bone mass with increased bone fragility resulting in increased susceptibility to fracture. The fracture caused by bone's fragility is a common pathology among old subjects and the frequency rises within the increase of the average age of the population. Hip fractures are the main cause of hospitalization in elderly patients in industrialized countries. *Methods:* A case control study that was conducted in the king Fahd hospital in Al-hufuf over three months interval, by using patients file data including 95 participants of osteoporotic patients with previous hip fracture. *Results:* High BMI (>20 Kg/m²), history of having fractures with osteoporosis, and rheumatoid arthritis were the most important risk factors for second fracture among study patients. While family history and early menarche or late menopauses were insignificantly associated with second fracture history. Nicotine abuse recorded 70% more risk to have second

fracture among osteoporotic patients with no statistical significance. Patients with anorexia nervosa had a significant tripled risk for second fracture compared to others without. *Conclusion:* Osteoporotic patients with first hip fracture are highly liable to get the second hip fracture. We highly suggest that the ministry of health to implement an effective guidelines in terms of following the elderly patient with first hip fracture.

Medical Science, 2020, 24(106), 3931-3938

Outcomes of heart valve surgery during pregnancy: A single institute experiences

Dung H Van, Tuan M Vo, Chau Van, Bao Vo

Objective: Cardiac surgery during pregnancy often carries a high risk of death for both mother and baby. Herein, we report our experience of valvular surgery in pregnant patients. *Methods:* We retrospectively reviewed the cases of all pregnant patients that had valvular surgery performed on them between 1998 and 2018 at the Ho Chi Minh City Heart Institute, Viet Nam. Both fetal and maternal outcomes have been assessed to determine the effectiveness of surgical treatment. *Results:* The total number of patients was 63, including 27 patients who had valvuloplasty and 36 patients who had valvular replacement. The maternal and fetal mortality rates were 4.7% and 14.3% respectively. Adverse maternal outcomes occurred in 25% of patients (n=16), including low cardiac output, cardiac arrhythmia, and acute pulmonary edema. Adverse fetal outcomes occurred in 41.2% of patients (n=26) including termination by cesarean (4), miscarriage (5), threatened abortion (12), pre-term delivery (3), and still birth (2). Factors that affect maternal mortality include pre-operative NYHA ($p=0.037$) and the type of operation ($p=0.034$). Factors that affected fetal mortality included cardiopulmonary bypass time ($p=0.003$) and clamp time ($p=0.01$). The average follow-up was 103.94 ± 73.9 months (range 1- 259) with 95% completion of follow-up. *Conclusions:* Surgical treatment for pregnant patients with valvular heart disease remains a challenge. The coordination of many medical specialists, the use of CPB and the timing of surgery should be optimized where possible to achieve the best outcomes for both mother and fetus.

Medical Science, 2020, 24(106), 3939-3944

The Quality of life in patients with diabetic retinopathy – Madinah, 2019

Amal M Surrati, Badr O Alahmadi, Razan A Alawaz, Rana O Alrehaili

Background: Diabetic Retinopathy (DR) is the most microvascular complication that affects the retina and cause disability among diabetic patients. *Aim and objectives:* The aim of the study was to determine the Quality of Life (QoL) among patients with DR and to investigate the association of participant's sociodemographic factors and diseased related factors with QoL. *Methods:* A cross-sectional study was carried out among diabetic patients using a (RetDQoL) questionnaire to assess QoL in patients with DR, all patients aged ≥ 18 years of both sex with either type 1 or type 2 DM with DR who were attended the ophthalmology outpatient clinic at Ohud hospital during May-August 2019 were included. *Result:* Majority of the patients were male 55.6%. The average ages of the participants were 56.86 years old. P value showed significant relationships between QoL and gender, place of residence, education, smoking, employment, periodic eye examination, believing that DM can affect the eyes. *Conclusions:* In general, diabetic retinopathy is a major microvascular complication related to DM. Therefore, the high percentage of blindness due to DR can be prevented by early screening and proper treatment. Finally, the result of our study concluded that the quality of life among diabetic retinopathy patients in the accepted.

Medical Science, 2020, 24(106), 3945-3952

Quality indicators for prevention of device-associated infections in a limited resource setting

Howaydah Ahmed Othman, Marwa Mohamed Zalat, Essamedin Mamdouh Negm, Mohamed Mohamed Tawfeek, Rehab Hosny El-Sokkary

Background: In resource-limited countries, device-associated infections (DAIs) pose a real threat to patient safety as one of the most significant causes of morbidity and mortality. Nevertheless, inadequate data from ICUs in the developing world is available. *The study aimed* to assess the compliance with the device care bundle and evaluate the impact of device care bundle implementation on the incidences rate of device-associated infections and the mortality rates. Health care workers' compliance with care bundles was observed. DAIs and mortality rates were calculated. *Results:* The compliance rate was (44/84; 52.4%) to each of ventilator care and central catheter care bundles and (45/84; 53.6%) to urinary catheter insertion care bundle. The incidence rate of total DAI was 35.3/1000 device-days. The overall crude excess mortality rates is 39.2% (relative risk, 5.7; 95% CI, 3.04- 10.68; $P < 0.001$) & 15.9% (relative risk, 2.91; 95% CI, 1.55- 5.40; $P < 0.001$), for DAIs and for non-infected cases respectively. *Conclusion:* A highly recommended practice is continuous monitoring of the device care bundle implementation. For ICU staff members, a pre-employment package of training must be provided.

Medical Science, 2020, 24(106), 3953-3960

Single position for the management of ureterohydronephrosis in advanced malignancies

Vikas Sharma, Singh Dinesh, Gulati Smita, Agarwal Ankur, Gaur Abhay, Garg Pulkit, Khan Rafey

Introduction: Management of ureteral obstruction in the advanced abdominal or pelvic malignancy is challenging. Management of such patients requires percutaneous nephrostomy tube (PCN) placement or indwelling ureteral double j (DJ) stent insertion for drainage of the obstruction. Endoscopic DJ stent insertion is commonly done in lithotomy position but PCN placement in the prone position. Change of patient's position is often required in the failure of one method of urine drainage. Management of ureteral

obstruction in Flank free oblique supine modified lithotomy position (fosml) position allows DJ stent placement in both retrograde & antegrade manner along with PCN insertion. We report our experience with the FOSML position for the management of ureterohydronephrosis in a single position. *Materials and Methods:* All patients who underwent urinary drainage for ureteral obstruction secondary to advanced malignant disease in the FOSML position from January 2019 to February 2020 were prospectively included in the study after meeting inclusion criteria. In all the cases, preference was given to DJ stent insertion. PCN placement was performed after failure to stent the patient in both retrograde and antegrade attempts. *Results:* Out of 36 patients of ureterohydronephrosis, 15 underwent retrograde DJ stent insertion, 3 patients had successful antegrade DJ stent insertion, and the remaining 18 patients underwent PCN insertion after the failure of retrograde and antegrade ureteral stent placement. *Conclusion:* FOSML position is safe and feasible for managing ureterohydronephrosis secondary to pelvic malignancy. It avoids the surgeon's dependency on more than one position for urine drainage and saves crucial operative time.

Medical Science, 2020, 24(106), 3961-3966

Urothelial carcinoma in young adults-Single centre experience

Sharma Vikas, Bargotya Mona, Gulati Smita, Yadav Rahul, Faridi Shazib, Das Payel, Singh Dinesh, Agarwal Ankur, Khan Rafey, Mallick Kshitij

Introduction: Bladder cancer has been one of the most common urological malignancies. As per Indian cancer registry data, it is ninth most common cancer among men. Debate exists in the literature regarding the clinical behavior of bladder urothelial neoplasms in younger patients when compared with older patients. In this study, we share our experience with the clinical behavior of the disease in young adults. *Materials and Methods:* From August 2017 to Feb 2020, data was retrospectively collected from the hospital information system on urinary bladder cancer patients. All Patients presented as bladder mass on radiological investigation underwent transurethral resection of the bladder tumor (TURBT). Pathological grading of the bladder tumour was done by using new World Health Organization (WHO) and International Society of Urological Pathology (ISUP) Classifications. *Results:* A total of 27 young adults were included in the study who patients presented with bladder cancer. Non-muscle invasive disease was more common as compared to muscle invasive disease. A total of 6 patients underwent a radical cystectomy and standard pelvic lymph node dissection with urinary diversion. 9 patients were put on Bacillus Calmette-Guérin (BCG). Remaining patients were treated as per their histological features. *Conclusion:* Bladder cancer in young adult population usually presents as urothelial carcinoma with spectrum of bladder carcinoma similar to adult population and should be offered same management as adults.

Medical Science, 2020, 24(106), 3967-3971

Experiences of Parenting Child with ASD during COVID-19 Pandemic: A Cross-Sectional Study

Reem A Alyoubi, Ebtisam A Alofi

Introduction: Autism spectrum disorder (ASD) is a disorder with a set of behavioural expressions. The family life is struggling for having child with ASD. Parenting of autistic child has negative parenting consequences comprising elevated parents-stress and reduced their efficiency as compared to parents of normally developing children. Our aim of this study is to study the experiences of parenting child with ASD during the situation of COVID-19. *Method:* This cross-sectional descriptive survey was conducted during the COVID-19 pandemic between June and September 2020 on the families of autistic children. The Autism Family Experience Questionnaire (AFEQ) was adopted from the reference. It was translated from English to Arabic version by the researchers included at the study. Then, the linguistic validation was carried on ten volunteers for investigating the equivalence of concepts inside the questionnaire. *Results:* A total of 65 families who participated in the survey; the number of families of autistic male kids in the study was (46) (70.8%). In contrast, the number of families of autistic female kids who participated in the survey was (19) (29.2%). The analysis demonstrated that the weighted averages from all four-themes of the AFEQ lies within the high levels at the likert-scale, which indicated *never*. It means the negative outcomes resulted from the most chosen statements of AFEQ items that is might be reflecting the worsened situations during the pandemic of COVID-19. *Conclusion:* Children with ASD are undoubtedly more vulnerable from the social distancing period because of the pandemic.

Medical Science, 2020, 24(106), 3972-3980

The potential influence of SARS-COV-2 infection on cardiac biomarkers in al-Madinah patient

Walaa Mohammedsaeed

Background and aim: There have been increasing evidence that some biomarker levels may be altered according to the severity of Covid-19. The largest datasets have been published in the Asian population, owing to the location of the original outbreak. However, it is possible that the clinical features of Covid-19 may be somewhat different in other populations around the world. Comorbidities that have been associated with severe illness and mortality include cardiovascular disease, chronic renal and chronic lung diseases. The current work aimed to evaluate the effects of Covid-19 on cardiac function by analyzing the levels of cardiac enzymes and proteins in Saudi Covid-19 patients. *Methods and Results:* This was a prospective study was conducted between May 2020 to July 2020. A total of 100 adult Saudi Covid-19 patients were randomly collected from different hospitals (Ohud- King Fahd and Al-Madinah General hospitals) in Al-Madinah Al-Munawarah, Saudi Arabia. GraphPad Prism (version 5.01) was used to analyze the patient's data. Biochemical parameters were compared by unpaired t-tests and one-way ANOVA, and the data were represented as the mean (standard deviation). There were significantly increased levels of creatine kinase, lactate dehydrogenase, and troponin in severe Covid-19 cases compared with mild and asymptomatic cases. In addition, there were significantly increased levels of C-reactive

protein and ferritin in Covid-19 patients. There were also strong positive correlations between cardiac biomarkers and inflammatory markers in severe Covid-19 patients. *Conclusion:* In Saudi Covid-19 patients, increased cardiac biomarker levels were correlated with increased levels of inflammatory markers (CRP and ferritin), suggesting that these patients are at high risk for cardiac damage and injury during the disease period.

Medical Science, 2020, 24(106), 3981-3986

Lack of Association between Angiotensin Converting Enzyme (ACE) Insertion/Deletion Polymorphism (rs4340) and Risk of Myocardial Infarction

Safaa Awad Mohammed Ibrahim, Elshazali Widaa Ali

Background: The enzyme 'Angiotensin-Converting Enzyme (ACE)' modulates the fibrinolytic balance by converting angiotensin I into angiotensin II, which increase the activity of plasminogen activator inhibitor-1 (PAI-1). Besides, it degrades bradykinin, which an important mediator of the tissue-type plasminogen activator (t-PA). Thus, decreases fibrinolysis and may result in increased thrombotic risk. An insertion/deletion (I/D) polymorphism in the ACE gene has been identified and correlated with the enzyme serum levels. Studies concerning the association of this polymorphism and the risk of cardiovascular diseases in different populations showed inconsistent results. *Objective:* This study aimed to investigate the association between ACE I/D polymorphism and the risk of myocardial infarction among the Sudanese population. *Materials and methods:* This is a case-control study, in which blood samples were collected from a total of 100 Sudanese subjects, 50 patients with myocardial infarction and 50 age- and sex-matched healthy volunteers as a control group. Genomic DNA was extracted by guanidine chloride method and ACE I/D polymorphism was analysed by Allele-Specific Polymerase Chain Reaction (AS-PCR). Data of this study was collected using a structured interview questionnaire and analysed by statistical package for social sciences (SPSS). *Results:* The frequency D/D Genotype was higher in the control group than patients (72% vs 60%), while of the I/D genotype was higher in the patients than controls (40% vs 28%); the II genotype was absent in both study groups. The frequency of D allele was 0.80 in patients with MI and 0.86 in the control group, while the frequency of I Allele was 0.20 in the patients with MI and 0.14 in the control group. No statistically significant association was reported between ACE I/D polymorphic genotypes and MI (*P.value*= 0.29). *Conclusion:* ACE I/D polymorphism is not associated with the risk of MI among the Sudanese population.

Medical Science, 2020, 24(106), 3987-3993

Public awareness of stroke risk factors and warning signs in the population of Ha'il region, Saudi Arabia: A cross-sectional study

Ahmed Hameed Alreshidi, Ahmed Hamed Aljadani, Abdulilah Saad Aldhmadi, Abdulaziz Mohammed Alenezi, Jaser Sultan Alshamari, Sulaiman Saud Alsamaan, Rakan Ayyadah Alshammari, Abdulaziz Fahad Alhumaid, Basil Ayyadah Alshammari, Hessa Abdulla Alshammari

Background: Stroke is considered the commonest cause of death globally after ischemic heart disease. In Saudi Arabia, the prevalence of stroke was estimated at 40 per 100,000 in the Eastern Province and, 43.8 per 100,000 per year in Riyadh with a male to female predominance of 2.2:1. *Objectives:* The study aimed to assess the awareness of stroke risk factors and warning signs in the population of Ha'il region, Saudi Arabia. *Methods:* A descriptive cross-sectional study was conducted in Ha'il region, Saudi Arabia, between June 2020 and July 2020. *Results:* Most of the participants were females (63%), and 37% were males. The relative majority of them were aged between 15 and 30 years old (42.9%). Most of the participants (84.8%) correctly named hypertension as a risk factor of stroke. Even though, 59.5% have not recognized dizziness as a warning sign of stroke. *Conclusion:* The study revealed that there is poor awareness regarding stroke risk factors and warning signs in the Ha'il region, Saudi Arabia. Without a doubt, Ha'il community needs comprehensive awareness campaigns.

Medical Science, 2020, 24(106), 3994-4000

Prevalence and Negative impact of Videogames among children and adolescents in Albaha city, KSA

Elfatih Mirghani M. Salih, Ahmed Hassan Alghamdi, Ali Yahya B. Alzahrani, Hamid A.H. Alghamdi, Fahad A. Saad Alghamdi, Abdulaziz Saleh M Alzubaidy

Introduction: Video games (VGs) have become widely spread nowadays occupying most of the leisure time of the children, this may affect their schooling, sleeping, and behavior adversely. *Methodology:* This cross-sectional prospective study was carried out to assess the prevalence and negative impact of VGs on children and adolescents. A questionnaire was designed and filled by the parents together with their child to assess the rate of VGs playing and whether it has left any negative effects on the child. *Results:* VGs prevalence among the participants was about 99.3%. VGs Playing was found to predispose to the following negative effects among the studied group: violence and aggressive behavior (25%), excessive eating (37%), behavioral problems as lack of attention (23%) and hyperactivity (19%), decreased school performance (32%), sleep disturbances as staying awake for a late time at night (45%), and semi-addictive effect (5.9%). *Conclusion:* The vast majority of the participants reported playing VGs. VGs playing was demonstrated to have a lot of negative effects on the studied group such as violence and aggressive behavior, excessive eating, behavioral problems as inattention, decreased school performance, sleep disturbances, and semi-addictive effect.

Medical Science, 2020, 24(106), 4001-4009

Tuberculosis of the prostate in a patient presenting with acute retention of urine: A case report

Nerli R.B, Sushant Deole, Sreeharsha Nutalpati, Shridhar C Ghagane

Tuberculosis (TB) of the prostate is much less common than renal, vesiculo-seminal and epididyma ITB. Many urologists are unfamiliar with the diagnosis and management of prostatic TB with many cases found incidentally following transurethral resection. The possible modes of spread to prostate include a descending infection from the urinary tract, direct intracanalicular extension from a neighbouring tuberculous focus in the genital tract or a hematogenous spread. We report on a 68 year old male presenting to us with acute retention of urine. Per rectal examination revealed a hard prostate and histopathological examination of the prostatic needle biopsy showed prostatic tuberculosis.

Medical Science, 2020, 24(106), 4010-4013

Renal cell carcinoma with tumour thrombus adherent to inferior vena caval wall: A case report

Niveditha S, Abhijit Dhale, Meenakshi Yeola

To report a case of left renal cell carcinoma with tumour thrombus is extending into inferior vena caval wall. *Case report:* A 56 year old female patient presented with left flank pain and painless hematuria of 1 month duration. Clinical examination revealed a bimanually palpable lump in left lumbar region. Further investigation with CECT abdomen & pelvis revealed a mass arising from left kidney with tumour thrombus extending into IVC (Level III). The patient underwent preoperative angioembolization of left renal artery followed by left radical nephrectomy with IV cavotomy and tumour thrombus removal. However intraoperatively it was found that the tumour thrombus was not just abutting the wall of IVC instead it was adherent to the IVC wall making its removal difficult & hence gradual peeling of thrombus was done with cardiopulmonary bypass and hypothermic cardiac arrest which in turn lead to severe blood loss and prolonged surgical time. This case is considered important because a multidisciplinary approach with CPB helped us in overcoming an unexpected intraoperative complication and successful completion of the surgery. Moreover this case also emphasizes on the fact that radiological investigations can underestimate the difficulty in surgery and being prepared with CPB standby is necessary before attempting such a case.

Medical Science, 2020, 24(106), 4014-4018

ANALYSIS

Uric acid levels in Saudi females with type 2 diabetes mellitus

Walaa Mohammedsaeed

Background and Aim: Many studies have shown a relationship between hyperuricemia, metabolic syndrome (MetS), and cardiovascular disease. However, there is a dearth of studies identifying this relationship in those with type 2 diabetes mellitus (T2DM). Therefore, in the current study, we assessed the prevalence of hyperuricemia in Saudi females with T2DM and studied the correlation between risen serum uric acid levels and MetS. *Methods and Results:* We adopted an epidemiological, cross-sectional design. Participants were women aged ≥ 35 years old ($n = 200$) living in Al Madinah Al Munawarah city. Biochemical factors relevant to diabetes were measured. These included serum uric acid levels, glucose levels, HbA1c, and lipid profiles. In female T2DM patients, the prevalence of hyperuricemia and MetS were 80% and 70%, respectively. We found positive correlations between cholesterol, triglyceride, fasting blood glucose (FBG), glycosylated hemoglobin (HbA1c), fasting insulin levels, and serum uric acid in our T2DM sample. A multiple linear regression model showed the risk of MetS to be positively correlated with higher levels of uric acid, triglycerides, and glucose, and with higher BMIs. *Conclusion:* Elevated levels of serum uric acid were associated with a higher incidence of MetS and associated symptoms in T2DM Saudi females. Routine evaluation of uric acid may help to prevent MetS-related T2DM complications.

Medical Science, 2020, 24(106), 4019-4025

Correlation between Lipid Profile and Acne Vulgaris

Firas Fakhir Altameemi

Objective: assessment of lipid profile in acne patients and its relationship with acne occurrence and severity. *Methods:* A case-control study carried out in a private outpatient clinic during the period from March 2018 to June 2019, in the department of dermatology, Basrah, Iraq. *Results:* The study included 124 subjects divided into two groups, 62 patients with acne and 62 healthy matched control (there was no significant difference between control and acne groups in their age and gender). Serum TC and LDL was significantly higher in acne patients, while both HDL and TG did not differ significantly between both groups. Mean HDL was significantly higher in acne female patients compared to female control, while the rest of the variables did not show significant difference. There were no significant differences between various lipid parameters according to increased severity of acne. *Conclusions:* The current work highlights some important lipid abnormalities in acne patients which involved HDL mostly, while no association with acne severity was noted in the present work.

Medical Science, 2020, 24(106), 4026-4030

Risk Factors and Awareness about Knee Osteoarthritis among Secondary School Teachers

Huda Ghanim Hussien, Yousif Abdul Raheem

Objective: find out the prevalence of risk factors for knee osteoarthritis among secondary school teachers and to estimate their awareness about knee osteoarthritis and to investigate the association between awareness level and risk factors. *Methods:* A cross-sectional survey carried out in 16 secondary schools in Baghdad from the first of March/2019, until the end of May/2019, targeting secondary school teachers from both genders. The data were collected by self-administered questionnaire filled by the teachers. *Results:* This study enrolled 300 teachers, 219 (73%) of them were 40 years and older, and 67.7% of them were females. The most prevalent risk factor among study sample for knee osteoarthritis was standing for more two hours/day. Total knee osteoarthritis awareness score was good among 167 (55.7%) teachers, and the prevention domain got the highest awareness score. *Conclusions:* High school teachers had good total awareness about knee osteoarthritis, with highest score in prevention domain and lowest in management domain. Standing > 2hours/day was the most common risk factor for knee osteoarthritis in secondary school teachers. Higher educational level, climbing 5 or more flights of stairs daily family history of knee osteoarthritis, and knee pain with ≥ 4 risk factors of knee OA increased the odds for better awareness about the disease.

Medical Science, 2020, 24(106), 4031-4039

Nurses' knowledge to pressure ulcer prevention at Hail hospitals in Saudi Arabia: A cross-sectional study

Salwa Abd El Gawad Sallam, Lea L. Dando, Anamarie M. Velitario, Anna Liza A. Pardinias, Mildred L. Dizon, Jerold C. Alcantara

Background: Routine knowledge assessment ensures that nurses are guided on relevant and recent evidence-based practices to consistently provide efficient and safe patient care. *Methods:* This descriptive, cross-sectional study was conducted among nurses assigned in the intensive care unit, male intermediate care unit, female intermediate care unit, and convalescent ward. The Pressure Ulcer Knowledge Assessment Tool (PUKAT) 2.0 was used in the study. *Results:* The total mean knowledge score was 40.53% (SD 9.72). Of the 114 participants, only 1.8% (2) scored a satisfactory rate of $\geq 60\%$. Analysis by theme showed that the highest score was from 'risk assessment' with a mean score of 52.63%, while the least score was from 'prevention of pressure ulcers' with 23.68%. There were no significant differences found on mean scores when samples were grouped according to characteristics. *Conclusions:* Findings of the study demonstrate knowledge gaps of nurses on pressure ulcer prevention. Unsatisfactory scores were noted specifically on the guidelines of preventing pressure ulcers, particularly in the effective techniques of positioning and repositioning, and the use of preventive devices.

Medical Science, 2020, 24(106), 4040-4052

The association between obesity/overweight and demographical characteristics in Northern Saudi Arabia

Hussain Gadelkarim Ahmed, Abdulaziz Fahhad Saleh Alanazi, Hani Abdulrhman Almutairi, Raed Alasmar Bin Museibb Alenezi, Abdullah Selmi Suliman Alfarsi, Abdulmajeed Saud AlTamimi, Abdulrhman Fahad Hamad Alrashedy, Hamad Abdulrahman Hamad Alrasheedi

Background: Many factors have been claimed to contribute to the increased rates of obesity/overweight in Saudi Arabia. Therefore, the present study aimed to assess the association between obesity/overweight and demographical characteristics in Northern Saudi Arabia. *Methodology:* This is a cross-sectional survey that included 315 volunteers living in the city of Hai'l, Northern Saudi Arabia were included during October 2020. Both Saudi and non-Saudi civilians were included in the study. The participants were randomly selected by a simple random method regardless of age, gender, or other demographical characteristics. *Results:* The present study investigated 315 volunteers (281 males and 34 females) aged 17 to 56 years with a mean age \pm STD= 21.2 \pm 6.1. The body mass index (BMI) ranged from 14.9 to 47.88 with a mean of 26.12 \pm 6.3. Obesity and overweight represented 75/315(24%), and 109/315(35%) in this order, as shown in Fig 1. About 65/381(23%), and 100/281(36%) of the males were obese and overweight, respectively, whereas, 10/34(29.4%) and 9/34(26.5%) were obese and overweight in that order. *Conclusion:* Obesity/overweight still prevalent in Northern Saudi Arabia. Living in urban areas, being married, educated, having a high family income, and an employee is a risk of gaining weight (Obesity/overweight).

Medical Science, 2020, 24(106), 4053-4058

Knowledge and awareness of adults towards space maintainers and willingness of space maintainer therapy in Riyadh city, Saudi Arabia

Abdullah Abdulrahman Alduhaymi, Abdulghani Saeed Al Zahrani, Abdullah Mohammed Abu Qarnayn, Anas Mohammed Al Mutlaq, Fawwaz Faisal Alabdallah, Shahzeb Hasan Ansari, Mohammad Abdul Baseer

Introduction: Space maintainers play an important role, which are available in different types. These include removable as well as fixed appliances, both having specific characteristics. *Materials and methods:* A cross sectional study, which utilized a closed ended questionnaire constructed in Arabic language. This online survey was designed using Google forms, which consisted of eleven questions related to the demographics and space maintainers. *Results:* A total of N=700 participants filled out the online survey. Out of this sample, 46% were females and 54% males. As far as the age groups were concerned, 32% belonged to 18-30 years, 46% to 31-45 years and 22% to 46+ years. *Conclusion:* Higher educational backgrounds revealed better knowledge towards the space maintainer as compared to lower educational levels.

Medical Science, 2020, 24(106), 4059-4063

Type II Uterine Body Carcinoma (UBC), Pattern of the Disease in Egyptians, A Single Institutional Experience

Hala Aziz Shokralla, Ahmed Elsayed Fathalla

Background: UBC is 2nd common gynecological malignancy after cervix. It increases worldwide due to prolongation of life & obesity. Two main types exist (I & II); type II is more aggressive, occurs at older age, less common (20%), unrelated to estrogen, poorly differentiated and deeply invade myometrium. Main presentation is abnormal uterine bleeding, diagnosed by endometrial sampling either aspiration or blind D&C. LNs affection is most important prognostic factor. Pelvic radiation (RT)+/- brachytherapy is the recommended adjuvant treatment. Multiagent chemotherapy (CTH) +/- RT improves disease free survival (DFS) & overall survival (OS) when using platinum/taxanes based regimen. **Aims:** to study clinicopathological features of all cases of type II UBC, pathological subtypes, management protocols, surgery, RT & CTH given & outcome 'DFS'& 'OS'. **Materials & Methods:** A single institution prospective analysis of all cases presented to NCI-Cairo University with type II UBC candidate for surgery over a period of 4 years from June 2016 until June 2020; 60 cases were included. Data collected then analyzed. **Results:** median age was 62 years with commonest age group was 60-70ys (34 cases, 56.6%). Main presentation was postmenopausal bleeding (52 cases, 86.6%). Dilatation & curettage (D&C) were done for (56 cases, 93.3%). Carcinosarcomas dominated the pathology (34 cases, 56.6%). Most cases surgically staged via open approach (54 cases, 90%) with minimal invasive techniques in 6 cases (10%). Only 32 cases (53.3%) underwent lymphadenectomy with positive LNs encountered in 14 cases (23.3%) and grade III predominate (26 cases, 43.3%). Post-operative positive margins found in 4 cases (6.6%). 63.3% (38 cases) were FIGO stage II. Adjuvant EBRT (5000cGY/25Fr) was given to (36 cases, 60%), Brachytherapy (700cGY/3Fr) to (26 cases, 43.3%). (34 cases, 56.6%) received adjuvant CTH (platinum/taxanes based) + RT in advanced stage & high-grade tumors. **Conclusion:** Surgery is the primary treatment for early stages disease. In cases of irresectable tumors neoadjuvant combined RT/CTH is preferred. In advanced disease surgical debulking is justified. Pelvic RT +/- brachy therapy combined with multi-agent chemotherapy improves DFS and OS.

Medical Science, 2020, 24(106), 4064-4072

The effectiveness of structured education based on precd on adherence of self-care behaviors in hemodialysis patients

Kobra Poudineh, Hossein Ansari, Iraj Zareban, Maryam Seraji, Gholamreza Masoudy

Background: Dialysis is enforcing physical and mental disorders to patients. The study aimed the investigation of the application of the educational intervention to the promotion of the self-Care behaviors. **Method:** In this study, 86 patients of two educational hospitals were allocated and studied. Data collected by a researcher-made questionnaire that consisted of demographic and specific questions. The validity and reliability of the questionnaire by an expert panel and Cronbach's Alpha test were verified. At first, baseline data were attained and analyzed. The educational intervention was applied in the intervention group and two months later the data in both groups recollected and using descriptive Statistics and Statistical tests were surveyed. **Results:** In demographic variables between two groups no differences were seen ($P > 0.05$). The mean ages of the intervention and control groups were 43.98 ± 12.47 and 45.52 ± 13.99 respectively. After the intervention, the mean scores of the PRECEDE in the intervention and control groups increased significantly ($P < 0.05$). **Conclusion:** Theoretical intervention along social support increases the self-care behaviors among dialysis patient.

Medical Science, 2020, 24(106), 4073-4079

Factors related to mild cognitive impairment among type 2 diabetic patients attending Diabetes Center in Al-Madinah, Saudi Arabia 2019-2020

Abdullah Aljohani, Khadega Ahmed Salem, Anas Aljohani, Mujahid Aljohani, Zain Alghamdi, Rowaida Alhawsawi

Background: Diabetes mellitus is a world-wide impact, it affect many organs and systems. Mild cognitive impairment is a well-known phenomena in elderly. **Objectives:** The objectives of this study are to improve health of type 2 diabetes mellitus patients in Al-Madinah City in concern of their mental health and improving their CNS function and cognition and to determine the prevalence of mild cognitive impairment among type 2 diabetic patients attending Diabetes Center in Al-Madinah City in 2019. In addition, identifying possible risk factors of mild cognitive impairment among the studied diabetic patients. **Subjects and Methods:** This is a cross-sectional study. The present study conducted at outpatient clinics in the diabetic center of Al Madinah. This is the largest diabetic center in Al_MadinahAlMunawara region and serves the city and most of the nearby cities. The diabetic patients are attending the center for treatment and follow up. The study was taking about 12 months from the mid 2019 till the mid 2020. All type 2 diabetic patients attending the diabetes center during the period of the study were eligible to be included in the present study. The data collection tools were two questionnaires. The first one is general and structured questionnaire designed with special emphasis on general demographics and risk factors of MCI. The second one was the Montreal Cognitive Assessment (MoCA). **Result:** The mean age of the studied patients was 52.2 ± 7.5 years with 59% participants aged 50 and more years, and male patients were representing 71% of the studied patients. Of the studied 200 patients there have been 118 (59%) patients showed normal cognitive function. Forty-eight patients (24%) were found to have mild cognitive impairment, 15% showed moderate and 2% showed severe impairment. The pie chart showed the frequency distribution and percentage of the cognitive impairment among the studied diabetic patients. Hypertensive patients were only showed a significant higher prevalence of mild cognitive impairment (34% vs. 21.2%). Although not significant the prevalence was also higher among patients with heart (38.4%) and CNS diseases (33.3%). **Conclusion:** There was considerable increment of MCI among type 2 diabetic patients. Certain factors appeared to be at a higher risk of MCI and was found to increase the prevalence among the studied diabetic patients. patients' age, sex, marital status, educational level and occupation are amongst the socio-demographic factors. Also, the diabetes duration, compliance to treatment, HbA1c level and type of medication as well as the associated heart disease and hypertension were included.

CASE REPORT

Effect of psychomotor physiotherapy with individualized physiotherapy program on pain, kinesiophobia and functional outcome following Transforaminal Interbody Lumbar Fusion (TLIF): A case report

Saumi Sinha, Rakesh Kumar Sinha, Pratik Phansopkar, Sachin Chaudhary

Introduction: Transforaminal Interbody Lumbar Fusion is a common surgical procedure for lumbar disc herniation. Pain, functional limitation and kinesiophobia are commonly reported after TLIF. Psychomotor physiotherapy has been shown to be effective in modifying the behavioural and cognitive aspects of pain and movement and thus improve functional outcomes. NPMP approach, focusing on strategies to improve body awareness, self confidence, dealing with fear of failure and feeling safe in an environment, when added to the individualized physiotherapy program following TLIF showed significant reduction in low back pain and improved functional independence along with decreased kinesiophobia. *Clinical findings:* A 53 year old female presented with chief complain of pain in low back with tingling and numbness in both feet since last 3 months after a fall leading to difficulty in walking and performing daily activities. Pain was aggravated by forward bending and relieved by rest, stretching and medication. MRI report of dorsal spine revealed disc desiccation at D10-D11, D11-D12 and D12 –L1 levels, ligamentum flavum hypertrophy at D8-D9 and D10-D11 levels with lumbar canal stenosis at L3-L4 at L4-L5 disc levels (canal diameter D12-L1 was 8mm) and degenerative changes at L3, L4 and L5 levels. Muscle strength was 3/3 as per MRC grading. TLIF was done on the patient as advised. Postoperatively the patient presented with pain (8/10 on NPRS), functional disability (Modified Oswestry Disability Index score of 64%) and fear of movement (Tampa Scale of Kinesiophobia raw score of 51%). An individualized physiotherapy program for a duration of 8 weeks was designed incorporating Psychomotor Physiotherapy (Norwegian Psychomotor Physiotherapy protocol was used) once a week for 8 weeks. *Conclusion:* NPMP along with individualized physiotherapy program was effective in reducing low back pain, improving function and reducing kinesiophobia after TLIF.

Medical Science, 2020, 24(106), 4091-4097

ANALYSIS

Comparative study between Single Anastomosis Duodeno-ileal Bypass and one anastomosis-gastric bypass as regard remission of type-2 DM after application of DIAREM Scoring System

Alaa Abbas Sabry Moustafa, Moheb sharaby Eskandaros, Abdallah Hamed Ebrahim, Hany Khairy Mansour, Mina Mamdouh Nagi Ghali

Background: Accumulating evidence obviously supports the superiority of weight loss surgery over non-surgical treatments for management of morbidly obese patients in terms of outcomes as sustained weight loss, improved quality of life and prevention, reduction, or resolution of co-morbidities (e.g., Type 2 Diabetes Mellitus, dyslipidemia), as well as reduced overall mortality. *Objective:* To compare Type 2 DM remission as well as the metabolic effects of 2 types of bariatric surgery; Single Anastomosis Duodeno-ileal Bypass-Sleeve (SADI-S) and One Anastomosis-Gastric bypass (OAGB), in the first year postoperative follow up in relation to DiaRem Scoring system. *Methodology:* This is a prospective randomized clinical trial study conducted in Ain-Shams University Hospitals bariatric surgery unit. The study started in March 2018 and ended in July 2020 - 2 years and 4 months - over 40 patients with minimal follow-up of 16 months. The 40 patients were divided equally into 2 groups (Group A: underwent O.A.G.B., Group B: underwent S.A.D.I-S). *Results:* Our study found that resolution of DM in SADIS patients initially occurred in 75% after 12 months increased to 80% after 15 months. However, in MGB patients it was 60% after 12 months and reached 65% after 15 months. Remission rates of SADIS patients under oral therapy is about 100% while MGB patients it was 92.3%, whereas patients under insulin therapy the number markedly goes down with shift to oral therapy or marked decrease in insulin requirements to control D.M. *Conclusion:* No statistical significant difference between both groups as regard remission of DM The main determinant noticed during the study influencing remission is the duration of DM and preoperative C-peptide level-in addition to HBA1C level. We recommend OAGB as a metabolic surgery for patients with early onset DM type II with BMI ranging from 30-40. The study needs to be repeated over larger sample size and longer duration to determine the long term effects of metabolic surgery.

Medical Science, 2020, 24(106), 4098-4107

Assessing Respiratory Muscles strength as a Biomarker of Lung Function among Patients with Rheumatoid Arthritis, King Saud Medical City

Abdulrhman Mustafa Rasheed, Ahmed Fadlalla, Tarig Fadelelmoula, Homoud Al Homoud

Background: Assessment and evaluation of the strength of the respiratory muscles are beneficial in some clinical conditions, Rheumatoid arthritis is an articular disorder with extra-articular manifestations affecting other organs and tissues and worsening prognosis. Pulmonary system involved in about 30-40% of RA patients. The objective of this study is to assess respiratory muscles strength as a biomarker of lung function among asymptomatic patients with rheumatoid arthritis. *Patients and Methods:* It was analytical, facility-based study at pulmonary function test lab, department of respiratory care at King Saud Medical City (KSMC). Patients confirmed with rheumatoid arthritis, according to ACR /EULAR were selected with age group 18-75 years-old. Pulmonary function tests were carried out using MasterScreen PFT spirometer (CareFusion, Hoechberg Germany manufacture). The machine

was calibrated daily. We used of the MicroGard® mouthpieces containing filter to prevent the infections. *Result:* A total of 70 participants in the age range 18-75 years enrolled in the study. Out of 70 participants, 14.3% of the study participants were male subjects while 85.7% were female subjects. Saudis constituted 88.6% of the participants were Saudis and 12.4% non-Saudis. The distribution of the chronicity of rheumatoid arthritis showed 60% of the participants developed rheumatoid arthritis within five years, or less. Mean values of maximal voluntary ventilation (MVV) was significantly lower than in the participants actual measures compared with the mean of predicted values. The mean values of both maximal inspiratory pressure (MIP) and maximal expiratory pressure (MEP) were significantly lower than in participants' actual measures and predicted values. There was significant statistical relation between the maximal voluntary ventilation (MVV) and maximal expiratory pressure (MEP), maximal inspiratory pressure (MIP) of the participants. *Conclusion:* Maximum voluntary ventilation (MVV), maximal inspiratory pressure (MIP) and maximal expiratory pressure (MEP) are essential parameters to evaluate the respiratory muscles strength among patients with rheumatoid arthritis. We may be recommended to be to perform these tests done routinely as a part of airflow category of pulmonary function testing for those patients as there are no adverse effects, non-invasive and relatively easy to perform manoeuvres.

Medical Science, 2020, 24(106), 4108-4115

Diagnostic value of five cephalometric analysis in recognition of class I, II, and III sagittal patterns

Abdolmohammad Gachkooban, Mina Moalemnia

Background and Objective: Controversy exists over superiority of cephalometric analyses in diagnosis of skeletal classes. The aim of the present study was to compare diagnostic value of cephalometric analyses of class I, II, III anteroposterior jaw discrepancies. *Materials and methods:* A total of 90 cephalographs ($n=90 \times 3$) were retrieved from the database of radiological clinic and classified into three study groups: Group I (Class I, $n=30$), Group II (Class II, $n=30$), and Group III (Class III, $n=30$). The cephalographs were traced manually. A-B plane, ANB angle, Wits appraisal, AF-BF, and cephalometric indices in McNamara's anteroposterior measurements, including maxillary (Co-A) and mandibular (Co-Gn) unit length and their difference were analyzed. Diagnostic values of these analyses were measured; statistics were analyzed using McNemar, correlation, and Kappa coefficients ($\alpha=0.05$). *Results:* In the Class I group, A-B plane angle showed the highest sensitivity (90%) and accuracy (76.7%), In the Class II group, ANB angle showed the highest sensitivity (86.7%) and accuracy (85.5%). In the Class III group, Wits appraisal showed the highest sensitivity (90%) and accuracy (96.7%). *Conclusion:* Downs, Downs/Steiner, and Downs/AF-BF analyses can be more reliably used for assessment of class I, II, and III sagittal patterns, respectively.

Medical Science, 2020, 24(106), 4116-4124

Awareness and Reasons for Consumption of Energy Drinks among Students of Albaha University, Saudi Arabia

Abuobaida E. E.Abukhelaif, Ali Yahya B Alzahrani, Hamed Ahmed H Alghamdi, Fahad Ali S Al-Ghamdi, Abdulaziz Saleh M Alzubaidy

Introduction: Energy drinks are widespread among university students and its consumption amongst them is of particular apprehension since this youthful group of people, busy in academic search is a best objective for the sponsors of energy drinks, with potentials to improve energy, encourage wakefulness, escalation of alertness and increase mental and physical performance, in addition students report using energy drinks as a way to help them stay awake, sharpen their examination-taking skills, or get through homework as well as drinking them during high energy activities. *Material and method:* A cross-sectional survey carried out from March 2020 to June 2020 among students of Albaha University. The total sample sizes composed of 252 males and 152 females from different faculties. A self-administrated questionnaire was designed to obtain data on student demographics, energy drink ingestion patterns, linked adverse effects, and awareness of the harmful properties of energy drinks. Data were analyzed using SPSS program version 24 (SPSS, Inc, Chicago, IL, USA). *Results:* A total of 450 questionnaires were administered and 404 questionnaires were completed by the participant. Two thirds of respondents 252(62.4%) were males' with mean age of 20.6 years), and females 152(37.6%) with mean age of 20.8 years. Fifty two percent of them (211; 52.4%) reported current use of energy drinks, with males (56.3%) showed more usage than females (42.4%); ($p = 0.001$), and those who were more elderly were least likely to use EDs ($p = .001$). Drives let the respondent to consume EDs, showed that students use energy drinks for different reasons among these, 55.4% of the respondents said that enhancing academic performance (Studying for exams) was the main purpose for using energy drinks, followed by "to keep awake and improved alertness and attention as for driving" (17%) and "Increased physical activity" (13%), whereas only 11.7% ($n = 47$) did not show any reason for their using energy drinks. The effects on health that the respondent feel after consumption of energy drinks, most students surveyed, 58.2% tell that energy snacks they used were harmless, and (66.7%) agreed that energy drinks were a good source of energy and increased their physical activity, 44.7% felt that the drinks Improved alertness and attention and increase their ability to stay awake while 22.6% show unpleasant effects. *Conclusion:* Low consumption rate of energy drinks among Albaha University students, with unsatisfactory knowledge about health risk of energy drinks. There is a necessity to educate students about the prospective dangers of EDs and more research and associated improved public awareness is needed about energy drinks and understanding of their effects.

Medical Science, 2020, 24(106), 4125-4132

REPORT

The disposal of biomedical waste by the dental health professionals in Riyadh: Impact on current practice

Shahzeb Hasan Ansari, Nasser Abdullah Al Neemi, Saud Al Jadaan, Fahad Khaled Alsenan, Fayez Saad Aldawsari, Faisal Khalid Saleh

Health care services generate tons of biohazard waste each day with their quantity depending on the size of the organization. Each country regulates its waste disposal and they generally follow the protocols presented by Occupational Safety and Health Act (OSHA). The aim of the research was to determine the knowledge and practice of Saudi dentists towards the management of biomedical waste and compare the findings on the basis of work experience and gender. The cross-sectional study design involved all Riyadh based Saudi dentists willing to participate in this study were requested to fill up the survey. A total of 315 male and female dentists filled the survey using the online link of Google forms. Consultants have shown better knowledge and attitude towards the biomedical waste disposal. From the study it can be summated that general dental practitioners showed poor knowledge and attitude towards biomedical waste disposal. Dental students should be trained in order to learn how to properly dispose the biomedical waste.

Medical Science, 2020, 24(106), 4133-4138

Evaluation of the causes of anxiety before OSCE in anesthesiology and operating room students of Ilam University of medical sciences

Fatemeh Ghiasi, Fatemeh Nemati, Abdollah Normohammadi, Maryam Kheiry, Zohreh Hosseinzadeh, Fatemeh Merati Fashi, Maryam Aboali

Background & Objective: Exam anxiety is one of the most common psychological problems and a deterrent to students' academic achievement. Objective structured clinical examination (OSCE) is one of the methods to assess the achievement of educational goals of anesthesiology and operating room students. One of the disadvantages of this test is that it causes anxiety in students. This study tends to investigate the causes of anxiety in operating room and anesthesiology students before administration of OSCE. *Methods:* This study was a descriptive-analytical cross-sectional study conducted in 2019 in Ilam University of Medical Sciences. The subjects were 50 anesthesiology and operating room students. All students completed the conscious satisfaction questionnaire and test anxiety inventory (TAI) on the day of the exam. Data were analyzed in SPSS version 20 using one-way ANOVA and independent t-test and Pearson correlation coefficient at a significant level of $P < 0.005$. *Results:* In this study, 34 (68%) were female and 16 (32%) were male, 16 (32%) had high test anxiety, 24 (48%) had moderate test anxiety, and 10 (20%) had low test anxiety. Results showed a significant difference in anxiety score by gender ($p = 0.006$) and by grade point average ($p = 0.008$). *Conclusion:* Considering the high level of student anxiety before the OSCE, planning for accurate design of test stations, preparing students during the semester, organizing workshops to get acquainted with the OSCE, and allocating sufficient time to the test can reduce student anxiety before the test.

Medical Science, 2020, 24(106), 4139-4143

ANALYSIS

Study of Knowledge, Attitude and Practice (KAP) towards COVID-19 Pandemic in Rural Area

Amar Taksande, Abhilasha Singh Panwar R, Syed Athhar Saqqaf, Rupesh Rao, Revat Meshram

Background: SARS Cov-2 is a newly identified virus which causes respiratory and other systemic illness with the disease being named as COVID-19. It has been declared as a global pandemic by the World Health Organization. The Indian government has taken extraordinary measures like suspending all transports, closing down the public places, increasing the medical facility, strict rules for maintaining hygienic practices. *Aims:* To study the knowledge and attitude of people regarding COVID-19 and the preventive measures practiced by the rural population who attending a hospital. *Study Design:* Descriptive cross-sectional study. *Study population:* The population in this study is residents of Wardha District, Maharashtra State, India, who are living there for at least one year. 322 adults (aged 18 years and above) were interviewed using a pre-tested questionnaire regarding their knowledge, attitude and practices about COVID-19. *Results:* In our study ($n=322$), 50.62% were males, with 54.35% in age group of 18-30 years. The mean knowledge score was 12.48 (SD: 2.15, range: 4-15) suggestive a good knowledge score, attitude score was 16 (SD: 3.93, range: 10-32)- suggesting a positive attitude, practice score was 3.77 (SD=0.54, ranged 0-4), suggesting an overall 90% correct rate in the practices test. Regression analysis showed that male gender, unmarried people who had less education, less income and unemployed or unskilled worker had the lowest scores in all three domains. *Conclusion:* The rural people had a good knowledge about prevention of COVID-19. Most of them had a positive attitude towards covid-19 practicing preventive measures. Preventive strategies are the only means of controlling COVID-19.

Medical Science, 2020, 24(106), 4144-4157

Knowledge, attitude and practice of small bowel obstruction among Saudi population

Nahlah S Arab, Mansour I Alshehri, Farah A Alshammari, Ghadeer A Althaqib, Asma A Alshammari

Background: Small bowel obstruction (SBO) is defined as a complete or partial mechanical blockage to the passage of intraluminal contents. In the United States, 15% of admissions for abdominal pain are secondary to SBO, with 300,000 hospital admissions annually. The most common causes of SBO by order are adhesions followed by hernias, Crohn's disease, malignancy, and volvulus. *Materials and Methods:* The target population for this survey study was Saudi nationals aged 18 years and older. *Main Outcome Measures:* The population's knowledge level and response towards SBO. *Results:* Among those surveyed, 51.9% said that their source of information on the treatment of small bowel obstruction was from websites on the internet. Almost all participants (95.3%) agreed that it is necessary to go to the emergency department if the symptoms last for three days. Also, 61.6% strongly agreed that

it is essential to visit a health care center for SBO. A large portion (62.8%) strongly agreed to visit the doctor immediately after having SBO symptoms. *Conclusions:* A positively significant relationship was found between the participants' mean attitude (A) and practice (P) scores.

Medical Science, 2020, 24(106), 4158-4165

Roux en Y gastric bypass after failed primary restrictive procedures in morbidly obese patients

Amr Elgazar, Medhat Khalil, Haitham Elmaleh, Alaa Abbass Mustafa

Background: Worldwide prevalent over the past several decades, Obesity morbidities and health related adverse effects has been an increasing concern that lead to revolutionary advancements in the field of bariatric surgery. The long-term outcomes of the different techniques in have gained popularity in the last years. Although sleeve gastrectomy is being performed with increasing frequency as well as other restrictive procedures. Failure or inadequate satisfactory outcome of these procedures became interestingly evident and thoroughly studied ranging from regaining of the preliminary lost weight, insufficient weight loss, GERD, and various other complications all of which determine a failure of the primary procedure. *Methods:* This prospective study included 40 patients who underwent a revisional surgery in the form of Roux en y gastric bypass after they failed to achieve significant weight loss from their primary bariatric operations. Roux en y gastric bypass procedures were done from the period of January 2018 till January 2019 and the patient were followed after for one year. *Results:* Each patient had different indication for the revisional Roux en y gastric bypass conversion: 18 patients (45%) due to weight regain after 1yr weight loss, 14 patients (35%) due to insufficient weight loss, and 8 patients (20%) due to GERD. Roux en y gastric bypass was performed with significant reduction of both mean weight of the patients from 113.50±9.92 kg to 98.65±9.93 and 89.18±9.84 after 6, and 12 months respectively and mean BMI from 39.06±4.91 before the conversion to 33.93±4.44 and 30.65±4.11 at 6 and 12 months respectively. Moreover, co-morbidities such as Diabetes and Hypertension were markedly improved in addition to the lipid profile of most of the patients. *Conclusion:* Roux en y gastric bypass is a safe procedure that can be recommended as a first line revisional surgery after failed primary restrictive bariatric procedures to achieve significant weight reduction and to improve any of the obesity related comorbidities.

Medical Science, 2020, 24(106), 4166-4177

REPORT

Application of computational tools for ADME and target modeling of bioactive compounds from hydroalcoholic extracts of *Erodium glaucophyllum* flowers

Fares Alshammari

Computational approaches based on predictive software used for computer-aided drug design to improve the quality control of drugs become a key tool in the selection and prioritization of drug targets. Seventeen identified compounds isolated from hydroalcoholic extracts of *Erodium glaucophyllum* flowers were subjected to *in silico* ADME and target prediction to evaluate their pharmacokinetics, drug-likeness and coupled target classes using Swiss ADME and Swiss Target Prediction programs. Results revealed that most of the tested compounds displayed good oral bioavailability and skin permeation suggesting that they are easily absorbed. They are also able to penetrate the blood-brain barrier and therefore to affect the central nervous system (CNS). Target predictions indicate that all tested bioactive molecules (results shown only for gallic acid and luteolin) may be effectively coupled with a various number of essential enzymes and proteins reinforcing their behavior to be served for feature docking studies.

Medical Science, 2020, 24(106), 4178-4183

ANALYSIS

Knowledge and awareness of fluoride use in daily routine among Saudi Military personnel - A cross-sectional study

Shahzeb Hasan Ansari, Hissah Nasser Alarifi, Hessa Saad Al-Ibrahim, Najla Mohammed Altwaijri, Raghad Abdulrahman Alsaif, Ghalya Abdulrahman Alrobayan

Introduction: The usage of fluoride based mouth rinses is extensive as a caries-preventive intervention worldwide and its consistent usage leads to a significant reduction in caries in permanent teeth. However, knowledge and practice regarding this issue has been varying among different populations. *Materials and methods:* This is a cross sectional study conducted among the Saudi Military personnel using an online survey. An online questionnaire was designed using Google Forms with questions related to personal and demographic information followed by knowledge and practice related questions about fluoride use in daily routine. *Results:* 196 surveys were completed and results showed slight significant association of age and education on fluoride related knowledge and attitude. However, no association was found compared with monthly income. *Conclusion:* The level of personal dental care among Saudi military men was found to be low. There is a need of educating survey subjects regarding proper methods of maintaining oral hygiene.

Medical Science, 2020, 24(106), 4184-4189

Appropriateness of pulmonary CT angiography testing request in patients suspected with pulmonary embolism in Hai'l Region, Northern Saudi Arabia

Saleh Hadi Alharbi, Mosaad Almegren, Hassan Abdulrazaq Alshammari, Abdullah Hamad Alanazi, Zaid AwadHamoud Alshammari, Saud Khalid Alshammari, Abdulaziz Mohammed Alenezi, Hussain Gadelkarim Ahmed

Objective: The present study aimed to evaluate the appropriateness of pulmonary CT angiography testing requests in patients suspected of pulmonary embolism in the Hai'l Region, Northern Saudi Arabia. *Methodology:* This study involved data obtained from 133 patients presented with suspected pulmonary embolism (PE) (from Feb. 2019 to Feb. 2020). All available variables were attained from the intensive care unit (ICU) at King Khalid Hospital, Hail, Northern Saudi Arabia. *Results:* CTPA was performed on 133 patients suspected with PE, 70(52.6%) males, and 63(47.4%) females, aged 15 to 95 years with a mean age of 48.3 years. CTPA testing was positive in 47/133(35.3%) patients and non-indicative in 86/133(65%). Out of the 45 confirmed patients with PE, CAPA was positive in 35/45(77.8%). The probability of true CAPA positive (sensitivity) was 77.78%, whereas, the probability of true CAPA negative (specificity) was 86.36%. *Conclusion:* CTPA is appropriately used in Northern Saudi Arabia with fewer overdiagnosis escapes, perhaps due to the adoption of existing guidelines for the management of PE. The use of multifarious diagnostic methods for the diagnosis of PE is deemed important.

Medical Science, 2020, 24(106), 4190-4195

Predictors of influenza A and influenza B in children 3 - 18 years in epidemic seasons 2017 - 2018 and 2018 - 2019

Tetyana Pokrovska, Vira Hnatiuk, Halyna Lytvyn, Natalia Pokrovska

The aim of the study is to optimize the early diagnosis of influenza A and influenza B, by careful analysis of the clinical and laboratory features of the disease course in children aged 3 to 18 years in the epidemic seasons of 2017-2018 and 2018-2019 in Ukraine. 209 children with influenza who were treated in hospital were taken to consideration. Based on the results of the examination, two groups were formed. The first (I) group consisted of 122 children with influenza A, the second (II) group included 87 patients with influenza B. The result of the study is the delineation of clinical symptoms characteristic of influenza A and influenza B. It may allow to suspect a specific disease caused by a certain type of virus, especially in several strains of influenza circulation. Detection of clinical predictors of a particular type of influenza virus in a patient allows us to predict the course of the disease, possible complications and their nature.

Medical Science, 2020, 24(106), 4196-4202

In vitro efficacy of reverse contrast and sharpen enhancement filters for detection of small-size broken files in root canals on digital intraoral radiographs

Mansour Jafarzadeh, Negar Chetin, Sanaz Sharifshoshtari, Mohammad Hossein Haghhighizadeh

Background and Objectives: Considering the gap of information regarding the efficacy of enhancement filters of digital radiography for detection of broken instruments in root canals, this study aimed to assess the efficacy of reverse contrast and Sharpen enhancement filters for detection of small-size broken files in root canals on digital intraoral radiographs. *Materials and Methods:* In this in vitro, diagnostic study, 80 extracted single-canal teeth were randomly divided into four groups (n=20). Following access cavity preparation, #8, #10 and #15 K-files were introduced into the canals of teeth in groups 1-3, respectively, from their apex and were intentionally broken such that 3 mm of the file length remained in the canal. A control group without a broken file was also considered. The teeth were then mounted in sheep's jawbone and digitally radiographed using photostimulable phosphor (PSP) plate. Using SCANORA software, each image was enhanced once with the Sharpen and once with reverse contrast enhancement filter. Two observers evaluated the images for presence/absence of broken file and the sensitivity and specificity values were calculated for the three image types and compared using chi-square test. *Results:* No significant difference was found in diagnostic sensitivity or specificity of original, sharpened and reverse contrast images for detection of broken files in the canals ($P>0.05$). *Conclusion:* Digital radiographs enhanced with Sharpen or reverse contrast enhancement filters have similar efficacy to original digital radiographs for detection of small-size broken files in the root canal of single-rooted teeth.

Medical Science, 2020, 24(106), 4203-4210

CASE REPORT

A case report on capillary hemangioma and Leukoplakia on Tongue

Pooja Dhole, Lohe V.K, Ayesha Sayyad, Ravindra P. Kadu, Gaurav Thakare, Ravikant V. Sune

The following case report is about a female patient of age 50-years, who came to OPD with the chief complaint of nodular swelling on tongue and white patch on left lateral border of tongue of 1year duration. She gave history of tobacco lime quid keeping habit along with betelnut chewing habit for 5-6 times/day since last 20 years. On the basis of clinical examination provisional diagnosis of hemangioma over tongue dorsum was given and pyogenic granuloma was kept in differential diagnosis. For the white patch on left lateral border of tongue and buccal mucosa a clinical diagnosis of leukoplakia was given. The case was treated by surgery of leukoplakic patch and nodule over tongue dorsum was managed by excision and placement of collagen sheath over the area was done. Oral leukoplakia is not commonly seen with hemangioma; however, it might be present quite before the development of leukoplakia.

Medical Science, 2020, 24(106), 4211-4216

Is HRCT indicated in a symptomatic, RTPCR negative patient?

Bhushan Lakhkar, Varun Singh, Bhushita Lakhkar, Dhande R.P

Covid-19, a deadly viral infection having its outbreak in Wuhan city, Hubei province, China has infected and claimed life of millions worldwide. The pandemic has affected people of all age group and gender. RTPCR (real-time reverse transcriptase polymerase chain reaction) being the diagnostic modality of choice has its own limitations and drawbacks, whereas HRCT (High resolution computer tomography) thorax has emerged as an important adjunct for diagnosing suspected patients with or without a positive RTPCR test. We through our case report will be discussing the importance of HRCT as a diagnostic and prognostic monitoring tool.

Medical Science, 2020, 24(106), 4217-4222

ANALYSIS

Comparative evaluation of performance of image processing using reverse contrast and sharpen filters in indirect digital radiography (PSP) for diagnosis of furcation involvement grade I & II (In vitro study)

Sanaz Sharifshoshtari, Hojatollah Yousefimanesh, Foad Shahabianmoghaddam, Hadis Hatampour, Mohammad Hossein Haghhighizadeh

Background and Objectives: Most of the digital imaging systems have various image processing techniques. The purpose of this in vitro study was evaluation and comparison in the performance of reverse contrast and sharpens software in indirect digital radiography images (PSP) for detecting tooth furcation involvements (grade I and II). *Materials and Methods:* 41 extracted first and second mandibular molars were mounted and periapical indirect digital radiographies (PSP) were prepared, then they aggregate in three groups: 1. Control group 2. Simulation of furcation involvement grades I and 3. Simulation of furcation involvement grade II. Then digital software Inversion and sharpening filters was applied on the radiographs. Two observers evaluated the images and rated them from 0 to 2 (0=no furcation involvement, 1=grade I, 2=grade II). Specificity and sensitivity for each image group were calculated. *Results:* The sensitivity of observers for recognizing furcation involvement in PSP radiographs without any image processing were 53/7%, 70/7% respectively whereas the values for reverse contrast filtered images were 46/3%, 73/2% respectively and also about applying Sharpen Filter on PSP radiographs were 39%, 82/9% respectively, which showed the sensitivity of detection in the three groups was distinct but there was no statistical difference. The specificity of unprocessed Radiographs (63/4%) was less than reverse contrast filtered (75/6%) and sharpening filtered images (82/9%) but the significant difference was seen just in sharpen filtered images group. *Conclusions:* Application of filters, reverse contrast and sharpen, in digital radiography does not make progress in detecting furcation involvement.

Medical Science, 2020, 24(106), 4223-4231

RESEARCH

Association between nutritional habits and obesity/overweight in Hai'l Region Saudi Arabia

Albandri Abdullah Benammar, Abdelbaset Mohamed Elsbali, Hussain Gadelkarim Ahmed

Background: The growing prevalence of obesity/overweight is raising concerns worldwide. Many factors have been addressed to be associated with the epidemiology of obesity/overweight. Therefore, the present study aimed to measure the association between nutritional habits and obesity/overweight in Hai'l Region Saudi Arabia. *Methodology:* In this cross-sectional study, 750 Saudi volunteers were recruited during the period from May to October 2020. The study was planned to assess the effects of the nutritional habit on body weight status. *Results:* The overall prevalence of overweight/obesity was 490/732(67%), including 281/732(38.4%) overweight, 134/732(18.3%) obese, and 75/732(10.2%) morbid obesity. *Conclusion:* Obesity/overweight is prevalent in Northern Saudi Arabia, which might be attributed to nutritional habits. High frequency of meats, dairy products, and sugar-sweetened drinks are factors influencing the prevalence rates of obesity/overweight.

Medical Science, 2020, 24(106), 4232-4242

ANALYSIS

Role of Remifentanil in prevention increase of intraocular pressure after endotracheal intubation under Succinylcholine chloride

Haider Abbass Hassen, Iyad Abbas Salman, Mohammed Kassim A. Hassan

Objective: To evaluate the role of remifentanil in decreasing intraocular pressure (IOP) after endotracheal (ET) intubation under the effect of Succinylcholine (rapid sequence induction). *Methods:* a prospective, randomized double-blinded clinical trial, done on 36 patients who had elective surgery in the ophthalmology department, we had studied the changes in IOP after succinylcholine injection and tracheal intubation 3 different times, by dividing patients into two groups, group R who takes Remifentanil 1 µg/kg and propofol 2 mg/kg induction, and group C who received 5 ml normal saline with propofol 2mg/kg induction. *Results:* Patients respond well, IOP had been decreased significantly in the remifentanil group, p-value between the two groups were less than 0.05. *Conclusions:* Remifentanil has a significant effect on decreasing IOP in rapid sequence induction and ET intubation.

Medical Science, 2020, 24(106), 4243-4248

Knowledge and attitude of dental students towards the oral care of HIV/AIDS patients

Shahzeb Hasan Ansari, Alwaleed Abdulaziz Alkhayyal, Abdullah Alhamoud, Abdulmohsen Alsabhan, Omar Alfayez, Saud Alahmari, Tariq Mohammed Abuajmah

Introduction: Oral health is strongly linked with the systemic conditions, with HIV being one of them. As a dental professional, it is imperative to have the knowledge of this association. *Materials and methods:* A cross sectional study, which utilized a closed ended questionnaire constructed in Arabic language. This online survey was designed using Google forms, which consisted of questions related to the demographics and knowledge and attitude related to HIV/AIDS. *Results:* A total of N=521 dental students filled out the online survey. Out of this sample, 46% were females and 54% males. Statistically significant results were achieved amongst various levels of dentistry, when inquired about transmission through saliva (p-value: 0.008), transmission through CPR (p-value: 0.048) and infection control protocol being time consuming (p-value: 0.027). *Conclusion:* Male students showed better knowledge regarding the association of oral manifestations of HIV. Level 8, 9 and 10 students showed positive attitude towards the treatment of HIV patients in dental clinic.

Medical Science, 2020, 24(106), 4249-4257

Importance of physical activity awareness within Saudi high risk patient during home quarantine

Mohammad Zubair, Sarah M. Alanzi, Yasir M. Alhusayni, Danah M. Alqassimi, Smookh H. Alshehry, Ayshah J. Alshehry, Farha Fatima

Background: COVID-19 is the new coronavirus and most cases appeared in the Chinese city, Wuhan .At the end of December 2019 in the form of acute pneumonia. Older people and people with pre-existing medical conditions (such as obesity, diabetes, and heart disease) appear to be more vulnerable to becoming severely ill with the virus. However, there are a lot of studies have shown a misconception regarding COVID-19 among different communities. This study was conducted in Kingdom of Saudi Arabia to measure the level of awareness, knowledge, and behaviors toward physical activity. *Methods:* A cross sectional study was conducted in 13 provinces in kingdom of Saudi Arabia in year 2020, during a period of 20 days. A three hundred thirty seven Saudi citizen were included; using an electronic questionnaire to collect data. Data entry and analysis were performed using Microsoft Excel. *Results:* The prevalence of physical inactivity among participants is very high. The commonest reason for not using walking permission during the pandemic is fear of catching infection. We found very high significance between males and females regarding physical activity rate before the pandemic and males will have double chance to have their disease complicated. Regarding the effect 31% reported that their life is affected by stress and fear of catching infection. *Conclusion:* From this study we conclude that physical inactivity is highly prevalent among Saudi high risk patient. We recommend holding awareness campaigns in an unconventional way and adding physical activity to treatment plans for patients. Also, we recommend building government sports centers within neighborhoods to encourage residents to exercise more.

Medical Science, 2020, 24(106), 4258-4263

Video laryngoscopy versus direct laryngoscopy on time of orotracheal intubation in normal adult in elective surgeries

Alaa Hussein Altaiee, Haider Abbass Hassen, Sura Janan Fadeel

Objective: to compare the time and ease of intubation in suspected non-difficult intubation during airway management by the two laryngoscopes. *Methods:* A prospective randomized study was done on 100 patients, there age was 18 to 65 years old, comparing McGrath video-laryngoscope and Maccintosh laryngoscope divided into two equal groups each of 50 patients, patients given the same technique of anesthesia. *Results:* In comparison between study groups by duration of intubation, we noticed that the mean duration of intubation by using McGRATH™ MAC video laryngoscope was significantly lower than that of using Macintosh Laryngoscope (14.8 versus 17.88 seconds, P= 0.001). *Conclusions:* Intubation by video laryngoscope is faster than direct laryngoscope and easy to use.

Medical Science, 2020, 24(106), 4264-4269

Awareness of use dermatological agents/cosmetics in preconception and early pregnancy that can cause fetal abnormalities in Hail Region, Saudi Arabia

Monerah Thaar Alshammari, Sara Abdullah Aledaili, Rahaf Turki Aldhaban, Nuzhat Parveen

Objective: The objective of this study is to evaluate awareness of use dermatological agents/cosmetics during preconception period and pregnancy that can affect the fetus. *Material/methods:* This descriptive cross-sectional study was conducted in Hail region of Saudi Arabia by Hail University. Study was completed during 3 months duration and 401 women of reproductive age included. A questionnaire containing information regarding their knowledge about harmful dermatological agents/cosmetics, period of maximum affect and resulting fetal problems were assessed. Chi-square t-test was used to determine the significance of results taking p-value <0.05 as significant. *Results:* In these study n=401 women of reproductive age participated. The majority of (61.8%) of the participants were 21-25 years old. Many of them were well educated, 349 (87%) held bachelor degree. Singles formed (66.8%) and 29.7% were married. A large majority 91.8% expressed their view that some dermatological agents/cosmetics are not safe to use in preconception or during pregnancy (p<0.05). Most of the women expressed their concerns for acne creams, skin lightening agents and hair products, 52.9% told that they check ingredients before purchasing (p>0.05). While 5.7% of participants' relatives or people around already had some fetal abnormalities because of the mother's use of harmful agents during pregnancy. *Conclusion:* Majority of participants believe that harmful dermatological agents can affect only during first 3 months of pregnancy and can cause

neurodevelopment delay in the fetus but are not associated with genital, thyroid or mental illness nor they can cause abortions, stillbirths, preterm labors.

Medical Science, 2020, 24(106), 4270-4277

Genetic and morphological aspects of intestinal anastomotic leak development

Yaroslav Y. Voitiv, Oleksandr Y. Usenko, Viktor Y. Dosenko, Olena O. Dyadyk, Kateryna G. Valikhnovska, Ali Dzhemiliev

Aim: To analyze the frequency of polymorphic variants of genes MMP-2 (C⁻¹³⁰⁶→T) and TIMP-2 (G³⁰³→A) in patients with intestinal anastomotic leak and establish the correlation with morphological changes. *Materials and methods:* The object of the study comprises 17 patients with anastomotic leak, who were treated in the Shalimov National Institute of Surgery and Transplantology during 2017-2019. Laboratory, genetic, histological, immunohistochemical studies and statistical analysis were performed. *Results:* As a result of genetic and statistical analysis of matrix metalloproteinase-2 (C⁻¹³⁰⁶→T) and tissue inhibitors of metalloproteinase-2 (G³⁰³→A) genetic polymorphisms, genotype variants have been identified that are associated with the risk of intestinal anastomotic leak development. Significant differences in the distribution of genotypes in the studied groups were revealed. In immunohistochemical study of tissues with monoclonal antibodies to α -smooth muscle actin revealed uneven focal expression in smooth muscle cells and fibroblast; with monoclonal antibodies to Collagen IV there is a moderate positive expression in the basement membrane of blood vessels, in smooth muscle cells of the muscular layer of the vascular wall, in areas of connective tissue. *Conclusions:* Intestinal anastomotic leak is 1.36 times more common in carriers of homozygous CC genotype of the matrix metalloproteinase-2 gene and twice less common in minor homozygotes of TT. It is statistically significant that in the group of patients with intestinal anastomotic leak the GG variant of the tissue inhibitors of metalloproteinase-2 gene was detected 1.6 times more often. Carriers of minor homozygotes of AA genotype in the group with anastomotic leak were not detected, while a similar genotype in the control group was found in 10% ($p < 0.05$). Immunohistochemical examination of small and large intestinal tissues with monoclonal antibodies to Collagen IV and α -smooth muscle actin revealed signs of pathological connective tissue remodeling in the areas of anastomotic leak.

Medical Science, 2020, 24(106), 4278-4285

Correlation between microstructural changes evident on optical coherence tomography and use of perfluorocarbon liquids for repair of primary rhegmatogenous retinal detachment

Mohamed Amr Azab, Mostafa Hamed Nabih, Ayman Mohamed Khattab, Islam Abdallah Mohalhal

Purpose: To describe optical coherence tomography (OCT) features of the macula after pars plana vitrectomy for treatment of primary rhegmatogenous retinal detachment with and without using perfluorocarbon liquids (PFCLs). *Patients and methods:* This study is a prospective randomized study. Thirty eyes of 30 patients with repaired primary rhegmatogenous retinal detachment by pars plana vitrectomy and gas injection, 15 eyes without adjuvant use of perfluorocarbon liquids (PFCLs) and 15 eyes with use of PFCLs, were investigated with OCT imaging using Spectralis HRA+OCT (Heidelberg Engineering, Heidelberg, Germany) and Amsler grid within a few weeks after the operation after absorption of intraocular gas. *Results:* Microstructural changes detected on OCT imaging of the macula were diffuse retinal thickening (DRT), epiretinal membrane (ERM), cystoid macular oedema (CME), outer retinal corrugations (ORC), subretinal fluid (SRF) and macular hole (MH). These changes were observed in 16 of 30 eyes (53.3%), 10 eyes (66.7%) in the group (without PFCL), and 6 eyes (40.0%) in the group (with PFCL), (p value = 0.143). PFCL use has no statistical significance in the incidence of OCT changes. There was no statistically significant difference in the final mean best corrected visual acuity between the two groups. Metamorphopsia was detected in 12 of 16 (75%) of eyes showing OCT changes. *Conclusion:* OCT changes occur commonly after vitrectomy for repair of primary rhegmatogenous retinal detachment and the use of PFCLs does not seem to affect the incidence of these changes.

Medical Science, 2020, 24(106), 4286-4294

Tumor Necrosis Factor alpha (TNF- α), as a biomarker for disease activity among Iraqi patients with generalized vitiligo, independent on disease duration and extent of skin involvement

Ronak Saeed Ahmed, Dana Ahmed Sharif, Mohammad Yousif Jaf, Ali Hattem Hussain

Background: Vitiligo is a chronic depigmenting disorder of the skin that results from immunological distraction of functioning melanocyte. Various studies found alteration in the epidermal level of TNF- α , while only few studies determine the role of serum TNF- α in vitiligo pathogenesis. *Objectives:* To measure serum level of TNF- α among Iraqi patients with subtypes of generalized vitiligo and to correlate it with duration of presentation, activity of vitiligo and extent of skin involvement. *Material and methods:* A case control study includes 80 patients with generalized vitiligo and 40 clinically healthy control subjects, serum concentration of TNF- α was measured by Enzyme Linked Immunosorbent Assay (ELISA) technique. Patients were divided in to those presented with vitiligo ≤ 2 years and patients with > 2 years duration of vitiligo. Activity of vitiligo was assessed based on Vitiligo Disease Activity (VIDA) score and Vitiligo Extent Score (VES) was used for measuring extent of skin surface involvements. *Results:* Statistically significant elevation of serum level of TNF- α found among patient group compared with controls (P value 0.01). No correlation was found between serum level of TNF- α and duration of vitiligo presentation (P value 0.27). Patients with active generalized vitiligo have a higher serum level of TNF- α (P value 0.01). Extent of skin involvement is not correlated with the serum level of TNF- α (P value 0.98). *Conclusion:* Our study shows that TNF- α in the serum is increased in active generalized vitiligo; hence it could be a biomarker for identifying patients with aggressive vitiligo.

Current disposal practice of unused and expired medicines amongst patients visiting a tertiary care hospital in North India

Paras Monga, Rubi, Taniya Pruthi, Sumeet Gupta, Bimal K Agrawal

Background: Expired/Unused medicines are potentially toxic substances that are to be disposed of safely for protection of the environment and prevention of various health hazards directly and indirectly. Therefore, this study was conducted to assess knowledge, practice, and awareness towards disposal of left over medications among general public visiting tertiary care hospitals.

Methods: A cross-sectional, observational and questionnaire based study conducted among 555 patients in north Indian tertiary care hospital during the period of December 2019 to February 2020. *Results:* A total of 555 patients had finished the review which included 55.5% females and 44.5% males. The majority of them were illiterate (42%). Less than half (46%) of the patients were aware about the meaning of expired medicines. An overwhelming proportion (87%) of the consumers admitted of keeping unused medications at home, out of which analgesics (46%) was the predominant one. Self-discontinuation (58.7%) was given the main reason for accumulation of medications at home and most exercised method among them was disposal in the trash (71%). All the contestants were in the favour of a programme to collect unused/expired medications from their home. *Discussion:* It has been seen that different methods of drug disposal is in practice which are unsafe for the environment as well as for the population. So in this study, it has been highlighted the need for establishment of uniform guidelines for the harmless disposal of medicines. The healthcare giver should provide safer medicine dumping directions on scheduled patient training session.

Medical Science, 2020, 24(106), 4303-4310

Unraveling the Role of CD4 and CD8 in Patients with Type-2 Diabetes Mellitus

Mohamed Mohey, Hanan Soliman, Ahmed Okasha

Diabetes mellitus is a serious metabolic disorder that causes considerable disease and mortality with micro- and macro-vascular complications. Long-lasting diabetes is poorly controlled and often leads to nephropathy and cardiovascular complications. To a greater extent studies indicate that T2DM is a protracted inflammatory disease associated with the immune system. The present study was therefore hypothesized to investigate and further investigate immune changes by evaluating CD4 and CD8 markers. Subjects were divided into two groups: healthy people (control group) and diabetic patients of type 2 (diabetic group). In comparison with the control group, our study shows a significant increase in the diabetic group in CD4 and CD8. Our study shows a significant increase in HbA1c in diabetic groups compared to the control group, shows significant rising in lipid profile (total cholesterol, LDL, and Triglycerides) in diabetic groups compared to the control group except for HDL which decreased in diabetic group compared to control group.

Medical Science, 2020, 24(106), 4311-4320

Potential effect of ferulic acid on NF- κ B in a rat model of doxorubicin toxicity

Sameh Abdel Ghany, Hala Abdel Malek, Sahar EL Dakroory, Amira Kamal El Hawary, Sanad S EL Kholy

"Adricin" or Doxorubicin (Dox) is an anthracycline antibiotic agent used in the treatment of solid and haematopoietic tumors, but it has cardiac, renal and hepatic toxicities. Oxidative stress has an important role in the pathogenesis of Dox- toxicity. This study investigated the role of Ferulic acid (FA), a natural antioxidant agent, in protection against Doxorubicin-induced toxicity. 40 albino rats were used, and divided into four groups, Group I (control group), Group II: Dox intraperitoneal for two weeks. Group III: Ginkgo biloba (GB) + Dox, Group IV: FA +Dox. Biochemical assays for serum creatinine, serum lactate dehydrogenase, creatine phosphokinase, AST and ALT were done. Immuno histochemistry examination of the kidneys, heart and liver and the levels of MDA, GSH, SOD and catalase were assessed. *Results:* Treatment with FA resulted in improvement of oxidative stress, and decrease in expression of NF- κ B, that may be a promising natural adjuvant therapy, potentially ameliorating Dox toxicity in clinical practice. *Conclusion:* FA can be considered a good candidate for offering protection against the deleterious toxicity of Dox.

Medical Science, 2020, 24(106), 4321-4331

Bipolar perception of orthopedics fractures before and during covid-19 pandemic: a local study

Naif Mohammed Alhumam, Adia Abdulaziz Almutairi, Asma Adel Alwesaibi, Narjes Radhi Al-Ramadhan, Fatimah Abdullah Alabbad

Background: Patients refrain from seeking medical help in the time of COVID-19 due to the fear of getting infected. Hospitals are overloaded with limited beds, interfering with inpatients stays. Awareness of first aid management of fractures among the general population has been neglected. Thus, the aim of this study is to assess the knowledge of the selected population regarding fractures' first aid, and their readiness to seek medical help before and during the time of quarantine. *Methodology:* Cross sectional vignette-Based study among Saudi population of Al-Ahasa. Data processed via SPSS using two tailed tests. A total of 1005 respondents were included in this study. *Results:* Good awareness was detected among 520 (51.7%) participants. Before pandemic, (83.7%) reported that they will Call the ambulance immediately, and only (15.1%) Consult a doctor without visiting the hospital (telemedicine). During the pandemic, (41.5%) told that they can call ambulance while the majority (57.3%; 576) told that they Consult a doctor without visiting the hospital (telemedicine). Men had significantly good awareness level regarding fracture first aids compared to women. Similarly, health care related participants had significantly good awareness level regarding fracture first aids compared to others.

Medical Science, 2020, 24(106), 4332-4340

Incidence of Acute Kidney Injury among Adult Cancer Patients Receiving Nephrotoxic Chemotherapy at King Abdulaziz University Hospital

Shadi S Alkhayyat, Mohammed K Basourrah, Hanadi M Alhozali, Rolina Al-Wassiah, Faris R Albardi, Hashim H Khairallah, Saeed A Alghamdi, Abdullah H Sultan, Naeem Qusty

Background: Acute kidney injury (AKI) is an acute decrease in renal function that leads to an elevation in the serum blood urea nitrogen, creatinine, and other nitrogenous waste products. Acute kidney injury is a known complication of cancer patients receiving chemotherapy. *Aim:* To evaluate the occurrence of AKI at King Abdulaziz University Hospital (KAUH) among adult cancer patients undergoing nephrotoxic chemotherapy drugs (Cisplatin, Carboplatin, Cyclophosphamide, and Gemcitabine). *Methods:* In this retrospective study, medical records of 1229 adult cancer patients were obtained. Of those, 682 were selected based on the use of the drugs chosen for this study, and a total of 767 admissions were included. Acute kidney injury was diagnosed by evidence of an increase in the creatinine level by 0.3 mg/dL or more between two successive cycles. *Results:* Out of the 767 admissions that were obtained, 58 were found to have AKI. The study included 4 drugs: cisplatin (n=151, 19.7%); carboplatin (n=142, 18.5%); gemcitabine (n=114, 14.9%); cyclophosphamide (n=320, 41.7%); as well as combinations consisting of cisplatin plus gemcitabine (n=22, 2.9%) and carboplatin plus gemcitabine (n=18, 2.3%). The incidences of AKI with each were: cisplatin (n=14, 24.1%, P=0.475); carboplatin (n=7, 12.1%, P=0.255); gemcitabine (n=12, 20.7%, P=0.269); cyclophosphamide (n=19, 32.8%, P=0.193); cisplatin plus gemcitabine (n=5, 8.6%, P=0.020); and carboplatin plus gemcitabine (n=1, 1.7%, P=1.00). *Conclusion:* Acute kidney injury is more likely to develop if these factors are found; male sex, mean age of 59 or older, using a protocol which includes a combination of cisplatin and gemcitabine, and having a creatinine level above 115 µmol/L before the first cycle.

Medical Science, 2020, 24(106), 4341-4351

Incidence of Pulmonary thromboembolism and its associated Comorbidities in Ha'il Region, Northern Saudi Arabia

Saleh Hadi Alharbi

Background: Pulmonary embolism (PE) is a major cause of illness in Saudi Arabia. Therefore, the current study aimed to find out the incidence rates of pulmonary thromboembolism and its associated comorbidities in the Ha'il Region, Northern Saudi Arabia. *Methodology:* In this prospective descriptive study, data referred to 133 patients admitted with suspected pulmonary thromboembolism (PTE) were obtained. For risk assessment, patients confirmed as having PTE were further ascertained as cases and those unconfirmed were categorized as controls. *Results:* PTE was diagnosed in 45/133(33.8%) of the patients. Out of the 45 patients, 26/45(58%) were males and 19/45(42%) were females. The incidence of PE among males was 26/70(37%), and among females was 19/63(30%). The incidence rates of PE among patients with hypertension (HTN), Diabetes Mellitus (DM), Cancer, patients with a history of Deep Vein Thrombosis (DVT), Heart Disease (HD), Chronic Kidney Disease (CKD), other diseases, and immobilization were 17/55(31%), 18/59(31%), ¼(25%), 4/16(25%), 9/24(38%), 9/22(41%), 13/49(27%), and 11/52(21%), in this order. *Conclusion:* Pulmonary thromboembolism is prevalent in Northern Saudi Arabia, and more frequent among males. The most common risk factors associated with PTE in this series of patients were obesity/overweight, cardiovascular diseases, CKD, DM, and immobilization.

Medical Science, 2020, 24(106), 4352-4358

Prevalence and associated risk factor of low back pain among medical student of Umm Al-Qura University, Makkah, Saudi Arabia: Cross-sectional study

Reda Abdelmoaty Goweda, Khalid Jubran Idris, Abdulrahman Jameel Bakhsh, Hussein Hani Hussein Mufti, Maan Aref Gadhi, Ahmed Waleed Alrashed, Nibras Khaled Aljabri

Background: Low back pain is an incredibly Complaint experienced by different individuals ages. In 2015, the worldwide point commonness of movement constraining low back torment was 7.3%, suggesting that 540 million individuals were influenced at any one time. Low back pain is a symptom, not a disease, and can result from a few diverse known or obscure irregularities or sicknesses. It is characterized by the area of agony, regularly between the lower rib edges and the butt cheek creases. *Aim:* To determine the prevalence of low-back pain and explore factors associated with MSP among medical students at Umm Al-Qura University Saudi Arabia. *Method:* A cross-sectional survey was performed among medical students in Umm Al-Qura University during the period from 12 June 2020 to 12 October, 2020. The survey included 366 students whose ages ranged from 18 to 25 years old. The Statistical Package for Social Sciences (SPSS) version 24.0 was used in the analysis. *Results:* A total of 366 students were involved in this study, 249 (68%) of them were females 68%. As for BMI, exact of 236 (64.5%) were at normal weight while 45 (12.3%) were obese. Exact of 277 (75.7%) students complained of LBP during the last period related to trauma. As for aggravating factors, the long sitting session was the most reported factor (75.2%) followed by wrong sleep position (58.5%), sedentary lifestyle (45%), inappropriate lifting (28.7%), and stress (27.9%), while long-standing (4.7%), and menses (2.3%) were the least reported factors. The most-reported red flags of back pain were neck pain (39.1%) followed by weakness (16.7%), leg weakness (11.6%), numbness (10.1%), and loss of knee reflex (4.7%). *Conclusion:* LBP was more among females and mainly related to inappropriate sleep, setting, or even studying positions. Neck pain was the most reported with a low mood. Lack of exercise with long study hours was remarkably reported. Also, irrespective of the high prevalence of reported LBP, but there was no considerable effect on student's scholastic performance.

Medical Science, 2020, 24(106), 4359-4367

Investigating the effect of topical marcain 0.25% and lidocaine 2% on pain relief following herniorrafia

Arash Azadmehr, Hamidreza Khorshidi, Mohammad Reza Sobhiyeh

Introduction: Pain is one of the major postoperative problems, and lack of proper pain management can lead to complications such as increased hospital stay, increased recovery time and more medical costs. There are several methods used to control postoperative pain, the most common of which are administration of analgesics and local anaesthetics at the site of surgery. Therefore, considering the reported side effects, this study tends to investigate the effect of two local anesthetic methods in patients undergoing herniorrhaphy. *Materials & Methods:* This study was performed as a clinical trial on 60 patients undergoing herniorrhaphy in Shariati Hospital of Tehran in 2018. All patients underwent general anesthesia and Liechtenstein. Patients were randomly divided into three groups: marcain, lidocaine, and control. Then, severity of pain was assessed based on VAS after one hour, in the afternoon on the operation day and the day after the operation. Frequency of prescribing pethidine was recorded based on VAS. Statistical analysis of the collected data was performed by one way ANOVA. *Results:* Three groups were not significantly different in terms of age. Pairwise comparison of groups revealed that severity of pain at the end of surgery and in the afternoon of the operation day was significantly different between marcain group and lidocaine group as well as postoperative marcain group and the control group ($P=0.001$); however, pain severity was not significantly different between lidocaine and control groups. *Conclusion:* marcain administration at the surgical incision site compared to lidocaine reduces pain severity and reduces the average administration of pethidine in patients.

Medical Science, 2020, 24(106), 4368-4373

CASE REPORT

Right atrial sarcoma masquerading as myxoma presenting with fatal cardiac tamponade: A rare case report

Yash Gupte, Parth Godhiwala, Amrutha Garikapati, Sunil Kumar, Sourya Acharya, Samarth Shukla, Chetan Rathi

Primary sarcoma of the heart is an exceptionally rare condition with grave prognosis. All cardiac tumours can cause life threatening complications. Diagnosis is much more challenging as cases present with non-specific symptoms. In our case, a series of investigations were made which ultimately led to our diagnosis of a right atrial sarcoma. Here, we recount a fatal case of a locally invasive primary cardiac sarcoma originating from the right atrium and presenting with a cardiac tamponade.

Medical Science, 2020, 24(106), 4374-4378

ANALYSIS

Parents' Compliance towards Preventive Measures of COVID-19 for their Children: A Cross-sectional Study

Abdulrhman Saeed Alshehri, Abeer Mohammed Anteeq, Mahdi Abdulbaset Alnamnakani, Firas Hassan Bahkali, Khalid Saeed Alshehri, Khalid Abdullah Aleisa

Background: The Saudi Arabia was inveterate its first case of COVID-19 on the March 2nd, 2020. In responsible to the situation of spread of COVID-19, ministry of health of Saudi Arabia released many advices to its citizens in order to increase awareness and to avoid the catching the virus through infographics and TV and its official account on the social networking platform Twitter. These precautions and advices include importance of adhering to the preventive precautions for respiratory infections in general. However, it is necessary to assess the compliance of people especially parents about these precautions; no studies had been worked on this. *Objectives:* To assess Saudi parents' knowledge about protection against COVID-19 corona virus, to assess parent's precautions for their children and their compliance with COVID-19 control measures. *Materials and Methods:* In this cross sectional study, conducted in April-May 2020, in Tertiary University Medical City of 1300 beds. 700 participants were non-randomly assigned in a convenient sample. (38.6%) were males while (61.4%) were females, pre tested questionnaire was used in data collection. *Results:* Findings of the study indicated that Saudi parents' had a sufficient knowledge about protection against COVID-19, that (66%) of the parents had a good level of knowledge. There was no significant relation between gender, marital status, number of children and the level of knowledge, while the only significant relation was between the age and the level of knowledge ($P=0.043$). The result showed that the good level of knowledge is increasing with age. The results revealed a high adherence and compliance of Saudi parents toward Saudi MOH preventive measures of COVID-19 for their children, that the general percentage of parent's adherence and compliance was (90.3%). *Conclusion:* The level of knowledge about protection against COVID-19 was sufficient among Saudi parents in Riyadh city, Saudi Arabia. There was a significant relation between age and the level of knowledge. There was a high adherence and compliance of Saudi parents toward Saudi MOH preventive measures of COVID-19 for their children.

Medical Science, 2020, 24(106), 4379-4387

Prevalence of Respiratory Syncytial Virus and its Associated Risk Factors among Children during Winter Season: Findings from Multiregional study in Saudi Arabia

Sameer Al-Ghamdi, Lama Mohammed Alqthami, Dakhel Fahad Almubarak, Solyman Abdullah Abdullah, Faisal Abdulmohsin Alslimah, Bader bander Alonidheel

Respiratory syncytial virus (RSV) is regarded as a habitual periodic disease among infant and young children and can cause many illnesses. While certain birth conditions predispose infants to RSV, external conditions such as passive smoking, overcrowding weather can also increase the risk of RSV. The present study is interested in understanding these factors present them as potential risks using empirical modelling. *Method:* The study design is a cross-sectional study carried out on a domestic level across Saudi

Arabia. Participation in the study was only allowed upon filling out an informed consent form. The information so obtained was not shared with any third-party individuals. The study was commissioned by the Research Ethics Committee (REC). Both descriptive analysis and inferential analysis with the latter being carried out at 5% significance level. *Results:* The final sample of 414 respondents who were all adult and who were reported to be all parents. 85.7% of the parents reported that their children were born at full term. 8.2% of the parents reported their children were suffering from RSV. RSV condition was significantly associated with a condition of cold. A child born at pre-term had more chance of having RSV than a child born at full term. *Conclusion:* Using neonatal ICU and machine support for respiratory after birth has the highest respective risks for RSV among children. Parental smoking and children's attendance to day-care are the riskiest external environments for RSV, respectively.

Medical Science, 2020, 24(106), 4388-4395

Prevalence of post-restorative sensitivity among the patients receiving class II restorations: An observational study

Shahzeb Hasan Ansari, Bader Alhussain, Sara Mansour Al Mowinea, Fatima Abdullah Binyahya, Maram Majed Al Otaibi, Sarah Fahad Al Senani, Albaraa Bin Battal

Dental restorations are aimed to protect and restore the normal function and esthetics of teeth, which is the daily bread and butter of a dental practitioner. To achieve these purposes, various types of restorative as well as lining materials have been used over the years. The aim of the research was to determine the prevalence of post-operative pain among the patients visiting REU and the causative factors associated with post-operative sensitivity. This was an observational study, which was conducted among the patients visiting the REU clinics and ethical as well as clinical approval was taken. The class II restorations were placed by dental interns and the procedure was carried out using carbide 330 burs, tofflemire matrix, and total etching technique with universal 3M bonding. The depth of the cavity was measured by the radiograph. Postoperative sensitivity increased with the increase in cavity depth. Patients with liner used during their composite restorations reported more postoperative sensitivity as compared to patients without liner. The most common aggravating factor causing pain was found to be hot & cold. Majority of the participants experienced pain of short duration. Overall, the severity of pain was low.

Medical Science, 2020, 24(106), 4396-4401

Appraisal of general population knowledge on obesity-related diseases in Ha'il Region

Fayez Saud Alreshidi, Hani Abdulrhman Zabin Almutairi, Abdulaziz Fahhad Salehalanazi, Rasha Mohammed Alarfaj, Ebtehaj Saud Almughais, Fatmah Fahad Alreshidi, Asma Mudhfi Alshammari, Duaa Nasser Almansour, Hussain Gadelkarim Ahmed

Background: Global efforts to reduce the burden of obesity are now foremost. Consequently, this study aimed to evaluate the appraisal of general population knowledge on obesity-related diseases in the Ha'il Region, Northern Saudi Arabia. *Methodology:* About 315 Saudi civilians living in the city of Ha'il, Northern Saudi Arabia were randomly selected for this survey. Data were obtained during a cross-sectional survey conducted during the period from October 2019 to Feb 2020. *Results:* Out of the 315 study subjects, 110/315(35%) believe that keeping healthy body weight is important for disease prevention. Out of the 315 participants, 24% of them were obese and 29% were overweight. About 70/315(22.2%) of the participants were categorized as having one or more chronic illness, of whom 49/70(70%) were overweight/obese. *Conclusion:* though there is a slight decline in the prevalence of overweight/obesity in the Ha'il region, Northern Saudi Arabia, still overweight/obese are prevalent. Civilians of Northern Saudi Arabia still in need of additional efforts towards obesity preventive measures to fulfill the recommended guidelines.

Medical Science, 2020, 24(106), 4402-4409

Evaluation of physicians' practices, attitude and perceptions towards biosimilars usage among patients

Abdullah K. Alahmari, Ziyad S. Almallki, Muhammad Shahid Iqbal, Manal A. Alossaimi, Alwaleed Mohammed Lasaf, Bandar Abdullah Almawash, Fayez Hamoud Aldossary, Aliyah Mohammed Marghalani, Yazeed Abdulaziz Alsubaihi

Objective: This study evaluated the current practices, attitude and perceptions towards biosimilars among physicians in Saudi Arabia. *Methods:* A cross-sectional study was conducted using the convenience sampling method to collect data among physicians in Saudi Arabia. Microsoft Excel and Statistical Package for Social Sciences (SPSS) version 24.0 were used to analyze data using descriptive and inferential statistics. A p -value of <0.05 was considered to interpret the obtained results as statistically significant. *Results:* According to the findings of the study, most of the physicians had positive attitude and good perceptions about biosimilars usage, safety, efficacy and overall effectiveness. Among the study participants, some of the physicians were already practicing prescribing biosimilars to their patients. Statistically, a significant association (p -value <0.05) and positive correlation were also observed among attitude questions and perceptions of the physicians about overall biosimilars' information and their efficacy and effectiveness. *Conclusion:* This study concluded that the studied physicians had positive attitude and good perceptions about biosimilars in Saudi Arabia.

Medical Science, 2020, 24(106), 4410-4417

A cross-sectional study on trends, awareness, and attitudes of patients towards replacement of missing teeth in university hospitals, Riyadh, Saudi Arabia

Osamah Al Mugeiren, Nasser Al Duhaimi, Khaled Alfayez, Marzouq Alqahtani, Faisal Zinaldeen, Abdullah Awwad

Introduction: Timely restoration of edentulous spaces is needed to prevent the adverse consequences of missing teeth. Patients may suffer real or perceived detrimental effects following the loss of one or more teeth which substantially reduce the quality of life

affecting the patient emotionally, socially, physically and psychologically. *Materials and methods:* It was a cross-sectional descriptive survey conducted in dental university hospitals in Riyadh City, Saudi Arabia. Patients aged 20-65 years and seeking dental care in any university clinics were included in this study. *Results:* A total sample of 537 patients was employed and participants were divided on the basis of age groups, which showed that 24.5% were 20-29 years of age, 25.5% were 30-39 year old, 27% were 40-49 year old and 23% were between 50-65 years. *Conclusion:* The overall attitude of Saudis towards the replacement of missing teeth was found to be positive.

Medical Science, 2020, 24(106), 4418-4424

Evaluation of knowledge, attitude and practices of university students towards rational use of medicines

Musarrat Rauf Burki, Sadia Shakeel, Saira Hayat, Amer Hayat Khan, Muhammad Shahid Iqbal, Jiyauddin Khan

Background: Rational use of medicines (RUM) requires that individuals get the correct medication, in the accurate dose, for an adequate period and at the lowest cost. Irrational drug use has a negative impact both on health and the economy. Hence, this study aimed to assess the knowledge, attitude and practice for the rational use of medicine among university students in a public university in Malaysia. *Methods:* The cross-sectional descriptive study was piloted using a validated self-administered questionnaire to collect the needed data from students. All data were checked for completeness and accuracy and then coded for analysis. Descriptive statistics were used to present the data on demographic characteristics, knowledge, attitudes, and practice towards RUM. The influence of demographic characteristics on knowledge and attitude was tested using Fishers exact tests or Chi-square, Mann-Whitney test and Kruskal-Wallis test wherever appropriate considering a p value <0.05 as statistically significant. *Results:* Overall, 418 questionnaires were distributed to university students. The results of the study revealed that 54.9% of the students had a moderate; 38.2% had poor and only 6.9% had a good level of knowledge towards RUM. A high percentage (64.4%) knew that all medicines have side effects; however, (66.4%) thought that multivitamins are safe without any side effect. Half of the respondents could not differentiate a medicine by either its generic or brand name. Most of the respondents (77.9%) incorrectly stop taking medicines when they feel better. Respondents (67.9%) purchased medications only upon physicians' prescriptions. *Conclusion:* The outcomes revealed gaps in terms of knowledge, attitude and practice regarding the RUM among students. Educational strategies should target these gaps aiming at increasing awareness on RUM. Training on the proper use of medicines and reducing the practice of self-medication should be a part of the curriculum to enable informed decision-making at the individual, family, and community levels.

Medical Science, 2020, 24(106), 4425-4437

Early detection of oral cancer with precancerous lesions and perception of dental professionals: A cross sectional research

Mohammed Saleh Alsharif, Abdulaziz Saad Alanzan, Fahad Abdullah Al-Gahtani, Linah Raed Abahussain, Rahmah Mutlaq Qbeel Aljohani, Badr Soliman M Alhussain

Introduction: For the long term survival of patient timely identification and quick treatment is crucial and dentists play a vital role in this. So the aim of the study was to assess dentists' knowledge and practice towards the early detection of oral cancer and to compare the levels of knowledge and practice on the basis of qualification and years of working experience. *Methods:* This cross sectional study was conducted among the dental professionals in Riyadh using an online survey. Online questionnaire consisted of questions related to professional and demographic data followed by questions concerning oral cancer detection methods, practice and experience. *Results:* A total of 336 dental professionals responded to the survey sent online (63% females and 37% males). Out of these, 41.7% of the participants reported that they had encountered pre-malignant lesions in their clinical practice, 79.2% felt the need of additional training on how to perform exfoliative cytology and 22.9% of the dentists were aware of recent advances for early detection for oral cancer. *Conclusion:* There is a need of injecting fresh knowledge and insight about the recently used diagnostic techniques among dental professionals of Riyadh in order to improve the prognosis and chances of detection and treatment of suspected patients.

Medical Science, 2020, 24(106), 4438-4444

Predictors of health-related quality of life among healthcare professionals

Muhammad Shahid Iqbal

Background: These days, health-related quality of life (HRQoL) is an essential health-outcome measure that is widely accessed worldwide. Various studies have reported that poor HRQoL among healthcare professionals (HPs) is a risk factor for their appropriate clinical practices. *Aim:* The present study determined HRQoL among different HPs working in various sectors in Pakistan. *Method:* In this study WHOQOL-BREF was used to measure HRQoL among HPs. Descriptive and inferential statistics were applied to the obtained data which was analyzed using Statistical Package for Social Sciences (SPSS) version 24.0. *Results:* A total of 336 participants, with less females than males (n=68, 20.2%, and n=268, 79.8% respectively). The mean scores for the physical, psychological, social relationships and environment domains were 65.18±13.01, 68.92±15.53, 70.30±15.90, and 65.10±15.17, respectively. *Conclusion:* In Pakistan, overall the HPs have good HRQoL where they have adequate access to available healthcare facilities, self-esteem, and social circles.

Medical Science, 2020, 24(106), 4445-4452

Factors influencing adult immunization practices

Ranya A Ghamri, Shoruq A Alwagdani, Rawan M Alamoudi, Manar A Makin, Salwa A Alshiqayhi, Alya S Alharbi

Objective: A misunderstanding of the need for immunization is evident by many people who are not vaccinated or are misinformed about vaccinations and the diseases they are intended to prevent. This study aimed to assess the factors influencing immunization practices among adults in the general population at King Abdulaziz University, Jeddah, Saudi Arabia. *Methods:* A cross-sectional study was conducted through an online survey. A predesigned questionnaire was used to collect data on participants' characteristics, social habits, chronic diseases, frequency of visits to a doctor, vaccinations during the past year, frequency of receiving recommended vaccinations, and factors affecting decisions to be vaccinated. Participants' knowledge about vaccines was assessed and a score was assigned to quantify their level of knowledge. *Results:* During the past year, 73.8% of the participants received a vaccine. The common factors influencing their decision to be vaccinated were the advice of a physician (73.5%), understanding which vaccine they needed (70.8 %), and knowing why the vaccine was given to them (70 %). Most of the participants (63%) had a good level of knowledge of vaccines, had a Saudi nationality, were employed as accountants and healthcare workers, and received a vaccination during the past year. *Conclusion:* There is a need to raise public awareness of adult vaccinations through community initiatives and by alerting the public about risk factors, such as age and comorbidities, which are indicators for vaccinations.

Medical Science, 2020, 24(106), 4453-4462

Effect of biofilm production in Methicillin-Resistant *Staphylococcus aureus* (MRSA) strains isolates from Diabetic foot ulcer patients in King Fahad Specialist Hospital, Tabuk, Saudi Arabia

Mohammad Zubair, Jawed Akhtar

Background: Diabetic Foot Ulcer (DFU) bears several problems in clinical practice. The nature of the ulcer is usually polymicrobial, and the common pathogen is the *S. aureus*. *Objective:* To study the prevalence of methicillin-resistant *S. aureus* (MRSA) and antimicrobial resistance dissimilarity among biofilm-producing and non-producing microorganisms isolated from DFU patients. *Methodology:* The current study was on 30 DFU patients admitted in King Fahad Specialist Hospital in Tabuk, KSA during April 2018 and January 2019. Standard methods of sample collection and identification of microorganism were adopted. An antibiotic sensitivity test was investigated using Kirby Bauer disc diffusion method. The colonies of *S. aureus* were screened for MRSA on Mueller–Hinton agar with oxacillin (1µg) and ceftiofuran (30µg). Identification of biofilm activity was performed by tissue culture plate method. *Results:* Among the *S. aureus* isolates screened, the majority of them showed resistance to sparfloracin and cefotaxime clavulanic acid. MRSA activity was 56.7% using ceftiofuran disk and 40 % by oxacillin disk, only 12 isolates were classified as true MRSA based on minimum inhibitory concentration results using oxacillin (>4µg/ml) and ceftiofuran (>8 µg/ml). The overall antibiotic resistance was high in biofilm positive isolates compared to non-biofilm activity. In an univariate analysis, significant factors which were more likely to have a biofilm activity was resistance to Oxacillin [OR 1.14, RR 1.22], resistance ceftiofuran [OR1.20, RR1.30] and resistance to both oxacillin & ceftiofuran [OR 1.33, RR 1.11]. *Conclusion:* Based on preliminary data, our recommendation is to shift the approach of treating DFU to biofilm model from classical planktonic model. The model shifting can be done with a new scientific approach in mutual coordination between clinical lab and clinics, continuous education and comprehensive data-based research.

Medical Science, 2020, 24(106), 4463-4470

Evaluation of health-related quality of life among healthcare professionals– A cross-sectional study findings

Muhammad Shahid Iqbal, Muhammad Zahid Iqbal, Salah-Ud-Din Khan, Eldowaik Mohamed Salah Saad, Yaman Walid Kassab

Objective: The aim of the current study was to evaluate HRQoL among HCPs in Malaysia. *Methods:* A cross-sectional study was designed and conducted among HCPs using "WHOQOL-BREF" which is a standardized HRQoL measuring tool. Data were obtained and analyzed using both, descriptive and inferential statistics by the Statistical Package for Social Sciences (SPSS) version 24.0. *Results:* A total of 310 HCPs participated the study. There were more females than males (n=188, 60.6%, and n=122, 39.4% respectively). The mean scores for four domains of the WHOQOL-BREF i.e. physical health, psychological, social relationships and environmental domains were 68.91±13.60, 72.31±15.93, 73.49±16.17, and 70.42±15.86, respectively. *Conclusion:* In Malaysia, overall the HCPs had better HRQoL and had good access to excellent healthcare facilities, good self-esteem, and friendly social circles.

Medical Science, 2020, 24(106), 4471-4476

Knowledge, attitude and practice of self care among diabetic patients at Jimma University Medical Centre Diabetic Clinic, Jimma, Oromia region, South West Ethiopia: A survey study

Vinod V. Bagilkar, Dheeraj Lamba

Objective: To assess knowledge, attitude and practice of self-care among diabetic patients having followed up at Jimma University Medical Centre, Oromia region, southwest Ethiopia. *Methods:* Institutional study based design was conducted from March to May, 2019 in Jimma university medical centre diabetic follow up clinic. The study populations were all diabetic patients who came to JUMC diabetic follow up clinic during data collection time. Convenient sampling method was used using standardized questionnaires; information was gathered by face-to-face interview. *Result:* From total of 365 participants, 330 were given full information which is 90.41% respondent rate. From this 130(39.4%) were Type I DM patients and 200(60.6%) were type II DM patients, from the total respondents house wives were most affected groups 71(21.5%) and followed by farmers 73(22.1%). From total or 330 patients with the age groups of 50-59, 79(23.93%) were developed DM and mostly affected from other age groups. Regarding DM knowledge related to education about the diet (diabetic food), store insulin in buried pot with water and insulin

injection in the abdomen, 300(90.9%), 90(26.47%) and 44(12.9%) respectively were obtained, from the total patients 300 (90.9%) of DM patients are interested in diabetic diets and 310 (93.9%) are interested in exercises. *Conclusion:* The commonest age group affected by diabetes mellitus was the age group 50–59 years which indicates most of them are type II DM patients. Significant number of patients learns about diabetic diet. There is gap between diabetic patients who know about diabetic diet and who eat diabetic diet. Significant number of patient's participation to exercise was generally poor. Regarding patients attitude, there is favorable (positive) attitude especially on that of diet and exercise.

Medical Science, 2020, 24(106), 4477-4489

Relationship between Body Mass Index and dental caries among patients of Riyadh Elm University, KSA: A cross sectional study

Abdalelah Bahmaid, Nasser Al Duhaimi, Abdulrahman Alammari, Jdayel Al Wehaibi, Naimah Al Humam, Ashraf Kamel

Aim: The aim of this research was to explore the relation between body mass index (BMI) and dental caries in adult patients. *Materials and Method:* The patients' data was collected through a questionnaire and oral examination after obtaining an informed consent. World Health Organization (WHO) and DMFT index were used for diagnosis of dental caries. An independent t test was applied to compare the mean decayed, missing, filled teeth and DMFT scores between genders and age groups. Post comparisons were performed with Tukey's test to identify the significant differences between the groups. *Results:* A total of 476 subjects participated in this study. Higher percentage of males (62.4%), age group 18–29 years (44.5%), with no medical problems (79.0%) were included. Dental Caries (55.9%) constituted the main reason for missing teeth. The BMI distribution of the participants in this study was normal (37.4%), overweight (33.8%), obese (22%) and underweight (6.8%). *Conclusion:* This study showed a statistically significant association between the mean DMFT scores and the BMI. Overweight/obese individuals had a statistically significant higher mean DMFT score compared to the underweight and normal subjects.

Medical Science, 2020, 24(106), 4490-4498

Students' knowledge and attitude towards rational use of antibiotics

Sadia Shakeel, Faiza Hayat, Saifullah Mehsud, Amer Hayat Khan, Muhammad Shahid Iqbal, Jiyauddin Khan

Background: The development of antibiotic resistance is an emergent global issue and a major threat to community health safety in the 21st century. The threat of a 'post-antimicrobial age' where current antimicrobial agents will be ineffective due to increasing levels of resistance has become a concern to all healthcare associations. *Objective:* This study aimed to assess the knowledge, attitude and practice towards antibiotic utilization among undergraduate students in a public university in Malaysia. *Methodology:* This was a cross-sectional descriptive study, using a pre-validated self-administered questionnaire to collect the needed data from students. All data were checked for completeness and accuracy and then coded for analysis. Descriptive statistics were used to present the data on demographic characteristics, knowledge, attitudes, and practice towards antibiotic utilization. The Fishers exact tests or Chi-square, Mann-Whitney test and Kruskal-Wallis test were used wherever appropriate to evaluate the relationship between independent and dependent variables using a p-value < 0.05 as statistically significant. *Results:* The response rate of the present study was 95.4%. It was found that half of the students had a poor level of knowledge on the proper use of antibiotics; whereas 44.4% had moderate and only 5.6% of students had a good level of knowledge. More than 90% of the students assumed that antibiotics can cure viral infections. The mass population (79%) had a positive attitude towards checking the expiry date and more than 70% follow the instructions stated on the label. More than 50% of the students completed the prescribed antibiotic course. Gender ($p=0.002$), race ($p=0.014$), family monthly income ($p=0.006$) and nationality ($p=0.049$) were the more significantly associated factors with the knowledge of students. *Conclusion:* The current findings revealed an inadequate level of knowledge regarding the rational use of antibiotics among students. There is a need for a well-planned, organized, and structured public health campaigns to raise the awareness of the community on the detrimental consequences of overuse and misuse of antibiotics.

Medical Science, 2020, 24(106), 4499-4509

Predictors affecting prescribing pattern of ACEIs among stroke patients

Rasathi Ellangovan, Rosnani Hashim, Yaman Walid Kassab, Muhammad Shahid Iqbal, Salah-Ud-Din Khan, Eldowaik Mohamed Salah Saad

Objective: This study was carried out to look at the prescribing pattern of angiotensin-converting enzyme inhibitors (ACEIs) and their related factors. The prescribing pattern of ACEIs and factors affecting such prescribing trends among stroke patients were evaluated. *Methods:* This study was conducted among 96 stroke patients aged from 30 to 92 years in a hospital in Malaysia. Descriptive and logistic regression analyses were performed. *Results:* A total of 88 patients were available for descriptive analysis and logistic regression analysis. On average, patients were aged 67.62 years (standard deviation of 13.14) and had a higher incidence in Malay ethnicity (42.7%). Ischemic stroke accounted for 91.67% of the study, with a slightly higher proportion of female patients (51.04%). Hypertension was a major risk factor for the incidence of stroke and secondary stroke. The majority of the patients complained of generalized body weakness as their major symptom (19.81%). Calcium channel blockers (CCBs) were found to be the most prescribed antihypertensive agents among stroke patients (40.9%), followed by ACEIs (31.8%). The relative odds of patients 60 years old and below are most likely to be prescribed with ACEIs at discharge ($p=0.006$). On the other hand, patients with existing dyslipidemia and taking ACEIs ($p=0.018$) or angiotensin receptor blockers (ARBs) prior to admission are less likely to be prescribed with ACEIs at discharge ($p=0.002$). *Conclusion:* Despite the growing evidence on the efficacy of ACEIs in reducing the risk of getting

stroke recurrence by 20-30% in the normotensive and hypertensive stroke patients, its use is still below the par level throughout this period in relation to other antihypertensive drugs in the secondary prevention of stroke.

Medical Science, 2020, 24(106), 4510-4516

Modeling factors of professional-personality competence of a nurse valuable in the scope of prevention of arterial hypertension

Halyna Hryhorivna Mararash

In recent decades the tasks of a nurse in the scope of prevention of arterial hypertension (AH) has been considerably complicated and become valuable, which requires extending and improving professional competence and professional-personality aspects in particular. Meanwhile, studies focused on the distinguishing relevant factors of professional-personality competence (PPC) of a nurse preventing AH are lacking. Analysis of the answers of nurses on the questionnaire enabled to distribute all the respondents into three groups concerning their complete and correct awareness of the bases of preventive work with AH patients: 1) inadequate level – 22%, 2) relatively satisfactory level – 48%, adequate level – 30%. System-forming factors of the professional-personality competence of nurses were developed considering their utmost correlation workload. The patterns suggested represent the level of sociability, empathy, optimism and lack of self-confidence as the most relevant factors in the scope of implementation of tasks concerning AH prevention by the nurses of the Therapeutic Department. The patterns of competence can be used as working structures focused on the staff, instruments of evaluation and design of advanced professional courses for nurses of a therapeutic area.

Medical Science, 2020, 24(106), 4517-4524

Pediatric salivary gland malignancy: NCI experience

Abdulwahab R Abdulwahab, Ghobrial R.E, Mai Gad, Mamdouh Mahmoud Mostafa, Reham Mohamed Gamal, Mostafa Selim, Mohamed H Zedan

Background: Salivary glands malignancies are not common among pediatric populations less than 16 years old. These tumors represent less than 10% of head and neck tumors among pediatric population. Pediatric parotid malignancies represent most of them with mucoepidermoid carcinoma as the most common malignant variant. *Methods:* This study is a retrospective cohort study included 32 pediatric patients with major salivary glands lesions who were treated and followed up at the National cancer institute, Cairo University, from January 2008 to January 2018, The primary end point for this study is to present our institutional experience with the evaluation and management of pediatric major salivary glands malignant tumors, and to evaluate the incidence types, presentation, imaging characteristics, pathological features and treatment outcomes of pediatric major salivary glands malignant tumors. *Results:* The median age of the patients was 10 years old (range: 2 – 13 years), 13 cases (40.6%) were female and 19 cases (59.37%) were male, investigations were done for all patients in the form of radiological and pathological investigations; radiological workup was CT & MRI in 2 cases (6.25%), ultrasound & CT in 30 cases (93.75%); pathological workup was FNAC alone in 26 cases (81.25%), FNAC and true cut biopsy in 6 cases (due to inadequate FNAC) (18.75%), 14 cases (43.75%) were in the left parotid gland, 2 cases (6.25%) were in the left submandibular gland, 14 cases (43.75%) were in the right parotid gland and 2 cases (6.25%) were in the right submandibular gland. Pathological results; mucoepidermoid carcinoma in 19 cases (59.37%), adenoid cystic carcinoma in 4 cases (12.5%), Hodgkin lymphoma in 2 cases (6.25%), rhabdomyosarcoma (anaplastic variant) in 2 cases (6.25%), rhabdomyosarcoma (embryonal variant) in 4 cases (12.5%) and acinic cell carcinoma in 1 case (3.1%). *Conclusion:* Among 32 pediatric patients with malignant salivary neoplasms, parotid gland represented the most common site for these tumors (87.5%), mucoepidermoid carcinoma represented the most common variant (59.37%).

Medical Science, 2020, 24(106), 4525-4531

Three dimensional evaluations of airway changes after maxillary expansion and protraction using modified tandem appliance versus facemask in cleft lip and palate patients

Mohamed G Elshal, Mohamed Abdel Ghafar M, Omar Aboul Makarem, Mostafa A Mohamed, Wael M Refai, Mohamed E Ibrahim, Ahmed Sh Hashem

Objective: This study aimed to evaluate the airway changes after maxillary expansion and protraction using modified Tandem Appliance versus facemask appliance in cleft lip and palate patients using cone beam CT. *Patients and methods:* Twenty Egyptian growing children (10 boys and 10 girls) with cleft lip and palate patients with deficient maxilla ranging in age from 6 to 11 years (mean = 9ys, SD =1.2ys) from the outpatient clinic of Department of Orthodontics, Faculty of Dentistry, Minia University (Minia, Egypt) were divided into two group, group A was treated with maxillary expansion and protraction with facemask appliance and group B was treated with maxillary expansion and protraction with modified tandem appliance. For airway assessment, CBCT changed into received pre - and post-treatment. *Results:* There was a significant rise in airway width change in face mask group compared with modified tandem appliance group, while airway depth change showed insignificant difference between the two groups. Regarding nasal width change, there was an insignificant difference between the two groups. *Conclusion:* The results showed that the pharyngeal airway and nasal width are significantly affected by maxillary expansion and protraction using facemask and adjusted tandem appliance.

Medical Science, 2020, 24(106), 4532-4540

Evaluation the ability of dual-energy X-ray absorptiometry in the diagnosis of osteopenia and osteoporosis

Ikhlas Abdelaziz, Salem Saeed Alghamdi, Rowa Aljondi, Manal Garelnabi Ibrahim, Mustafa Z Mahmoud, Mohamed Yousef, Somayah Alghamdi, Abdulrahman Tajaldeen, Hamid Osman

Objective: This study was designed with an aim to evaluate the ability of dual-energy X-ray absorptiometry (DXA) in the diagnosis of osteopenia and osteoporosis. *Materials and Methods:* In this prospective study DXA scan was utilized to examine the bone density for 30 participants. The statistical diagnostic test was used to detect sensitivity, specificity and accuracy of a DXA scan regarding to the findings of histological histomorphometric parameters in the obtained bone biopsies. *Results:* The DXA scan revealed a T-score = -2.5 SD in participants 12 (40%) diagnosed with osteoporosis while a T-score = -1 SD was detected in participants 10 (33.3%) diagnosed with osteopenia. The sensitivity, specificity and accuracy of DXA T-score in diagnosing osteoporosis and osteopenia cases were (100%, 0% and 100%) and (91.67%, 0% and 90%), consequently. *Conclusion:* For the diagnosis of osteopenia and osteoporosis, DXA is sensitive and precise, however less productive than the histological histomorphometric technique for analysis with low explicitness.

Medical Science, 2020, 24(106), 4541-4549

CASE REPORT

Crohn's disease in a patient with Ankylosing Spondylitis: A case report

Nur Basak, Berna Nilgun Ozgursoy Uran

Anti-tumor necrosis factor (TNF) drugs are frequently used today especially in rheumatology and inflammatory bowel diseases (IBD). Sometimes paradoxical side effects develop due to these agents. In the case in this article, Crohn's disease (CD) has developed as an intestinal paradoxical side effect due to the use of anti-TNF in an individual who has been diagnosed with ankylosing spondylitis (AS) since childhood. For this reason, the treatment process was rearranged and nursing care was planned based on Gordon's functional health patterns for the patient who was hospitalized.

Medical Science, 2020, 24(106), 4550-4557

ANALYSIS

Determination of obesity classifications as a factor of comorbidity and their relations with joints involvement among patients with rheumatoid arthritis, king Saud medical city 2019-2020

Abdulrhman Mustafa Rasheed, Yasmeeen Ayed Alhejaily, Mustafa Samir Smaiseem, Norah A Alsadhan, Homoud Al Homoud

A common co-morbidity among rheumatoid arthritis (RA) patients is obesity. In Saudi Arabia, it has been increasing dramatically as one of the highest obesity and overweight prevalence rates. The aim of the study is to determine obesity classifications among patients diagnosed with RA, and their relations to the joints involvement. A cross sectional study conducted at King Saud Medical City (KSMC), including RA patients, diagnosed according to ACR /EULAR Classification. A total of 70 participants were included, of the 18 – 75 years old, 14.3% of the study participants were male subjects while 85.7% were female subjects. About 88.6% the mean of body mass index was 29.7 and around 73% of the participant are overweight or obese (24% and 52% respectively). Having increased BMI than the normal was found to be highly prevalent among RA patients, with variation in the joints involvement, either positive or negative.

Medical Science, 2020, 24(106), 4558-4565

The prevalence of olfactory and gustatory dysfunction in COVID-19 patients in the Kingdom of Saudi Arabia

Hanaa E Bayomy, Malak S Alanazi, Maha T Alshbiny, and Hussam A Alruwaili, Lina M Addar, Ali M Alshehri, Fahad N Alshammari

Background: Coronavirus-2019 (COVID-19) infection has been announced as a global health problem nowadays. The loss of smell and taste are frequent complains of COVID-19 patients. However, the exact mechanism underlying these manifestations remains unclear. This study aimed to determine the prevalence, identify potential risk factors and detect recovery of olfactory and gustatory dysfunction in confirmed COVID-19 patients in the Kingdom of Saudi Arabia (KSA). *Methods:* This cross-sectional study was conducted on confirmed COVID-19 patients in KSA. The study recruited patients of both sexes, aged 18 and above, and clinically stable. All participants are invited to complete an electronic questionnaire to give data on their age, sex, comorbidities, general and otolaryngologic symptoms and olfactory and gustatory status, and the recovery of this presentation. *Results:* The study recruited 428 confirmed COVID-19 patients. Of these 15.4% were health care workers, 20.3% were smokers, 8.6% had asthma and chest diseases, 6.1% were diabetic and 10.7% had recurrent inflammations. Loss of smell/taste was reported by 75.2% of patients, with 13.1% had loss of smell only, 5.8% had loss of taste only and 56.3% had both. Complete improvement of smell/taste disorders was reported by 51.2%. The duration needed for improvement was 1 week in 32.2%, >3 weeks in 34.4%. Non improvement was reported by 14.3% and was more likely in younger patients (18-25 years). Other reported COVID-19 manifestations were fever (63.8%), tiredness and body ache (61.2%), headache (59.1%), sore throat (30.4%) and gastrointestinal symptoms (21.1%). *Conclusion:* Olfactory and gustatory dysfunctions are common presentation of COVID-19 infection in KSA. They might present early and without other symptoms, which can help in diagnosis of COVID-19 infection.

Medical Science, 2020, 24(106), 4566-4575

Awareness of interventional radiology treatment options for chronic venous insufficiency in Saudi Arabia

Meshael Alreshidi, Mohammad Altraifi, Aljoharah Alwajaan, Nouf Alghris, Amirah Alshammari, Elaf Altebainawi, Afnan Alshammari, Saleh Alammari, Ibrahim Alrashidi

Objective: Chronic venous insufficiency is a common medical condition in Saudi Arabia. Interventional radiology provides various minimally invasive treatment options for this condition. The aim of this study was to evaluate the awareness of these treatment options in the Saudi population. *Methods:* A self-administered online survey was distributed randomly via social media channels between June and July 2020. A total of 832 responses were received. Two experienced consultants reviewed the survey results. *Results:* Analysis of the participants' knowledge regarding interventional radiology treatment options for chronic venous insufficiency showed that 6.9% had heard of cyanoacrylate embolization, 15.5% knew about radiofrequency ablation therapy, 36.8% knew about endovenous laser ablation, and 37.5% knew about sclerotherapy. A total of 84 participants (10.1%) had a history of chronic venous insufficiency. Among the participants with chronic venous insufficiency, 25% confirmed that their treating doctor had discussed interventional radiology treatment options with them, while 75% denied this. *Conclusions:* The results of this study indicate the need for an awareness program regarding the role of interventional radiology in the treatment of chronic venous insufficiency.

Medical Science, 2020, 24(106), 4576-4580

A comparative assessment of ultrasound heat therapy and low-level laser therapy in management of temporomandibular joint disorders

Rashmi Kiran Ekka, Siddharth Saurabh, Suyash Vyas, Sandeep Thakur, Shikha Rajput, Surabhi Chetana

Background: Temporomandibular disorders (TMD) are considered by the presence of temporomandibular joint (TMJ) and/or masticatory muscle dysfunction and pain. Present study aimed to comparatively evaluate ultrasound heat therapy and low-level laser therapy in management of temporomandibular joint disorders (TMDs). *Materials & Methods:* Sixty patients having temporomandibular joint disorders (TMDs) were divided into 2 groups. Group I was LLLT group with 30 patients and group II was TMDs with 30 patients. VAS scale was used for pain assessment and mouth opening was also measured before therapy and after therapy. *Results:* In group I LLLT and in group II ultrasound therapy was used. There were 16 males and 14 females in group I and 18 males and 12 females in group II. The mean pre-therapy mouth opening in group I was 3.89 cm and in group II was 4.15 cm. Post-therapy mouth opening in group I was 3.72 cm and in group II was 4.02 cm. The difference was non-significant ($P > 0.05$). The mean pre-therapy VAS in group I was 8.12 cm and in group II was 4.20. Post-therapy mouth opening in group I was 7.12 and in group II was 5.24. The difference was significant ($P < 0.05$). *Conclusion:* Authors found that LLLT is effective method for treating TMDs in terms of achieving maximum mouth opening and reducing pain.

Medical Science, 2020, 24(106), 4581-4585

Exportin-5 gene polymorphism and risk of HCC development in Hepatitis C Egyptian patients

Rabab Fouad, Marwa Wahdan

Background: MicroRNAs (miRNAs) are small non-coding RNAs that play chief role in control of gene expression and contribute in a variety of biological functions. Because of the important role of nuclear export of pre-miRNAs in miRNA biogenesis by exportin-5 (XPO5), any alterations of XPO5 could affect miRNA expression and thus have profound effects on tumorigenesis. *Objective:* The aim of our work was to examine XPO5 gene polymorphism in HCV- HCC patients compared with HCV positive patients and healthy controls in Egyptian population. *Material and methods:* Forty nine HCV infected patients, Forty nine patients diagnosed with HCC on top of HCV and 47 healthy volunteers were included in the study. XPO5 gene polymorphism was detected by using RT-PCR (Real Time polymerase chain reaction) technique. *Results:* A/A, A/C and C/C frequencies in HCV patients were 5%, 22%, 22% respectively, furthermore the frequencies were 3%, 23%, 23% in HCC patients and 6%, 17%, 24% in the control group respectively. The frequencies of A and C alleles in HCV patients were 32 %, 66 % and in HCC patients were 29%, 69% while in the control group the frequencies were 29 %, 65 % respectively. There was no significant difference between the studied groups regarding A/A, A/C, C/C frequencies or A and C allele's frequencies. *Conclusion:* XPO5 gene polymorphism is neither associated neither with HCV infection nor with development of Hepatocellular carcinoma (HCC) and its progression.

Medical Science, 2020, 24(106), 4586-4591

CASE REPORT

Peripheral Ameloblastoma in a 7 Year old child: A rare case report

Dhiran Talatule, Vidya K Lohe, Ayesha Sayyad, Sohail Shrivastav, Pooja Dhole

Peripheral ameloblastoma (PA) is a rare, benign, soft tissue odontogenic tumor that is confined to gingiva or alveolar mucosa. Peripheral ameloblastoma signifies the similar histological characteristics as of intraosseous ameloblastoma, though it is less aggressive than this typical subtype. Although the recurrence rate is low, it needs a close and a longer follow-up. Following case report of PA in the right posterior mandible in a 7 years old child, highlighting the importance of histological examination to the diagnosis.

Medical Science, 2020, 24(106), 4592-4596

Rehabilitation of atrophic maxilla with pronounced buccal concavities using extra sinus approach zygomatic implants

Syed Ershad Ahmed, Parithimar Kalaignan S, Saravanan Kandasamy

Restoration of severely resorbed maxilla poses a greater challenge to the surgeon and as well as to prosthodontist. The pneumatization of the maxillary sinuses along with the type of bone seen in posterior maxilla makes it difficult in placing and restoring with implants. Zygomatic implants are used in such type of cases and these are alternative to other procedures such as complex bone grafting and sinus lift procedures. Case report of such Zygomatic implants is discussed in this section.

Medical Science, 2020, 24(106), 4597-4603

RESEARCH

Knowledge and preventive measures regarding Middle East respiratory syndrome corona virus among healthcare providers in Tabuk region

Hanan Hassan Elezaby Amer, Hanan Abd Elwahab El Sayed, Amira El-Houfy, Ebtisam Mohamed Abd Alaal

The Middle East respiratory syndrome coronavirus (MERS-CoV) is zoonotic reservoir pathogen causes several problems in healthcare regimes in Saudi Arabia. Knowledge is very important for health care workers who exposed to high risk levels of new diseases. *Aim*: to evaluate knowledge and preventive measures toward MERS-CoV for healthcare staff in Tabuk. *Design*: A descriptive cross-sectional design used in our investigation. *Setting*: Our investigation conducted at 4 Primary Health Centers in Tabuk region (Sulaymaniyah, Almahragan, Alworood, Almorog) and Umluj General Hospital. *Sample*: Simple random sample was used to choose 25% of primary health centers, then comprehensive sample (health care providers (HCPs) doctors and nurses from the previously mentioned settings 150 HCPs which include 40 doctors and 110 nurses were taken according to inclusion criteria. Two tools were used for collecting; self-administrated questionnaire sheet: which includes socio-demographic data and knowledge assessment and preventive behavior scale against MERS-CoV. *Results*: More than half of the studied nurses & 37.5 % of the studied doctors had poor knowledge regarding MERS-CoV and nearly three quarters of the studied nurses and doctors respectively had good preventive measures regarding MERS-CoV. Moreover, a positive correlation reported among total nurses knowledge and their preventive measures regarding MERS-CoV. *Conclusion & recommendation*: Most of the studied HCPs represented good preventive measures regarding MERS-CoV. While, most of the studied nurses had poor knowledge; regarding MERS-CoV. Therefore, health education sessions to augment HCPs knowledge and preventive measures MERS are recommended.

Medical Science, 2020, 24(106), 4604-4614

ANALYSIS

Is there a need for histopathological evaluation of sleeve gastrectomy specimens under the age of 40? Is macroscopic evaluation not enough?

Hüseyin Çiyiltepe, Anıl Ergin, Ali Cihan Bilgili, Mehmet Mahir Fersahoğlu, Nuriye Esen Bulut, Mehmet Timuçin Aydın, Aziz Bora Karip, Adnan Somay, Kemal Memişoğlu

Background: Obesity is an increasing public health problem all over the world and laparoscopic sleeve gastrectomy (LSG) is the most common bariatric surgical method with sufficient weight loss. The need for histopathological evaluation of the stomach specimen removed is discussed all over the world. *Materials and Methods*: The aim of this study is to compare the pathology findings of LSG specimens in patients under and over 40 years old. Between January 2013 and June 2020, 1584 gastric resection material who had undergone LSG was evaluated. The patients were divided into two groups as those over and under 40 years of age, and their pathology results were compared. *Results*: Normal findings were identified in almost half of the specimen (46.6%) and the most common pathological alteration was chronic inactive gastritis (34.3%). There was an increased risk of intestinal metaplasia (%0,8; %11,5; $p=0.00$) and unexpected gastric pathologies in patients over 40 years of age. *Conclusion*: We believe that it would be more cost-effective not to evaluate LSG specimens routinely in patients under 40 years of age in the absence of macroscopically pathologies in low-income countries.

Medical Science, 2020, 24(106), 4615-4621

RESEARCH

Comparative analysis on predictors of preventive health behaviors related to COVID-19: An analysis of situation in Saudi Arabia and Pakistan

Sehar-un-Nisa Hassan, Asma Ayyed AL-Shammary, Aqeela Zahra, Rania Fathy, Ahmed Abdelmaksud Mohammed Ahmed

Background: Various countries of the world implemented unprecedented measures from January-May 2020 to control the rapid spread of COVID-19 virus. This paper aims at analysis of people's risk perceptions, knowledge and preventive health behaviors as well as levels of satisfaction with efficiency of preventive measures implemented in the context of COVID-19 pandemic across two countries. *Methods*: An online survey to collect data from Kingdom of Saudi Arabia (KSA) and Pakistan during the months of April-May 2020. Analysis focused on cross-country comparison in people's risk perceptions, knowledge, beliefs, adherence to preventive

health behaviors and levels of satisfaction with efficiency of preventive measures in the context of COVID-19 pandemic. Linear regression model was applied to identify the significant predictors of preventive health behaviors. *Results:* The sample comprised of 421 participants, between the age of 18 to 70 years; (47%) reside in KSA and (53%) in Pakistan. In total sample (45%) perceived themselves at 'high risk' for COVID-19. Saudi nationals reported significantly higher levels of fear ($p < .001$). Higher proportion of male participants in this sample from KSA lacked accurate knowledge about symptoms and causes of the COVID-19 virus ($p < .001$). Those living in Pakistan more likely to 'use face mask when going outside' ($p < .001$) and those residing in KSA more likely to 'disinfect the surfaces regularly at house' ($p < .01$). Knowledge about symptoms ($p < .001$) and preventive measures ($p < .05$) increase the likelihood of use of facemask. Respondents from Pakistan were less satisfied with efficiency of preventive measures implemented in various settings ($p < .001$). *Conclusions:* The current study findings urge to improve accuracy of people's knowledge about symptoms and causes of COVID-19 in KSA. There is need for stringent measures at all levels to enhance the levels of satisfaction with efficiency of preventive measures in Pakistan.

Medical Science, 2020, 24(106), 4622-4631

ANALYSIS

Comparison of intravenous, oral and intra-articular effects of tranexamic acid on reducing postoperative knee replacement bleeding

Hoseinali Hadi, Shamim Valibeik, Shirin Pazouki, Siamak Rakei, Alireza Kamali

Introduction: Complete knee replacement (Total knee) is one of the greatest surgical skills of the last century. Bleeding during and after this surgery is a major concern in selective knee replacement surgery. One of the most effective ways to reduce bleeding in this procedure is the use of antifibrinolytic drugs, especially tranexamic acid. However, the best use of this drug needs further investigation. Therefore, in this study, we compared the effect of intravenous, oral and Intra-articular tranexamic acid. *Materials and Methods:* This study was a randomized, single-blind clinical trial with 135 patients undergoing knee replacement, referred to Amir al-Momenin Hospital and Qods Hospital, Arak, Iran, during 2019-2020. Participants were divided into 3 groups of 45 patients (intravenous tranexamic acid group, oral tranexamic acid group and Intra-articular tranexamic acid group). The mean of postoperative bleeding (up to 48 hours), mean return to operation room, mean hemoglobin in arthroplasty candidates, 8 hours and 48 hours after surgery, mean hospital stay and mean thromboembolic complications were compared. *Results:* The mean intraoperative bleeding was lower in the intravenous group than in the other two groups and in the Intra-articular group was lower than in the oral group ($P = 0.01$), but there was no significant difference ($P = 0.4$) in the mean bleeding after 72 hours. There was no significant difference in mean hemoglobin preoperatively, 8 hours and 48 hours postoperatively ($P = 0.3$, $P = 0.7$, $P = 0.6$). Also, there was no significant difference between the three groups in terms of mean hospital stay ($P > 0.05$ and $P = 0.6$). No postoperative or transfusion complications were seen in any of the groups, so no significant difference was observed ($P > 0.05$). *Conclusion:* Mean intraoperative bleeding was lower in the intravenous group than in the other two groups. The rate of postoperative bleeding, mean hemoglobin level decrease up to 48 hours postoperatively and the need for transfusion were similar in the three groups. Therefore, Intra-articular and oral tranexamic acid, are recommended as suitable substitutes for intravenous tranexamic acid.

Medical Science, 2020, 24(106), 4632-4638

CASE REPORT

Porencephaly presenting as status epilepticus in adult: A rare case report

Shiliveri Sadhan Siddardha, Aishwarya Ghule, Amrutha Garikapati, Yogesh Kakade, Sunil Kumar

Porencephalic cyst is an uncommon finding in adults as it is usually congenital and seen in neonates. Here, we report a 43-year-old male who was brought to medicine ER in a drowsy state and profuse sweating after binge alcohol drinking the day prior to admission. He was found to have porencephalic cyst in left frontal lobe on imaging of the brain.

Medical Science, 2020, 24(106), 4639-4642

ANALYSIS

Awareness and prevalence of mouthwash use among the general public: A survey based study in Riyadh, Saudi Arabia

Saad Fahad S Ben Shabr, Moaath Saad M Alqudairy, Thamer Ali Mansour Alkhamis, Sultan Ibrahim H AlSalamah, Abdulrahman Sulaiman Alkathiri, Abdulaziz Abdullah A Almousa, Abeer A Al Nafea, Abdulrahman Dahham Al Saffan

Introduction: Use of oral rinses or mouthwashes has been extensive since a very long time by the public. But the actual prevalence and knowledge regarding the usage is not much studied. *Materials and methods:* This cross-sectional study was conducted among the general public, more than 18 years of age in Riyadh using an online survey. The closed-ended questionnaire consisted of information regarding demographics as well as use and awareness pertaining to mouthwashes. *Results:* A total of 1259 study participants responded to the survey, out of those males were 29% and females 71%. As far as the age groups were concerned, 31% belonged to 18-30 years, 37% to 31-45 years, 30% to 46-60 years and only 3% to 60 or more years. *Conclusion:* The mouthwash related knowledge was found to be satisfactory among the study participants.

Exclusive breast feeding and atopic dermatitis in children from Arar city, Saudi Arabia

Hanaa E Bayomy, Bashayr Khulaif S Al-Ruwaili, Afnan Hamdan Al-Shammari, Rehab Mohammed A Al-Enezi, Rahmah Subhi Alanazi, Hassan T Ahmed

Introduction: Atopic Dermatitis (AD) is the leading cause of inflammatory skin diseases of childhood worldwide, which can impact on the quality of life of children and their families. Breastfeeding and infant feeding practices can play a role in the development of AD. *Objective:* This study aimed to investigate the relationship between AD and breastfeeding practices and the early introduction of solid food and to identify other potential risk factors to AD among children in Arar City, Saudi Arabia. *Methods:* This case-control study was carried out on children below 7-years old between September 2019 to March 2020. A structured questionnaire completed by mothers/guardians was used to collect information on socio-demographic and birth data, family history of atopy, feeding pattern and antibiotic administration during the first year of life. The questionnaire developed by the International Study of Asthma and Allergies in Childhood (ISAAC) was used to investigate the manifestations of AD. *Results:* The study recruited 106 AD children and 99 matched controls. The risk of AD was doubled in children who have never been breastfed ($P=0.023$). The cessation of exclusive breast feeding before 2-months, exposure to animal milk during the first year of life and positive father history of AD were risk factors for AD. Exposure to solid food, infant formula and antibiotics after 6-months, highly educated mothers and high (more than satisfactory) family income were protective factors. *Conclusion:* Breastfeeding with delayed exposure to complementary food after 4-6 months, highly educated mothers and high family income reduced the risk of AD, while positive father history of AD increased the risk.

Medical Science, 2020, 24(106), 4650-4662

Identifying prevalence, aetiology and associations in malnourished hospitalized children: A cross-sectional study

Sumit Thakur, Ashish Varma, Sachin Damke, Revat Meshram, Bhavana Lakhkar

Introduction: Malnutrition is the cause of substantial health problems that need significant consideration in children. Malnutrition is caused by multiple aetiology has a direct association with infections. This study aimed to evaluate the prevalence of moderate and severe (Grade II, III and IV) malnutrition, aetiological factors in the causation of Malnutrition, and prevalence and type of anaemia, vitamin deficiencies and infections in hospitalized malnourished children. *Methodology:* The research was designed as a cross-sectional observational study in the paediatric malnourished population at Acharya Vinobha Bhave Rural Hospital, Sawangi, India. The study included the children between 6 months to 5 years with Grade II, III and IV malnutrition, who were admitted in the paediatric ward and excluded those with neurological problems, syndromes, and chronic diseases affecting development. *Result:* The Prevalence of moderate and severe malnutrition (Grade II, III and IV) in admitted patients below 5 yrs at AVBRH was 10.18%. Majority of malnourished children were under the age of 3 years with males as the major bulk overall. Acute respiratory infections were the most common presenting problem among these children followed by diarrhoea. Stunting was present in 60.14% of children indicating chronic malnutrition while rest had acute malnutrition. Vitamin deficiencies were significant in all grades of malnutrition. *Conclusion:* In a developing country like India, malnutrition is one of the biggest health problems. Our study demonstrated that the majority of malnourished children were males, and presented with respiratory infections. Besides, the most common findings included anaemia, vitamin deficiencies, and skin and hair changes.

Medical Science, 2020, 24(106), 4663-4671

Impact of Coronavirus Disease 2019 (COVID-19) pandemic on routine pediatric vaccination in Eastern Region, Saudi Arabia

Zainab Almoosa, Hassan H Alhamoud, Abdulhameed B Alkhalaf, Walaa A Alabdullah, Jinan A Alghafli, Mohammed S Albensaad, Zahra Y Alghazal

Background: The World Health Organization (WHO) officially announced the outbreak of COVID-19 as a public health emergency around the world on 30 January 2020. The lockdown across the countries has resulted in a postponement of routine immunization programs following the recommendations of maintaining a physical distance. Delay of routine pediatric vaccinations, even for a short duration will result in an increased likelihood of vaccine preventable. The primary objective of this research is to assess the impact of the COVID-19 pandemic on the routine childhood vaccination coverage rate in the eastern region of Saudi Arabia. *Methods:* A cross-sectional study through an online questionnaire. The targeted population was both male and female adults who have children at the age of vaccinations who are residents of the eastern region of Saudi Arabia during the period between July 2020 and September 2020. *Results:* 494 respondents participated in this study. 378 of them have children. 76.5% of them have Children had vaccination schedule during COVID-19 pandemic. 66.9 vaccinated their children. 33.1% of parents their children did not receive vaccines during COVID-19. 82.8% of parents think vaccines should be given at its time even during the COVID pandemic. *Conclusion:* One out of every three children has missed their routine vaccinations during the COVID-19. The pool of unimmunized children is expanding during the lockdown, making them susceptible to vaccine-preventable diseases. Most of the parent knows the importance of routine pediatric vaccinations.

Medical Science, 2020, 24(106), 4672-4681

Psychological impact of COVID-19 lockdown on general population of Hail, Saudi Arabia

Hassaan Anwer Rathore, Ibne Hassan, Muhammad Ilyas, Mohammad Khursheed Alam, Junaid Amin, Freaah Alshammary, Ammar Ahmed Siddiqui

Background: Pandemics are associated with anxiety, depression, and/or even death. The present study was planned to measure the psychological stress due to current pandemic-COVID19 amongst resident of Hail, Saudi Arabia. *Method:* It was a survey based cross sectional study. Non-Probability convenient sampling was used to collect the information from 240 respondents. Generalized Anxiety Disorder scale (GAD-7) was used as study tool. Data was displayed as number and percentages. Chi square test was used to measure inferential statistics. *Results:* More than 55% of study respondent reportedly found to have some level of anxiety during lockdown. However, nearly 35% had mild anxiety. Interestingly, statistically significant association was observed amongst, gender, level of education, Income, nationality, profession, place of resident, and age. *Conclusion:* The findings of present study may not be generalizable to Hail city. However, more than 50% of study respondent reported some sort of anxiety. Mild anxiety was most commonly reported. Level of anxiety was found to be statistically associated with various socio demographic variables. It is recommended to have further studies to measure the relationship of psychological stress on individuals of various backgrounds.

Medical Science, 2020, 24(106), 4682-4688

ANALYSIS**The public view of media impact on seeking cosmetic surgeries in Saudi Arabia: A cross sectional study**

Wejdan Suwayyid, Maha Alshbini, Saad Alotaibi, Lura Habib, Salman Alotaibi, Roayad Abuaziz, Yasser Alkubaisy

Background: Social media is gaining popularity worldwide as being a method used to advertise for cosmetic treatments, Because of addiction to social media is currently a common problem worldwide. The number of individuals in the lookout for cosmetic procedures has increased around the world in the past few years. Cosmetic procedures are considered to be one of the most frequently performed procedures in the medical field. *Objective:* To evaluate the effect of social media on the Saudi population to undergo a cosmetic procedure to correlate the effect of social media with socio-demographic factors. *Methods:* We evaluate 911 Saudi females and males from the various age groups in different regions in Saudi Arabia using an electronic questionnaire. *Results:* Out of the 911 participants, 24.9% were male while 75.1% were females. 13% had a history of plastic surgery. 38.6% of the participants intended to undergo plastic surgery. 30.7% reported that advertisements of plastic surgeons themselves had an effect on their desire for cosmetic intervention. 29.5% said that watching cosmetic TV programs affected their desire for cosmetic intervention whether surgical or otherwise. 44.1% of the participants said that before and after pictures on social media had an effect on their desire for cosmetic intervention. Lastly, 36.3 % of the participants said that the desire to appear better in pictures and selfies motivated them to conduct cosmetic intervention. *Conclusion:* This study aimed to determine the effect of social media on undergoing cosmetic procedures. The results have shown that the majority of the respondents were positively affected, mainly by comparing the before and after cosmetic procedure pictures, secondly by the desire to appear better in pictures and selfies, thirdly and most importantly is the surgeon's advertisements and watching cosmetic TV shows; as it should be noted that all those who were affected by the different advertisement, social media, and TV programs have previously undergone plastic surgery. Consequently, media affects the way a person is viewed by others, as well as their self-confidence, which encourages them to pursue plastic surgery.

Medical Science, 2020, 24(106), 4689-4697

Nocturnal enuresis among children: prevalence and risk factors

Reda Goweda, Hanin Badr, Wajd Benjabi, Rouzan Kalantan, Razan Kalantan

Background: Nocturnal enuresis (NE) is an inappropriate and involuntary wetting during sleep with a peak prevalence of approximately 15–20% in 5-year-old children and older. The aim of this study is to report the prevalence and risk factor of nocturnal enuresis among children in Makkah and Jeddah. *Materials and Method:* A cross-sectional descriptive study was carried out among Saudi children 5 years of age and older, Mecca and Jeddah, Saudi Arabia, from 12 May to 12 July 2020. Data was collected using a pre-designed questionnaire that was distributed online and included questions designed to fulfill the study objectives. *Results:* Out of 363 children, 90.9% were Saudi, 92.8% of children families are with average/high economic level, and the parents had university education. The prevalence of nocturnal enuresis (NE) among the children of the current study was high (63.9%). Nocturnal enuresis is significantly associated with ages (years) $P=0.002$, $OR=1.191$, 95% CI (1.067 - 1.329), residence $P=0.002$, $OR=2.565$, 95% CI (1.409 - 4.672), and child order $P=0.003$, $OR=2.897$, 95% CI (1.419 - 5.912). Siblings with NE in childhood, parents' history of NE in childhood, child snore during sleep, psychological problems, and history of urinary tract infection (UTI) were the most reported significant NE's risk factors. *Conclusion:* The prevalence of nocturnal enuresis (NE) among the children of the current study was high. The prevalence of NE is significantly associated with age, residence, and child order. Therefore, more health education program should be provided to increase parents' awareness of NE symptoms and treatment to reduce NE's occurrence.

Medical Science, 2020, 24(106), 4698-4706

Novel Coronavirus (COVID-19) knowledge and perceptions: An online community survey in the eastern region of Saudi Arabia – Al Ahsa

Abdul Sattar Khan, Hassan Ahmed A Alsahaf, Rabel Khawaja, Hussain Adil Alghadeer, Ahmed Mohammed Al Hajji

Background: The novel coronavirus (COVID-19) has been announced as a pandemic by the world health organization since the 11th of March 2020. Case count has been increasing since then thought the world. Healthcare authorities have already initiated awareness and preparedness activities and it is beyond the borders. Misconceptions surrounding a newly discovered disease can impact general population's adherence to precautions and thus leading to a rapid spread of the virus. This study is aimed to investigate knowledge and perceptions of the Saudi community about COVID-19. *Methods:* A cross-sectional, web-based study was conducted among the community about COVID19 for two weeks starting from 20 March 2020. The questionnaire used is based on a validated and already applied questionnaire, which has 14-items in two parts: Knowledge and Perception. The questionnaire was translated into Arabic and conducted a pilot study for assessing reliability co-efficient. It took 5 minutes to complete the questionnaire and it was circulated through social media. A chi square test was used to investigate the level of association among variables at the significance level of $p < 0.05$. *Results:* A total of 1011 participants completed the survey, more than 99% of them have heard about pandemic COVID-19. 57.5% were males, 42.5% were female and most of them were within the age group between 18 and 30 years and with the level of education as a bachelor's degree. Nearly 85% obtained their information from social media as a primary source of COVID-19 and followed by almost 60% from governmental authorities as a second source. About 88.3 % were aware of the basic symptoms of COVID-19 and mostly 99.0% exhibited a positive knowledge regarding the preventive measures of COVID-19 that hand hygiene, covering nose. About 92% are aware that there is no benefit from flu vaccination in preventing COVID-19. A significant proportion of participants within different socio demographic data perceived eating well-cooked/handled meat to be safe ($p < 0.05$). Moreover, nearly 74.1% were aware that coronavirus COVID-19 can Leads to pneumonia, respiratory failure, and death ($p < 0.05$). *Conclusion:* Most participants have good knowledge and perceived that COVID-19 is dangerous diseases and spread among the community rapidly. It reflects that health care authorities have done their job properly and successful in engaging the community during the crises.

Medical Science, 2020, 24(106), 4707-4718

The awareness and attitude of medical radiologists toward oral and maxillofacial radiologists

Hanadi M Khalifa

Objectives: To investigate the awareness and attitudes of medical radiologists toward the subspecialty of oral and maxillofacial (OMF) radiology. *Methods:* A cross-sectional study design was used, and an electronic questionnaire was sent out to radiologists in Saudi Arabia. The data from the 19-questions survey was collected between September 2018 and June 2020. *Results:* Despite the frequency of requests for imaging of the OMF region, most of the radiologists (82.8%) in our study have never consulted with an OMF radiologist. The majority of the radiologists (61.2%) reported not knowing an OMF radiologist, and another significant number (40.8%) had instead consulted with head and neck medical radiologists or neuroradiologists. In contrast, 80% were willing to collaborate with OMF radiologists in the future, and 70.7% supported establishing an online referral system to OMF radiologists. *Conclusion:* Most of the radiologists in this study were not aware of the subspecialty of OMF radiology. The majority of medical radiologists showed a positive attitude and willingness to collaborate with their dental counterparts. OMF radiologists should make their services available, accessible and proactively seek collaboration with other professionals.

Medical Science, 2020, 24(106), 4719-4725

CASE REPORT

Large lobular capillary hemangioma of lower lip: A case report and review of literature

Faisal Mohammed Al Khayrat, Shihab Abdelmunim Osman Ahmed, Amal Ahmed Khawaji, Nedaa Hasan Alhazmi, Kholoud Ahmed Hamzi, Fareedi Mukram Ali

Lobular capillary hemangiomas of the oral cavity are a common benign lesion. It has more predilections for the lips. The clinical diagnosis of these lesions is sometimes challenging as they mimic more dangerous lesions like malignancies. Lobular capillary hemangioma (LCH) is usually a result of exuberant neovascular reaction to infection, hormonal influence (e.g., pregnancy and consumption of oral contraceptive pills) or local irritation (e.g., trauma). In this article reported a case report of lobular capillary hemangioma of lower lip which was clinically difficult to diagnose.

Medical Science, 2020, 24(106), 4726-4730

ANALYSIS

In situ study: Effect of a 10% Carbamide Peroxide whitening gel on enamel mineral density using NanoCT

Najlaa Y Qusti, Steven J Brooks, Paul A Brunton

Objective: Investigating effects of ten percentage from carbamide peroxide bleaching agent on possible demineralisation of enamel surface to include assessment of the mineral density of human enamel which measure through using X-ray NanoCT scanning technique. *Methods:* Sixty enamel slabs obtain from human molars. Four slabs from a single tooth were used for each intra-oral

device (two slabs acting as controls and two slabs being subjected to bleaching). A total of 15 volunteers included in our investigation. The volunteers were advised to wear the intra-oral devices containing the slabs for a period 16 hours a day and the study duration of 14 days. Volunteers advised to wear intra-oral devices containing the slabs 16 hr a day for 14 days. Bleaching was carried out ex-vivo for 8 hr / day throughout used ten percentage from carbamide peroxide bleaching agent. Control slabs on appliance were treated with the control gel. The baseline mineral density of the enamel slabs was measured prior to the experiment using NanoCT scan and at end of the experiment post-bleaching procedure. This allowed changes in mineral density to be assessed in the bleached and unbleached slabs. *Results:* Daily bleaching production have no significantly effects on inner enamel while increasing mean mineral density at enamel surface by (6.8%), which might be refer to the peroxide incorporates in hydroxyapatite lattice and modifies mineral ratio. *Significance:* To simulated at-home, bleaching as possible, an in situ model selected. Bleaching with ten percentage of carbamide peroxide did not have detrimental effects on mineral density and increased mineral density.

Medical Science, 2020, 24(106), 4731-4745

Prophylactic HIPEC in colon cancer patients with minimal serosal involvement: A pilot study

Khadiga Amr Abdel Kader, Sherif Ismail Maamoun, Osman Mohamed Mansour, Ihab Saad Hussein, Ghada Mohamed Abdelsalam, Ahmed Mostafa Ahmed

Background: In 10%- 35% of patients with recurrent colorectal cancer tumor recurrence is confined to the peritoneal cavity, leading ultimately to death from complications of loco regional tumoral widespread. *Aim:* To determine the oncological effectiveness of prophylactic HIPEC in preventing the development of peritoneal carcinomatosis in colorectal cancer patients having minimal serosal involvement. *Patients and methods:* This is a randomized control pilot study on an eligible group of 21 colorectal cancer patients undergoing a curative colectomy. In which prophylactic HIPEC was administered in the experimental arm, or adjuvant systemic chemotherapy alone in the standard treatment arm. HIPEC was mitomycin based; it was a 90-minute session and was applied simultaneously. The effectiveness of prophylactic HIPEC was determined by the peritoneal-recurrence free survival among both groups at 18 months. *Results:* The median peritoneal-recurrence free survival for the experimental arm was 17 months, while in the standard treatment arm it was 12 months (p-value 0.250). There were no perioperative mortalities among both groups, and only one patient in the experimental arm developed a deep surgical site infection. *Conclusion:* Prophylactic HIPEC did not seem to have a major role in the prevention of peritoneal carcinomatosis in colorectal cancer. This statement cannot be made with certainty before a full-scale randomized control trial is conducted. In addition, to the higher incidence of nodal capsular infiltration among the experimental arm; this negatively impacts survival and conceals the benefit of HIPEC among the experimental arm.

Medical Science, 2020, 24(106), 4746-4753

Patients' experience of health care providers in outpatient and day surgery in hospitals Riyadh City, Saudi Arabia

Asma M Al Mugeiren, Asmaa A Al Yaemni

Introduction: Patient's experience in the outpatient and day care surgery is the need of the hour to improve the health care services. This paper describes patients' experience of outpatient and ambulatory surgery in both public and private hospitals in Riyadh City, Saudi Arabia. The aim is to assess the patient experience and its effect on the quality of care services and on meeting patients' demands. *Materials and Methods:* A cross-sectional survey was administered that consisted of the following six dimensions: demographical information, before the procedure, day of the procedure, communication about procedure, recovery, and general opinion. *Results:* Results of logistic regression analysis showed a "good patient experience" in the participants' response of the following 10 items on the survey: the educational level was significant in terms of giving the patient the necessary information before the procedure, instructions to the patient for getting ready for procedure, ensure patients were comfortable, explaining the procedure in easy way, giving written instructions at discharge, preparing the patient for what is expected during recovery, and patient rating their own overall mental and emotional health. *Conclusions:* According to our results, hospital professionals and staff members require more training to reform the health system and facilitate communication. Even though the overall situation of the hospitals was fair, but an improvement strategy should be planned to match the customers' demands to attain the proper level of quality in all aspects.

Medical Science, 2020, 24(106), 4754-4762

Dental caries and its impact on 6-8-year pediatric dental patients and their families

Mohammad Abdul Baseer, Nawaf Mohammed Bin Jabr, Fahad Saleh Alshamrani, Abdulaziz Khalid Alharbi, Fahad Mohammed Alotaibi, Salman Awad Bin Tuwalah, Naif Saed Alharthi, Ali Hassan Alharbi

Introduction: Dental caries negatively affects children and their families which subsequently affects oral health-related quality of life (OHRQoL). Hence the aim of the study was to assess the impact of dental caries on the OHRQoL using Early Childhood Oral Health Impact Scale (ECOHIS) questionnaire, and measurement of Caries Assessment Spectrum and Treatment (CAST) index of 6-8-year-old Pediatric patients. *Materials and method:* Pediatric patients (n=1065) and their parents (mother/father) seeking dental care in Riyadh Elm university dental clinics participated in the study. The Arabic version of the ECOHIS questionnaire were filled out by the parents and returned to the researchers in the clinics' waiting area. Following which, a single examiner performed the clinical examinations using the CAST Index. Descriptive statistics of frequency distribution, percentages, mean, and standard deviation values were calculated. An independent t-test was applied to compare the mean ECOHIS score between uncavitated and cavitated lesions. *Results:* The prevalence of dental caries (CAST codes 4-7) was 94.5%. The teeth having CAST CODE, 4-7, showed significantly higher

ECOHIS score indicating higher impact on child's difficulty in eating ($p=0.004$), irritability or frustration ($p\leq 0.001$), avoidance of smiling or laughing ($p\leq 0.001$), and avoidance of talking ($p\leq 0.001$) compared to the CAST CODE 0-3, 8. Similarly, among the teeth having CAST CODE 4-7, the family impact scale showed significantly higher parental distress [parent been upset ($p\leq 0.001$) and parents felt guilty ($p\leq 0.001$)] and family functions [taken time off from work ($p\leq 0.001$) and financial impact ($p\leq 0.001$)] scores compared to their counterparts. *Conclusion:* Primary and permanent molar teeth with cavitated dentine carious lesions with and without pulpal involvement (CAST code 4-7) impacts negatively on the 6-8-year pediatric patients and their families.

Medical Science, 2020, 24(106), 4763-4771

Saudi parent's attitude towards the use of fluoride and fissure sealants in their children: A cross-sectional study

Ghassan Khayri Sobh, Shahzeb Hasan Ansari, Ahmed Abdullah Alsalamah, Hashim Ali M Alshehry, Faisal Majed F Almuammar, Mohammed Mousa H Malhan

Introduction: In dental surgeries, most of the materials and procedures have been discovered and utilized to avoid the dental diseases especially in Cavities. Fluoride is one of the main materials, which has been a remarkable product which is when it comes to halting the Advancement of early carious lesions. This sealant has been used in protection in the form of gels, solutions, ointments etc. As compared to fluorides, the level of knowledge related to dental sealants has been found to be on the lower side as per the recent review of literatures. *Methodology:* This is a cross sectional study conducted among the Saudi parents using an online survey. All parents (male and female) willing to participate in this study were requested to fill up the survey. A total of 956 parents filled the survey using social media. An online questionnaire was designed using Google Forms with questions related to personal and demographic information followed by attitude related questions. *Result:* Comparisons were made on the basis of gender, age groups, educational level and number of children using Chi-square test. Statistically significant differences were reported among males and females when inquired the parents about reason for dental visit (p -value: 0.017), supporting addition of fluoride in toothpaste (p -value: 0.003) and satisfaction from fluoride gels (p -value: 0.025). *Conclusion:* According to the results and the analysis of statistic this study concludes that mothers showed better knowledge regarding the use of fluoride in different forms among their children also Parents with fewer children showed positive attitudes towards the use of fluoride and sealants among their children.

Medical Science, 2020, 24(106), 4772-4782

The awareness of tooth avulsion management among general public in Riyadh city: A survey based study

Tariq A Alsawaji, Shahzeb Hasan Ansari, Sultan A Alsugair, Mashari M Alhuwaimel, Abdullah S Alnaim, Mohammed K Aldahmash

Introduction: It is important that general public should have basic knowledge of management of an avulsed tooth in order to increase the chances of saving an avulsed tooth among their children. Therefore, present study was conducted to determine the knowledge and practice of general public towards the management of avulsed tooth in Riyadh. *Methodology:* A cross-sectional was conducted using online survey using Google Forms with questions related to personal and demographic information followed knowledge and practice regarding tooth avulsion. A total of 1650 residents filled the survey including 575 males and 1075 females. Better knowledge regarding the avulsed tooth management as compared to males was observed in females which was statistically significant. *Results:* There was no statistically significant difference among the participants on the basis of educational level. *Conclusion:* There is a need of educating the public specially the younger ones to properly manage an avulsed tooth whenever encountered.

Medical Science, 2020, 24(106), 4783-4789

Psychological status assessment of medical and dental staff during the covid-19 outbreak in Saudi Arabia

Nancy Ajwa, Abdullah Al Rafee, Hamad Al Rafie, Nawaf Alrafee, Nasser Alduhaimi, Faisal Zainaldeen, Marzouq Alqahtani, Khaled Alfayez

Introduction: In the previous times the people has suffered a lot from infectious diseases. The coronavirus disease (COVID-19) is just arrived viral infection that began in the China, and also included pneumonia in the rest of the world. In the fight of the sudden emergence of severe acute respiratory syndrome (SARS), psychological distress among health care professionals appeared gradually. The Purpose of this study was to measure the occurrence and levels of depression and anxiety among medical and dental staff. *Methodology:* A cross-sectional study using Google Forms, conducted in Riyadh City, Saudi Arabia from June to August 2020. The survey questionnaire included General Anxiety Disorder (GAD-7) and Patient's Health Questionnaire (PHQ-9) that used to identify influence factors associated with mental dysfunction with 577 participants. *Results:* From the total sample analyzed (577 participants), the mean scores were 8.5. Based on PHQ-9 scores and participants who have severe depression reached 7%, while; the mean scores were 7.81. Based on GAD-7 scores and reached 14% who had severe anxiety. *Conclusion:* The current study concludes to self-report psychological problems are prevalent in medical and dental staff during the COVID-19 pandemic, and the prevalence of anxiety and depression was higher among emergency medical technicians, nurses and physicians compare with the dental staff.

Medical Science, 2020, 24(106), 4790-4797

Assessment of knowledge, attitude and practice of epistaxis among the population in different regions in Saudi Arabia

Omar A Abu Suliman, Emtinan Abdullah Fallatah, Wedyan Hassan Al-Mosa, Lama Saliman Karsou, Zakaria Zayed Al-Junaidy

Background: First aid preserves life and decreases the consequences of illness and injury. Epistaxis (nasal bleeding) has been reported to occur in up to 60% of the general population. *Objectives of the work:* We aimed at evaluating knowledge, attitude and

practice of general population about first aid in the management of epistaxis among Saudi Arabian population considering the socio-demographic characteristics. *Participants and Methods:* This is an observational cross-sectional study that had been conducted over a period of three months from 1475 Saudi Arabian participants from age group (>18 to >45 years old) willing to participate. The data were collected through an online published previously validated structured survey about knowledge, attitude and practice of epistaxis. *Results:* This study included 1475 participants, most of them were female (69.2%). It was found that 81% (n = 1195) of the studied participants had previous experience of exposure to nasal bleeding. With total practice and attitude score (71.7%) above median and mean 11.486 ± 1.673 and the overall total knowledge score was 64%. It was found that age and gender affect the total knowledge score. *Conclusion:* The overall total knowledge score was good among Saudi Arabian population. Being exposed to previous nasal bleeding affected the total score of attitude and practice of exposed participants but did not affect the knowledge. We recommend that the knowledge of how to deal with epistaxis is important, and therefore raising public awareness is needed.

Medical Science, 2020, 24(106), 4798-4807

Commonly reported factors influencing the parent's decision to accept dental treatment under general anesthesia for their children

Ateet Kakti, Yara Khalid almutawa, Shahad Essa AL-Amoudi, Shahad Fahad Alsulaiman, Reem Abdulaziz Alghofaily

Background: Dental caries among children is a global healthcare concern in developing and industrialized countries. If left untreated, it leads to immediate and long-term complications that affect the well-being and quality of life of concerned families. *Methodology:* After behavioral interventions, general anesthesia is used in specific settings when a young patient presents with extensive teeth damage and exhibits a lack of cooperation that is incompatible with conventional dental office care. A questionnaire was distributed to evaluate the possible causes of decision taken to treat the patients under general anesthesia not limited to patients fear and anxiety, very young age without the capacity to cooperate, convenience to the parents, avoiding multiple visits, cost effectiveness, being advised by the referring dentists or the Pediatric dentists decision based on his expert advice, time or cost, parents bad experience with dentist or fear and anxiety about dentistry or the child's previous bad experience. *Results:* Parents were asked the reason for choosing REU. Majority of them agreed that it's cost effective to get treatment at REU. Parents informed that Main reason for dental treatment under GA is Dental fear (48.5%), followed by general health or psychological issues (16.8%), and followed by past negative experiences (11.9%). *Conclusion:* GA has a very positive impact on parental emotions, activity and conflict. Nonetheless further long term studies are required to assess the definitive outcome.

Medical Science, 2020, 24(106), 4808-4812

To assess the rationale of cancellation of surgical patients for elective surgery and length of hospital stay at Jimma University Medical Centre, Oromia Region, Ethiopia

Vinod V Bagilkar, Dheeraj Lamba, Markos Mehertab

Background: Cancellation of elective surgical operations was recognized as a major cause of emotional trauma to patients as well as their families. It is a significant problem in many hospitals and it may lead to dissatisfaction of patients, increased costs and prolonged patient stay in hospital. It also reflects inefficiency in the management of the operating theater. *Objective:* To analyze the frequency, causes and trend of cancellation of elective surgery operations in our environment and to identify the appropriate solutions for better patient management. *Methods:* A prospective which was conducted at Jimma university medical centre from April to June; 2019. Data was gathered, analyzed and interpreted using SPSS version 20.0 software. *Result:* During the period under study, a total of 454 patients were scheduled to undergo elective surgical procedures, off these, 362 patients were operated on while the remaining 92 patients' procedures were cancelled on the day of surgery for various reasons. *Conclusion:* The incidence of cancellation of elective surgical procedures on the scheduled day of surgery is still high in our hospital. Most of the causes of the cancellations are potentially preventable and the vast majority of them are hospital related. Insufficient theater time and unavailability of blood were the most frequent reasons for cancellation of these elective surgical procedures.

Medical Science, 2020, 24(106), 4813-4820

Assessment of liver functions in occupationally exposed subjects working in lead acid battery factory in Nnewi

Okpogba Aloysius Ngozyka, Ogbodo Emmanuel Chukwuemeka, Agada Uchenna Nelson, Nkama Venite Isioma, Akabuogu Roseline Kwenyerechi, Amah Akuma Kalu, Okwara Nuratu Adejumo, Odumodu Ifeakandu Onyedikachukwu

Lead (Pb) is an important environmental pollutant causing significant public health problems in many parts of the world and may be implicated in the pathology of the liver. This study was designed for the assessment of liver functions in lead acid battery factory workers occupationally exposed to hazardous effects of lead in their workplace in Nnewi. A total of 78 apparently healthy individuals aged between 18 and 56 years were recruited for the study. Thereafter, 6ml of venous blood sample was collected from each individual into plain container for the evaluation of biochemical indices. Total protein (TP), Albumin (ALB), Total bilirubin (TB), direct bilirubin (DB), Aspartate aminotransferase (AST), Alanine aminotransferase (ALT) and Alkaline phosphatase activity (ALP) were assayed using established standard laboratory methods. Results revealed no significant alterations in the levels of serum ALB, TP, DB, AST and ALT ($p > 0.05$) with significantly reduced levels of TB and ALP activity among the lead acid battery factory workers ($P < 0.05$) than in control subjects which suggest no underlying liver pathology as a result of occupational exposure.

Medical Science, 2020, 24(106), 4821-4829