

HPC Abstract Booklet

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عمادة شؤون الطلاب
Deanship of Students Affairs

Content:

Oral Presentation

Poster Presentation



Oral Presentation





Study Field: Cardiology / pediatric

Study Design: Systematic review

Multiple Pterygium Syndrome (MPS): systematic review of lethal and nonlethal types, clinical characteristics, and outcomes.

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Background

The presence of joint contractures and skin webbing distinguishes the multiple pterygium syndrome (MPS). Fetal ultrasonography is frequently used to make the diagnosis of MPS, which is then confirmed later during the neonatal period. Traditional classifications of MPS include lethal and nonlethal which is the less severe form. In this study we aim to establish a possible clinical diagnostic approach for the different MPS types by performing comprehensive literature review and analysis to summarize the clinical characteristics and the associated anomalies with each type.

Methods

The study was based on an extended literature search conducted in Web of Science, PubMed, Medline, and Scopus from database inception to February 30, 2022. Inclusion criteria were all published scientific papers that describes the clinical characteristics of MPS and written in English.

Results

We investigated the reported clinical data for 78 patients diagnosed with MPS. The results of this study showed that the most reported type is nonlethal (ES), and males are the most frequently affected gender. Also, we found that the most prevalent anomalies associated with MPS were feet/toes (65.4%, n=51), knees (56.4%, n=44), fingers (62.8%, n=49), neck (51.3%, n=40) and elbow (44.9%, n=35). We found a statistically significant difference favoring having feet/toes and vertebrae anomalies with non-lethal MPS type (ES) (p-value = 0.027). While having elbow anomalies were statistically significant for lethal MPS type (p-value = 0.017). No statistically significant difference was found for other upper, lower, and head, neck and trunk anomalies. We found a a low negative insignificant correlation between cardiac anomalies and lethal and nonlethal MPS with ($r = -.176$, $P = 0.122$).

Conclusion

This is the first systematic review provides valuable information about different MPS types, including clinical features, outcomes, joint and extra joint involvement, and cardiac involvement. Joint contractures, multiple pterygia, and facial dysmorphism are phenotypes of MPS. However, the phenotype is significantly variable between patients. This article suggests possible association between specific joint involvement and lethal or nonlethal MPS which could give a clue for diagnosis. Future research should endeavor to identify more precise diagnostic criteria that differentiate between the MPS types.





Study Field: clinical pharmacy

Study Design: A multicenter cohort study

Comparison of anticoagulation treatment dose versus prophylaxis in critically ill patients with new-onset atrial fibrillation: A multicenter cohort study

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Background

The rate of thrombosis was reported to be higher in COVID19 compared with non-COVID19 critically ill patients. New-onset atrial fibrillation (Afib) in critically ill patients with COVID-19 is associated with worse patients outcomes. The ideal care in this clinical context is still poorly understood, and the available evidence about the role of using treatment doses of anticoagulation in new onset-Afib has been questioned. Therefore, our study aimed to evaluate the effectiveness and safety of anticoagulation treatment doses in COVID19 critically ill patients who developed new-onset Afib. during ICU stay.

Methods

A multicenter, retrospective cohort study includes critically ill adult patients with COVID-19 admitted to the intensive care units (ICUs) from March 01, 2020, until July 31, 2021. Patients who developed new-onset Afib. were categorized into two groups based on receiving anticoagulation dose (prophylaxis vs. treatment dose). The primary outcome was major and minor bleeding during the ICU stay. Other outcomes of interest include blood products transfusion requirement, RBCs transfusion, thrombosis, mortality, length of stay (LOS), and ventilator-free days (VFDs) at 30 days. Propensity score (PS) matching was used based on predefined criteria. Logistic, linear and Cox proportional hazards regression analysis were used as appropriate.

Results

A total of 1592 patients were screened, 107 included based on the eligibility criteria. After PS matching (1:1 ratio), 56 patients were included in the final analysis. Major and minor bleeding were higher in the patients who received treatment doses of anticoagulation; however, it did not reach the statistically significant (OR 1.41; 95% CI 0.28, 7.03; $P=0.68$ and OR 2.27; 95% CI 0.19, 26.9; $P=0.52$, respectively). In addition, patients in the treatment group had a statistically significant higher requirement of blood product and RBCs transfusion than patients who received prophylaxis dose (OR 4.54; 95% CI 1.22, 16.7, $P=0.02$ and beta coefficient 1.28; 95% CI 0.08, 2.49; $P<0.04$, respectively). In contrast, the two groups showed similar thrombosis events, VFDs, ICU/hospital LOS, and mortality.

Conclusion

The use of treatment dose anticoagulation in new-onset Afib was not associated with superior outcomes, but its use was associated with a higher requirement of blood product and RBCs transfusion compared with prophylaxis dose anticoagulation. Further randomized interventional studies with a larger sample size are required to confirm our findings.





Study Field: Dermatology

Study Design: Systematic Review and Meta-analysis

Effectiveness of Micro-needling Combined with Tacrolimus versus Tacrolimus Monotherapy for Vitiligo Treatment: A Systematic Review and Meta-analysis

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Background

Vitiligo is a common disfiguring autoimmune disease that negatively impacts patients' quality of life. Tacrolimus is one of the topical immunomodulator medications that has been used successfully in treating vitiligo; however, based on recent studies, combination of topical tacrolimus with micro-needling suggests improved technique for drug delivery through stratum corneum. Herein, the aim of this systematic review was to compare the effectiveness of micro-needling combined with Tacrolimus versus Tacrolimus monotherapy in treating vitiligo.

Methods

We searched Medline, Embase, and CENTRAL. We included randomized controlled trials (RCTs) that compared micro-needling combined with Tacrolimus versus Tacrolimus monotherapy for treating individuals diagnosed with vitiligo. We sought to evaluate the effectiveness of this intervention based on re-pigmentation percentage on a scale that ranges from G0 to G4 and the number of positive stained cells in histopathological evaluation. The odds ratio (OR) was used to represent the dichotomous outcomes.

Results

A total of 3 RCTs that enrolled 158 participants were deemed eligible. Administration of micro-needling combined with tacrolimus showed a significant re-pigmentation in the vitiligo sites ranged from excellent to very good response compared to applying tacrolimus ointment as monotherapy (OR= 3.48, 95% CI: 1.24 to 9.77). Similarly, micro-needling combined with Tacrolimus has significantly increase the positive melanoblasts in histopathological assessment (OR= 3.92, 95% CI: 1.73 to 8.89).

Conclusion

This meta-analysis demonstrated that even though micro-needling combined with Tacrolimus is an innovative approach, it could be a promising modality as it showed a clinically and statistically substantial improvement in re-pigmentation of vitiligo sites both on clinical scales and histopathological assessment.





Study Field: Emergency medicine

Study Design: Cross-sectional Study

Communication Challenges While Dealing With a Deaf Patient in the Emergency Department and Suggested Solutions

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Background

In the emergency department (ED), dealing with deaf patients presents unique difficulties and obstacles. There is insufficient time to arrange for an interpreter. While the voice of the deaf patient was the focus of earlier studies, in this study, we are interested in learning about ED physicians' difficulties and expertise. In addition, we aim to determine which approaches they suggest to address these issues.

Methods

A cross-sectional analysis was conducted among 166 emergency physicians working in pediatric and adult departments. The data were collected from physicians working in different centers in Riyadh city from January 2022 to March 2022. The data analysis was performed using SPSS version 23 (IBM Corp., Armonk, NY, USA).

Results

In their department policy and procedures, 74.1% of participants claimed no policy or procedure for dealing with deaf patients. The majority of available communication methods were family interpreters (63.9%) and writing on paper (16.9%). Overall, 88% of respondents did not attend any training on dealing with deaf patients, despite the fact that 83.7% thought such training should be available. Furthermore, 90.4% of the participants did not know sign language. Concerning information about the Saudi Association for Hearing Impairment Services, 74.1% were unaware of such services. Concerning modern applications on smartphones, 97.6% were unaware of any existing communication app that could aid in communication with deaf patients.

Conclusion

In this study, we identified a significant deficiency in the knowledge and skills required to communicate with deaf patients. Hence, we recommend mandating education for physicians and requiring each institution to have an interpreter available 24 hours a day, either in person or via high-quality remote video.





Study Field: Nano-Medicine

Study Design: In-Vitro

Developing an Oral Au/Mesoporous Silica/ Polymer Drug Delivery System for Potential Treatment of Diabetes

Abdullah Aljami , Ali Alkhalaf , Dana Almohazey , Rabindran Jermy

Background

Diabetes is a widespread metabolic disease that is turning into global epidemic. The traditional management of using insulin injections and oral hypoglycaemic agents are effective but has its own drawbacks. Poor oral bioavailability and painful injections of insulin required a new developed method of drug delivery system to ease the process on patients . Nano therapy offers new hope for diabetic management in the form of “Artificial Pancreas”.

Methods

Three forms of mesoporous nano-particles with large surface area and pore sizes (Zeolite, Spherical, and Foam) were loaded with 2wt% Au using wet impregnation technique. The final treatment of samples include drying at 110° C, and calcination in furnace at 350° C for 5 h. The efficiency of large protein molecule insulin and small molecule metformin drug adsorption was performed on Au loaded aluminosilicate. The drug or protein to nanocarrier ratios was varied between 0.125, 0.25, 0.5, 0.75, and 1. The effect of drug release was studied using dialysis membrane technique at normal physiological pH of 7.4 . The samples were collected at regular intervals and replaced with fresh PBS solution-visible spectrophotometry was used to examine the extent of protein or drug absorption and release.

Results

Results and discussion: Au in the form of cubic phase on impregnated aluminosilicate was confirmed using XRD and DRS-UV visible spectroscopy. The surface area of Au/ZM1500 based nanoformulations was highest ranging between 345-446 m²/g. The pore volume and pore size of aluminosilicate foam was highest than hierarchical sample. In the adsorption study, small molecule metformin showed highest drug encapsulation and loading capacity (94-99%) than large insulin protein molecules (88-90%) . The drug release study replicates similar trends with respect to metformin and insulin.

Conclusion

Conclusion: In the present study, an effective Au loaded aluminosilicate nano formulation was developed. High percentage of metformin and insulin were able to entrap in mesoporous surface and pore size of aluminosilicate for controlled drug release. The study showed a promising result in the development of an oral drug delivery system for the treatment of diabetes.





Study Field: Medicine

Study Design: Mixed Methods

Saudi Women in Neurological Surgery: Insights into Progress & Inclusion

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Background

Forty years ago, the first neurosurgery department was established in the Kingdom of Saudi Arabia, and almost a century has passed since the establishment of the field of neurological surgery. We looked back on how those comparatively short years have impacted cultural norms, surgical training opportunities and clinical practice.

Methods

A mixed-method, qualitative study was conducted to explore various evidence on progress and inclusion of Saudi women pioneers in Neurosurgical workforce in the Kingdom of Saudi Arabia. Where data collection process was undergone through four different means. Mainly, a historical vignette, where data on inclusion of women in neurological surgery were retrieved from an open-resource online documentations of the Ministry of Health (MOH), direct communication with Saudi Commission for Health Specialties (SCFHS) administrative services, and regional neurosurgery program directors. Four active registered consultants were either interviewed live and/or through offline communications. Finally, a mini survey to confirm that the data on active neurosurgery trainees are up to date. Data regarding the current number of board-certified, active women neurosurgeons in either governmental or private sectors, along with the number of the current neurosurgery postgraduate residency program trainees were obtained from the registered database of the (SCFHS). An email was sent to the major regional program directors in Saudi Arabia to confirm the accuracy of retrieved data. Two out of three, answered the mini survey (7-question) on the inclusion of women in neurological surgery training programs.

Results

Since 2002, eighteen women (29%) have graduated from the Saudi Neurosurgical Residency Training Program (SNRTP), whereas (71%) of the graduates were their male colleagues. The SNRTP is now training over 34 females (30%) who are progressing in their neurosurgical training across the country. The first Saudi woman pursuing neurosurgery was Dr. Samia Abdel-Rahim Maimani, whereas the first woman to pass the Saudi Neurosurgery Board is Dr. Aisha Al-Hajjaj in 2002. In 2021, Board-Certified women in Saudi neurosurgery represented approximately 3% of all practicing neurosurgeons in the Kingdom.

Conclusion

This research aimed to highlight the progress and inclusion of Saudi women pursuing a largely male-dominated field in the young Kingdom. Here is the link for figures: https://ksauhsedu-my.sharepoint.com/:w:/g/personal/alsuwilem198_ksau-hs_edu_sa/ERoOd-82VONJpW9ijcurm2QBJg6Q_VeJgwMq7XRTO3m9Wg?e=WfhRDZ





Study Field: (Oculoplastic Surgery) Ophthalmology - Plastic Surgery

Study Design: Retrospective Cohort

Cosmetic Outcomes of Epicanthoplasty for Epicanthus Tarsalis

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Background

Epicanthus is a term that refers to the semilunar eyelid skin fold over the medial aspect covering the medial canthal angle. Epicanthus tarsalis is the most common type and is most evident in Asian population with a prevalence of 40% as opposed to 2-5% in non-Asian population. Epicanthoplasty has not been studied in patients of a population of heavier skin pigmentation

Methods

A retrospective review of patients that underwent Park's modified Z-Epicanthoplasty from January 2018 to August 2020. They were categorized based on their Fitzpatrick skin type. Their pre-operative and post-operative pictures were analyzed for epicanthal fold correction with focus on scar visibility, pigmentation and elevation. The patients were contacted over the phone for a questionnaire about their subjective scar assessment and satisfaction rate.

Results

A total of 35 patients with mild epicanthus tarsalis were included in this study. 22 patients had Fitzpatrick skin type 3, 7 patients had type 4 and 6 had type 5. Normal post-operative scar pigmentation was reported 37.1% (n=13) patients. Scar hypopigmentation was reported in 28.6% (n=10) and scar hyperpigmentation was reported in 34.3% (n=12). The final cosmetic satisfaction rate score was a median of 9/10 on the 1-10 scale with 40% recording 10/10 satisfaction. On the scar visibility scale the median was 3/10. 82.9% (n=29) had no scar elevation or hypertrophy. Only one patient had scar hypertrophy and elevation and 3 patients had a vertical depression scar. No clinical or statistical significance was found when correlating scar visibility and pigmentation with Fitzpatrick skin type.

Conclusion

Epicanthoplasty is a commonly performed surgery specially in China and South Korea. In our population, Z-Epicanthoplasty has proven to be effective in epicanthus tarsalis with high cosmetic satisfaction rate, low scar visibility and acceptable scar pigmentation.





Study Field: Orthopidics oncology

Study Design: retrospective Study

What is The Influence of Negative Pressure Wound Therapy on High-Risk Wounds in Pelvic Oncology?

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Background

Hindquarter amputation (HQA) has a high incidence of postoperative wound complications. We aim to use the HQA procedure as a model to investigate the potential advantages of negative pressure wound therapy (NPWT) on wound healing complications in high-risk pelvic wounds.

Methods

We conducted a retrospective analysis of all patients undergoing hindquarter amputation between January 2009 and November 2020 at a single tertiary centre. 106 patients underwent hindquarter amputation for sarcoma. 43.4% (46 patients) had NPWT therapy following HQA. We compared the incidence of wound complication necessitating a return to the operating theatre, and total incidence of wound infection (according to CDC Surgical site infection guideline) and local recurrence between those who received NPWT and those without NPWT.

Results

106 patients were included in the study with a mean age of 52.3 (9-83) years. 43.4% (46 patients) had NPWT. There was no difference in the incidence of wound complications requiring a reoperation between the group who received NPWT and did not have radiotherapy compared to the group with conventional dressings (odds ratio [OR], 1.01; $p=0.983$, 95% confidence interval [CI], 0.365-2.8). However, the use of NPWT decreases the incidence of reoperation among the patients who had NPWT who had received radiotherapy [OR], 0.087; $p=0.033$, 95% CI, 0.009-0.818). The incidence of wound infection has declined with the increasing use of NPWT between 2009-2020. There was no difference in the incidence of local recurrence after two years between patient groups with and without NPWT.

Conclusion

The application of NPWT reduces the incidence of wound complications in high-risk pelvic oncology wounds. We demonstrated a reduction in the incidence of reoperation due to wound complications in patients who received NPWT following HQA.





Study Field: Hospital

Study Design: Case-Control

The Relationship between Pulmonary Embolism and Prone Position among COVID-19 Patients in King Abdulaziz Medical City.

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Background

Background: Corona virus disease 19 (COVID-19) is a disease caused by SARS-CoV-2 virus, where is the majority of infected individuals will have mild respiratory symptoms. Prone position is used to correct ventilation-perfusion mismatch by increasing the flow of air and blood to the dorsal region of the lung lifting the weight of the heart and abdominal compartments. Patients with COVID-19 are at high risk of developing pulmonary embolism (PE), which can result in one-third of severely ill COVID-19 patients who need intensive care units (ICUs) admission

Methods

Method: 383 patients in adult critical care units enrolled to the study and were divided to control group and prone position group. CT angiography, D dimer tests, total hours of prone positioning and mortality data was collected for both groups. Non probability convenience sampling was used to select the samples. Pearson Chi square test and Fisher Exact test was used for analysis of data with significance level at 5%.

Results

Results: A total of 383 patients enrolled to this study, 290 (75.7%) were male and 93 (24.3%) were female. 150 (43.4%) did prone position comparing to 195 (56.5%) did not do prone position. The median (IQR) in years, total hours of prone position and length of stay in ICU (in days) were 56(45,63), 20.5(8.5, 48) and 9(4, 17), respectively. Out of 150 samples with prone position only 12 (8%) had Pulmonary Embolism of which 11 (91.7%) were alive and was statistically significant with p value 0.020. Whereas in the non prone position (control) group the mortality rate was 16.7% which was higher as compared to those in prone position $P=0.236$ (Table 1). Moreover, 95 (97.9) patients tested positive on the final D-dimer test acquired were expired (Statistically significant, $p=0.001$) comparing to the first D-dimer result which found to be not conclusive ($p=0.142$). Relation of total hours of prone position with either incidence of PE or mortality were not statistically significant ($p=0.732$, $p=0.200$, respectively).

Conclusion

Conclusion: in summary, there is a significant relationship between prone position and pulmonary embolism. Mortality rate between patients in prone position group who were diagnosed with PE was 8.3% comparing to 16.7% in non prone group. The extra precaution during COVID pandemic prevented the possibility of testing patients for CT angiography which we believe that it is considered as a limitation of this study.





Study Field: Education

Study Design: Systematic review

Management of Root Perforation- A systematic review

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Background

Root canal perforation is defined as an opening in the tooth's root that occurs either accidentally during endodontic therapy or due to unobvious causes, which in general both of them end up with complications to the patient because of the passage of microorganism to the surrounding tissue. Complications from root perforation may necessitate the extraction of the affected tooth. According to research about the reasons for the extraction of endodontically treated teeth, 4.2 percent were extracted due to iatrogenic perforations and stripping. The use of more recent materials and techniques in endodontic practice allows the dentist to attempt a greater conservative approach to perforation repair with promising results. The purpose of this study is to review and analyze the available literatures of management of the root perforation

Methods

It is a review study where articles were analyzed using a critique checklist of literature review. 26 articles were chosen and had been studied and reviewed, through exclusion and inclusion criteria. The study's ethical approval was obtained from the Ethical Review Committee of REU. We included articles that published between 1994 - 2021, articles published in English, and articles conducted in patients with root perforation. We excluded articles published in languages other than English, unpolished articles, and articles published prior to 1994.

Results

Perforation could be happened due to caries, external and internal resorption, trauma as well as iatrogenic causes . A lot of studies suggested that perforation can be identified by radiographs, unexpected bleeding and pain during instrumentation, a blood on paper points, electronic apex locator and dental operating microscope. Several materials have been used in endodontic perforation repair starting from oldest one which is indium foil and ending to the MTA and bioceramic materials. All these materials must have qualified properties. The techniques applied to repair endodontic perforations depend on condition of perforation. For example, orthograde approach used immediately after the perforation occurs, orthodontic extrusion used in single-rooted tooth, internal matrix for large multi-rooted tooth, intentional replantation when orthograde or surgical approaches cannot be used and perforation is large, and finally surgical approach when bone resorption or failure healing of previous treated tooth happened. A lot of studies showed that the prognosis of the perforated root varies depending on many factors. These include time elapsed after perforation, location and size of the perforation, the material used for the repair as well as systemic factors.

Conclusion

Management of root perforation should be decided on the above discussed factors. Therefore, the clinician should have thorough knowledge about the tooth anatomy to avoid the chances of perforation, the clinical management and prognosis have been improved with the newer materials and techniques for sealing which have become available.





Study Field: Clinical practice

Study Design: Pre and post prospective cohort study

The Impact of Fasting the Holy Month of Ramadan on Colorectal Cancer Patients and Two Tumor Biomarkers: A Tertiary-Care Hospital Experience.

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Background

Fasting during the holy month of Ramadan is a religious ritual practiced by the majority of Muslims around the globe. This daytime fasting is short-term or intermittent fasting, which may be associated with valuable health benefits, particularly in cancer patients.

Methods

A prospective cohort study of pre and post fasting evaluation of 37 colorectal cancer (CRC) patients was conducted in the oncology outpatient clinics at King Abdullah Specialized Children Hospital (KASCH).

Results

A total of patients (89.2%) had fasted at least part of the month of Ramada, including 73% reported "Serenity" after fasting during Ramadan with improved tolerability of chemotherapy side effects. The results did not reveal any significant difference in the measured laboratory variables between pre-fasting values and by the end of the 30 days of Ramadan. Although statistically insignificant, the levels of the carcinoembryonic antigen (CEA) and lactate dehydrogenase (LDH) were reduced in 46.9% and 55.6% of patients, respectively. The mean level of CEA in the fasting group was substantially reduced by more than 40%, attributed to the highly significant decline of CEA levels in three patients only ($p=0.0283$).

Conclusion

The current study confirms the safety and tolerability of intermittent fasting in CRC patients actively receiving chemotherapy, which is consistent with several reports. Nonetheless, the results did not reveal a significant decrease in CEA and LDH tumor biomarkers.





Study Field: Emergency Medicine, Pediatrics and Therapeutics

Study Design: Chart Review

The Outcome of Immediate Administration of Dexamethasone in Children With Croup (Laryngotracheobronchitis) in King Abdullah Specialized Children's Hospital

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Background

Croup is an inflammatory disease that affects the upper respiratory tract involving the upper airways of the lungs (bronchial tubes), vocal cords (larynx), and windpipe (trachea). In Canada, it is considered one of the major causes of respiratory diseases in the first 10 years of life. A wide range of viruses like common cold and flu (influenza) infections can cause croup (laryngotracheobronchitis). Dexamethasone has been commonly used to treat croup even though it lacks evidence on patients' recovery. The study aimed to compare the effect of the immediate or late dexamethasone administration on patient recovery and identify predictors for relapse among children with croup.

Methods

A retrospective cross-sectional study was conducted using the electronic medical record (Best Care) of all croup patients between 2014 and 2018 in King Abdullah Specialized Children's Hospital (KASCH), in Riyadh, Saudi Arabia. Out of the 329, only 186 patients matched our inclusion criteria. Statistical analysis was conducted with the SPSS V.22 software package (IBM Corp., Armonk, NY). The main outcome variable was early recovery or relapse. The chi-square test and logistic regression were used to assess the relationship between the independent variables with recovery or relapse among croup patients. A p-value of <0.05 was used to determine the significance of the test.

Results

Fifty-three recovered out of the 186 patients. Moreover, 50 of the recovered patients were treated in the ER. In addition, out of the 53 patients who recovered, 40 patients were treated as inpatients (IPs). Those who were given dexamethasone immediately for both recovery and relapsed groups were 29% and 71%, respectively while those who were given dexamethasone late were 34% for the recovery group. On the other hand, 119 patients relapsed. Out of those patients who relapsed, 111 were treated in the ER. Moreover, out of relapsed patients, 79 patients were treated as IPs. Furthermore, out of 186 patients, 86 had chronic illnesses. Twenty-four percent (24%) of those with chronic illnesses recovered, and 76% relapsed ($P\text{-value}=0.04$). Also, there was a significantly higher trend of administration of dexamethasone immediately in the ER in 69% of children with a $p\text{-value}<0.001$.

Conclusion

In conclusion, the difference between the early and late administration of dexamethasone in both recovery and relapse is not significant. Also, the presence of chronic illnesses affects relapses more significantly.





Study Field: Hematology

Study Design: Metaanalysis

An Updated Systematic Review and Meta-Analysis of The Safety and Efficacy of Factor Xa Inhibitors Versus Low Molecular Weight Heparin Therapy for Treatment of Cancer Associated Venous Thromboembolism

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Background

Greater bleeding risk involved with Factor Xa inhibitors than with low molecular weight heparin (LMWH) has now been established and this raises concerns for patients with cancer associated venous thromboembolism (CA-VTE). **Aim:** We pooled data from all relevant studies reporting results for recurrent VTE, bleeding and mortality related to bleeding in CA-VTE patients undergoing treatment with Factor Xa inhibitors versus LMWH.

Methods

PubMed and Scopus databases were queried from inception through the last week of March, 2022 for all RCT and non-randomized studies comparing the efficacy of factor Xa inhibitors versus LMWH in patients with CA-VTE.

Results

Fourteen non-randomized studies and six RCTs were included in our analysis. The total participants were 17,781. Our pooled analysis demonstrated that in non-randomized studies, Factor Xa inhibitors, compared to LMWH, had a significantly lower risk of recurrence of VTE ($p=0.00001$; $I^2=0\%$) and a significantly higher risk of overall bleeding ($p=0.01$; $I^2=59\%$). In RCTs, Factor Xa inhibitors, compared to LMWH, had a significantly lower risk of recurrence of VTE ($p=0.002$; $I^2=3\%$) and a significantly higher risk bleeding ($p=0.04$; $I^2=37\%$).

Conclusion

Our results show that in the context of CA-VTE, Factor Xa inhibitor therapy is an effective alternative to LMWH.





Study Field: Nephrology, Department of Medicine

Study Design: retrospective cohort study

Incidence and Outcome of Acute Kidney Injury in Patients Hospitalized With Coronavirus Disease-19 at a Tertiary Care Medical Center in Saudi Arabia

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Background

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was first reported in Wuhan, China in late 2019. The virus rapidly spread to cause one of the largest pandemics in over a century. The virus has caused global travel disruptions and large-scale economic losses, in addition to huge loss of lives and overwhelmed healthcare services in developing as well as developed countries. The virus predominantly involved the respiratory system but reports of proteinuria, hematuria, and acute kidney injury (AKI) by the virus began to emerge early on. A wide range of pathophysiological mechanisms of renal involvement in COVID-19 have been described. In the Kingdom of Saudi Arabia, the first case of COVID-19 was reported on 02 March 2020. As the number and severity of patients affected with the disease increased, an increase in cases with AKI was also observed.

Methods

A retrospective cohort study was conducted after ethical approval from the institutional review board of King Abdullah International Medical Research Center (KAIMRC). Subjects were identified by Data Management Office of KAIMRC. The data were extracted from electronic medical records using a customized data collection sheet. The study included all adult patients (>18 years) who tested positive for COVID-19 by polymerase chain reaction and were admitted at KAMC from March 2020 until the end of September 2020. Patients with a history of end-stage kidney diseases and patients where adequate data were not available to establish diagnosis of AKI were excluded. Patient demographics, comorbid conditions, medications, use of mechanical ventilation, and 30-day mortality were recorded.

Results

During the study period (01 March 2020 to 30 September 2020) 1293 patients were hospitalized at KAMC with the diagnosis of COVID-19. After excluding the patients who met the exclusion criteria, data were collected for 1025 patients [male 582 (56.8%); female 443 (43.2%)]. On univariate analysis, increasing age, male gender, use of angiotensin-converting enzyme inhibitors, angiotensin receptor blockers, diuretics, and vasopressors, presence of chronic kidney disease, coronary artery disease, chronic obstructive pulmonary disease, dyslipidemia, diabetes mellitus, heart failure, and hypertension, kidney transplant status, and mechanical ventilation were associated with development of AKI. On multivariate logistic regression analysis, independent predictors of AKI were restricted to increasing age, presence of chronic kidney disease, hypertension, kidney transplant status, use of vasopressors, and mechanical ventilation. For patients who developed AKI, 30-day mortality was 40.7% compared to 3.7% for those who did not develop AKI ($p<0.001$).

Conclusion

For hospitalized patients with COVID-19, we observed an incidence of AKI of 36%. Increasing age, presence of chronic kidney disease and hypertension, kidney transplant status, use of vasopressors, and mechanical ventilation were independently associated with development of AKI. Presence of AKI was associated with higher 30-day mortality (40.7% vs 3.7%).





Study Field: Pediatric cardiac intensive care

Study Design: Chart Review, Quantitative Research

Incidence, Risk Factors and Outcomes of Acute Kidney Injury in Neonatal Open-heart Surgeries in a Tertiary Hospital in Riyadh, Saudi Arabia

Faisal Ahmed Alghamdi, Omar Moahmed Kabbani, Mohammed Ali Bin Mahfooz, Nasser Saad AlShaiban, Hatem Fahad AlMutairi, Khaled Eid Alotaibi

Background

Incidence and outcomes of acute kidney injury (AKI) among neonates who underwent open-heart surgery are poorly highlighted in literature. We aim to assess the incidence, risk factors, and outcome of AKI among neonate undergoing open-heart surgery.

Methods

This is a retrospective cross-sectional study between 2016 and 2021 for all neonates requiring open heart surgery. Cases were divided into 2 groups: AKI (index) group and non-AKI (control) group. The 2 groups were statistically compared for risk factors, needs for dialysis and outcome.

Results

100 patients fulfilled inclusion criteria. Among them 74 (74%) developed AKI including 46 (62%), 19 (26%), and 9 (12%) patients in KDIGO stage 1, 2 and 3, respectively. Multivariate analysis comparing both groups demonstrated that high pre-operative creatinine ($p = 0.01$), prolong bypass time ($p = 0.0004$) and high inotropic score ($p = 0.0008$) were risk factors for developing AKI post-operatively. 17 (23%) required renal replacement therapy in form of peritoneal dialysis. Length of stay was higher in AKI index group ($p = 0.015$).

Conclusion

The AKI occurred in 74% of neonates undergoing open-heart surgery with 23%, need for peritoneal dialysis. High pre-operative creatinine, the need of high inotropic support (VIS), and prolong bypass time are potential risk factors for AKI development in neonatal open-heart surgery. AKI may lead to prolong hospitalization, though majority of neonates recovered their normal kidney function at discharge





Study Field: Clinical Pharmacy

Study Design: Cohort Study

Doxycycline Potential Roles in Reducing Thrombosis and Mortality in Critically Ill Patients with COVID-19: A Multicenter Cohort Study

O. Aljuhani, G. Korayem, L. Alnajjar, A. Altebainawi, M. AlFaifi, R. Vishwakarma, A. Alenazi, M. Alalawi, A. Alissa, Y. Alsowaida, S. Alsohimi, A. Almagthali, S. Alay, N. Altaher, M. Alamri, A. Alzahrani, H. Abdul Razack, J. Alhamoud, A. Alshaya, J. Gramish, K. AlAamer, A. Alsaeedi, G. Alghamdi

Background

Developing therapeutic agents against coronavirus disease 2019 (COVID-19) has been a top priority. Doxycycline has revealed potential effects in animal studies to prevent thrombosis and reduce mortality. However, less is known about its antithrombotic role in patients with COVID-19. Our study aimed to evaluate doxycycline's clinical outcomes in critically ill patients with COVID-19.

Methods

A multicenter retrospective cohort study was conducted between March 1, 2020, and July 31, 2021. Patients who received doxycycline in intensive care units (ICUs) were compared against patients who did not (controls). The primary outcome was composite thrombotic events. The secondary outcomes were 30-day and in-hospital mortality, length of stay, ventilator-free days (VFDs), and complications during ICU stay. Propensity score (PS) matching was used based on the selected criteria. Logistic, negative binomial, and Cox proportional hazards regression analyses were used as appropriate.

Results

A total of 1302 patients met the inclusion criteria (doxycycline, 203; control, 1099). After PS (1:3) matching, 664 patients (doxycycline, 166; control, 498) were included. Thromboembolic events were lower in the doxycycline group (OR: 0.54; 95% CI: 0.26-1.08; $p=0.08$); however, it failed to reach statistical significance. Moreover, D-dimer levels and 30-day mortality were lower during ICU stay in doxycycline group [beta coefficient (95% CI): -0.22 (-0.46, 0.03; $p=0.08$); HR: 0.73; 95% CI: 0.52-1.00; $p=0.05$, respectively]. In addition, patients who received doxycycline had significantly lower odds of bacterial/fungal pneumonia (OR: 0.65; 95% CI: 0.44-0.94; $p=0.02$).

Conclusion

Doxycycline use as adjunctive therapy in critically ill patients with COVID-19 was associated with lower odds of thrombosis and pneumonia (bacterial/fungal). Moreover, doxycycline use showed a survival benefit. Additional studies are needed to elaborate on doxycycline potential effects in reducing thrombosis and mortality in patients with COVID-19.





Study Field: Clinical Field

Study Design: two-center retrospective cross-sectional study

The prevalence of cardiorenal diseases in type 2 diabetes mellitus patients in Saudi Arabia and the implementation of new guidelines directed therapies: a two-center retrospective cross-sectional study

Munirah Alghwainm, Omar Alshaya, Ghazwa Korayem, Wed Alyami, Albandari Alotaibi, Majed Alyami, Omar Almohammed

Background

Atherosclerotic cardiovascular disease (ASCVD), heart failure (HF), chronic kidney disease (CKD), and obesity are associated with increased morbidity and mortality in patients with type 2 diabetes mellitus (T2DM), and their prevalence is unknown in Saudi Arabia (SA). Presence of these comorbidities require the addition of antidiabetic agents with cardiorenal benefits as recommended by guidelines, however the prescriber's adherence remains unclear.

Methods

This is a multicenter retrospective cross-sectional study including adult patients with T2DM admitted to hospital or seen at outpatient clinics between January and December 2020. Patients were classified into two groups based on the presence of ASCVD. Patients with no prior ASCVD history were further classified based on the 10-year ASCVD risk estimation. Endpoints included the prevalence of ASCVD, HF, CKD, and obesity in patients with T2DM. We also evaluated the characteristics of the utilized antidiabetic agents.

Results

For the 1,217 patients with T2DM, the majority were female (57.0%) and aged 45-64 years (53%), with 19.3% having an established ASCVD with a mean age of 65.2 ± 11.6 years. The prevalence of HF, CKD, and obesity was 5.1%, 8.7%, and 58.3%, respectively. The most common types of ASCVD were revascularization (40.9%), myocardial infarction (35.3%), and stroke (32.3%), with increased prevalence of ASCVD as the age increases (52.8% at age ≥ 65 years). For the non-ASCVD group, the 10-year ASCVD risk was high in 30.6% of the patients. Hypertension and dyslipidemia were the most prevalent comorbidities (67.6% and 69.1%, respectively). The rates of utilization of guidelines directed therapies were 83.6% with metformin, 9.4% with GLP-1 RA, 10.8% with SGLT2i, 41% with aspirin alone or in combination with clopidogrel, and 79.7% with statin therapy.

Conclusion

The prevalence of ASCVD, HF, CKD, and obesity in patients with T2DM in SA was high, with low overall utilization of the recommended guidelines-directed medical therapies.





Study Field: Ear, Nose, and Throat

Study Design: Cross-sectional

Investigation on the Factors Associated with the Persistence of Anosmia and Ageusia in Saudi COVID-19 Patients

Nasser Alsywina, Saad Algahtani, Abdullah Alzaroug, Hatan Alghamdi, Haif Algahtani, Khalid bin Abdulrahman.

Background

Relation between demographic factors and the persistence and duration of Anosmia and ageusia in Saudi COVID-19 patients.

Methods

a retrospective cross-sectional design. Eight hundred and eighty-one participants were recruited between March and April 2021. Those participants were 18 years or older, recovered from the COVID-19 infection, and completed 14 days after the onset of the acute phase of the disease. Among the 881 recruited participants, 808 have submitted eligible responses and were included in data analyses.

Results

The most common persistent symptoms in post-acute COVID-19 syndrome were anosmia (33.8%) and ageusia (26.4%). The data also showed a significant association between female sex and the incidence and the persistence of anosmia and ageusia. In multivariable analysis, anosmia during the acute phase was associated with BMI, asthma and shortness of breath, while anosmia during the post-acute phase was associated with sex. Ageusia during the acute phase was associated with sex, myalgia and arthralgia, while ageusia in the post-acute phase was associated with sex.

Conclusion

In our findings, the most prevalent symptoms during the acute phase of COVID-19 infection were anosmia and ageusia. Furthermore, the most common persistent symptoms were anosmia and ageusia. In addition, a significant association between female sex with both the incidence and the persistence of anosmia and ageusia was established. Hopefully, these findings will enrich our understanding of the nature of those two symptoms and encourage further studies to enhance the knowledge toward post-acute COVID-19 syndrome.





Study Field: Epidemiology

Study Design: Descriptive cross-sectional

Quality of Life of Systematic Lupus Erythematosus Patients In Saudi Arabia Before And During COVID-19 Pandemic

Dhai Alotaibi, Lama Alotaibi, Seba Monshi, Asma Alanazi, Dr. Howeida Abu Salih

Background

It is known that Covid-19 affects the quality of life and most probably it will be more among SLE patients. The aim of this study to measure the quality of life among systematic lupus erythematosus (SLE) adult patients in Saudi Arabia before and during the Covid-19 pandemic in Riyadh.

Methods

A descriptive cross-sectional study was conducted among SLE patients 192 patients were invited to participate using the non-probability convenient sampling technique. Data was collected using the SF36 questionnaire. Statistical analysis was done by the JMP program using both descriptive and inferential analysis. The research was conducted after IRB approval as well as informed consent was obtained from participants.

Results

The change in the quality of life is highly significant where the good QOL decreased during a covid-19 pandemic by almost 11%, the neutral increased by 2%, and the poor QOL which was increased by nearly 10%. Moreover, there was no significant relationship between demographic characteristics and QOL of SLE patients before and during the covid-19 pandemic. In addition, most of the SF36 domains shows significant change during the covid-19 pandemic. Further, there was a weak correlation between the participants's age and the quality of life before and during covid-19 for 6 questions.

Conclusion

The covid-19 pandemic had a negative impact among systematic lupus erythematosus patients in most of the SF36 domains. Moreover, the quality of life of systematic lupus erythematosus patients was significantly lowered during the covid-19 pandemic compared with the situation before the covid-19 pandemic. Finally, demographic characteristics have no significant impact on the quality of life among systematic lupus erythematosus patients.





Study Field: Neurology

Study Design: Cross-Sectional Study

Guillain-Barré Syndrome in adults in a decade - the largest, single-center, cross-sectional study from the Kingdom of Saudi Arabia

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Background

Guillain-Barré Syndrome (GBS) is an acute, progressive, post-infectious peripheral neuropathy, typically resulting in a symmetrical, ascending paralysis. Although GBS is a rare disease overall, it is the most common cause of acute flaccid paralysis in adults worldwide.

Methods

A retrospective chart review was performed, including patients with GBS admitted to the King Abdulaziz Medical City, Riyadh, Saudi Arabia. Data was collected from January 2011 to December 2020 on clinical features, neurophysiological patterns, treatment modalities and outcomes. Data was analyzed using JMP statistical software version 15 pro.

Results

A total of 86 cases who met the study criteria were included, 55 (64%) patients were males, with mean age of 49.5+/-17.5 years. Antecedent infection was reported in 53 (61.6%) patients, fifty-one (62.2%) patients presented within one week of symptoms onset. Ascending weakness pattern was seen in 55 (70.5%) patients, while 70 (81.4%) had areflexia. Acute motor axonal neuropathy (AMAN) was the commonest electrophysiological type of GBS in 41 (51.9%) patients. Albuminocytologic dissociation was seen in 48 (57%) patients who had lumbar puncture. Nearly half, 41 (47.7%) of the cases were admitted to intensive care unit (ICU). Seventy (81.3%) patients were treated with intravenous immunoglobulin. There was no significant difference in the clinical presentation, management, ICU requirement and discharge disposition between males and females. Females were more likely to have higher disability at the time of discharge ($p=0.01$). Patients younger than 60 years were more likely to require ICU admission ($p<0.01$).

Conclusion

Our patients with GBS were slightly older than previously reported from the region. Acute motor axonal neuropathy (AMAN) was the most common type of GBS. Patients younger than 60 years of age were more likely to need ICU admission, whereas females were more likely to have more severe disability.





Study Field: Critical care

Study Design: A multicenter cohort study

Vitamin D is associated with major bleeding without survival benefit in critically ill patients with COVID-19: A multicenter cohort study

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Background

Despite insufficient evidence, vitamin D has been used as adjunctive therapy in critically ill patients with COVID-19. This study evaluates the effectiveness and safety of vitamin D as adjunctive therapy in COVID-19 critically ill patients.

Methods

A multicenter retrospective cohort study that included all adult COVID-19 patients admitted to the ICUs between March 2020 and July 2021. Patients were categorized into two groups based on the vitamin D use throughout their ICU stay (control vs. vitamin D). The primary endpoint was in-hospital mortality. Secondary outcomes were LOS, MV duration, and ICU-acquired complications. Propensity score (PS) matching (1:1) was used based on the predefined criteria. Multivariable logistic, Cox proportional hazards, and negative binomial regression analysis were employed.

Results

1441 patients were included during the study. Vitamin D was initiated in 177 patients (12.2%), whereas 1258 patients did not receive it. A total of 288 patients were matched (1:1) using PS. The in-hospital mortality showed no difference between patients who received vitamin D and the control group (HR 1.22, 95% CI 0.87- 1.71: P=0.26). However, MV duration and ICU LOS were longer in vitamin D group (beta coefficient 0.24 (95% CI 0.00 - 0.47), P=0.049 and beta coefficient 0.16 (95% CI -0.01, 0.33), P=0.07, respectively). In addition, ICU-acquired complications were higher in the vitamin D group.

Conclusion

The use of vitamin D in COVID-19 critically ill patients was not associated with survival benefits but linked with longer MV duration, ICU LOS, and higher odds of major bleeding. Further randomized clinical studies are required to evaluate and confirm these findings.





Study Field: Internal medicine

Study Design: Retrospective cohort study.

The clinical characteristics, spectrum of COVID-19 severity and comorbidities among patients of diverse age clusters of King Abdullah bin Abdulaziz University Hospital, Riyadh, Saudi Arabia.

Rasha Assad Assiri, Asmatanzeem Bepari, Waseemoddin Patel, Syed Arif Hussain, Safia Ali Alshangiti, Asma Alshangiti, Shaik Kalimulla Niazi

Background

The COVID-19 outbreak, which began in China's Hubei Province, was declared a pandemic by the World Health Organization on March 11, 2020. In Saudi Arabia, the first confirmed case of COVID-19 was recorded on March 2, 2020. The COVID-19 infection is represented by a spectrum of clinical severity. Recent studies have noted that the clinical and laboratory features of the disease are variable between populations because of their distinct demographic features, comorbidities, and immune system responses. To date, very few studies have focused on clinical characteristics, its severity and comorbidities among patients of diverse age groups in Saudi Arabia.

Methods

Study Design: It was non-interventional retrospective cohort study. **The Study Setting:** A convenient sampling method recruiting records from COVID-19 patients from the Health Information Management Office of King Abdullah bin Abdulaziz University Hospital (KAAUH) who were admitted in Internal Medicine, pulmonology department and Critical care department during the period from March 2020 to July 2021. Basic demographics such as age, sex, along with symptoms, signs, requirement of oxygen support, features of pneumonia and information of any presence of other health conditions was collected upon admission. Data was analyzed using the JMP SAS statistical software and described by descriptive statistics like frequency, percentages, measures of central tendency, proportions and analyzed by the inferential statistical tests such as t- test, chi-square test and the analysis of variance (ANOVA).

Results

A total of 443 patients were included in the analysis. 65.4% of them were females and 34.5% males, with a mean age of 45.7 years (SD \pm 17.2). Of these, elderly (60 and above) comprised 25.28%, while 30-39 years were 23.02%, followed by 18-29 years (19.86%), 40-49 years (18.96%) and 50-59 years (12.87%). Nearly 47% were diagnosed as mild, 25% as moderate, 18% asymptomatic and 11% as severe COVID-19 disease. Diabetes was most common comorbidity found in 27.6% patients, followed by hypertension (26.4%), Asthma or other respiratory disorder (8.8%). Pneumonia on chest-X ray was seen in 48%, while 18.08% required oxygen support on arrival, 14.22% were transferred to ICU and 4.07% needed intubation. Nearly 95% of patients were cured and discharged, while 2% succumbed to the disease.

Conclusion

Conclusion: The effective assessment of clinical parameters and treatment of co-morbid conditions could help measure the disease progression, and follow up patients .





Study Field: Clinical pharmacy

Study Design: Systematic review and meta-analysis

Comparison of 4-factor fixed dose versus 4-factor weight-based dose prothrombin complex concentrate for emergent warfarin reversal: An updated systematic review and meta-analysis

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Background

Major bleeding secondary to warfarin use is estimated to occur in 2-5% of patients per year, with a fatal complication in up to 3% of patients. The availability of rapid and effective reversal agent is required to control for negative consequences. Although 4PCC is the preferred agent in addition to vitamin K for warfarin-induced bleeding by the ACC guideline, the optimal dose of 4PCC remains unknown. Thus a systematic review and meta-analysis of clinical studies is needed to evaluate if fixed-dose 4-PCC confers advantages over variable dose in warfarin reversal patients.

Methods

A comprehensive systematic review was conducted using the PubMed and Cochrane databases from inception through October 2022. The primary investigator of the study sets the objectives of the study and clarifies the selection criteria to all members of the research team. The treatment effects were expressed as relative ratios (RR) with 95% confidence intervals and pooled by a random-effect model.

Results

A total of fourteen studies were included. The overall use of fixed-dose 4-PCC was associated with lower INR goal reached (RR = 0.84, 95% CI 0.80 - 0.89) compared to variable dose. The rate of mortality (RR=0.85, 95% CI 0.70 - 1.03), 4-PCC cumulative dose (RR=1.18, 95% CI 1.07 - 1.31), thromboembolic events (RR=1.27, 95% CI 0.65 - 2.45) were the same between the two treatment groups.

Conclusion

The use of fixed dose may be considered an effective approach for achieving the goal of INR for VKAs reversal. Mortality, thromboembolic event rates, 4-PCC cumulative dose in this systematic review and meta-analysis appeared similar between two treatment groups.





Study Field: Cardiology

Study Design: Meta analysis

Investigating Trend in Cardiovascular Disease Mortality and Its Association with Obesity in the Gulf Cooperative Council (GCC) Countries from 1990 to 2019

Sarah Al-gahtani, Talal Abozaid, Saad Algahtani, Mohamed Shoukri

Background

Cardiovascular diseases (CVDs) are the leading cause of death globally. An estimated 17.9 million people died from CVDs in 2019, representing 32% of all global deaths. Of these deaths, 85% were due to heart attack and stroke. Over three quarters of CVD deaths take place in low- and middle-income countries. We have studied the pattern of mortality due to cardiovascular in the six countries of the Arabian Gulf and its association with obesity over the 29 years 1990 to 2019.

Methods

We used the linear mixed effect models to investigate the pattern of CVD mortality over the year 1990 to 2019, together with the pattern of change in one of the most important risk factors that is obesity, and its association with CVD mortality over the same period.

Results

Our study revealed that between 1990 and 2019, age standardized CVD is strongly associated with obesity or high BMI. However, other meta-analyses studies examining BMI change showed that increases in BMI demonstrated lower mortality risks compared with decreases in BMI. The apparent contradiction is that, unlike the present study, estimates included in the meta-analyses were not standardized for age. Overweight BMI classification or a higher BMI value may be protective for all-cause mortality, relative to normal BMI, in older adults. These findings demonstrate the potential need for age-specific BMI cut-points in older adults and further studies.

Conclusion

Based on the findings regarding mortality trends, it is apparent that nearly all countries have experienced a significant declining trend from 1990 to 2019 with an annual reduction in CVD mortality of 33.8 per 100,000 individuals. However, a study in Central Asia (which includes low- and middle-income countries) indicates that the trend of CVD mortality has increased during the past two decades. The authors concluded that this increment might be the result of insufficient preventive care, lack of awareness about the disease signs and symptoms, decreased physical activity, raised blood pressure, and underutilization of health care services.





Study Field: clinical practice

Study Design: retrospective chart review

Statin Use and Major Adverse Cardiovascular Events Among Patients With Acute Coronary Syndrome

Majd Alyaqub, Ima Alkhathran, Dr. Mohammed Alrashed.

Background

Acute Coronary Syndrome (ACS) confers a high risk of recurrence, and long-term management is a crucial part demanding greater attention, to reduce morbidity and mortality. According to The American College of Cardiology/American Heart Association (ACC/AHA) guidelines, all patients with ACS in the absence of contraindications, should receive high-intensity statin as a part of long-term pharmacotherapy plan. Our study aims to evaluate and reflect the degree of adherence to the international guidelines in prescribing high-intensity statins for ACS patients in Saudi Arabia.

Methods

This study was a retrospective chart review involving adult patients aged >18 years old with confirmed diagnosis of ACS between January 1st, 2018, to February 28th, 2022. The study was conducted at the primary health care clinics at King Abdul-Aziz Medical/Riyadh. The eligibility for statins use was evaluated for each patient based on recent ACC/AHA guidelines.

Results

A total of 162 patients were included. 79% of the patients were male and the mean age of the study participants was 68 ± 11.5 years. Diabetes mellitus and hypertension were the most common comorbidities 69.57% and 66.25% respectively. Atorvastatin was the most commonly prescribed statin 58.64% followed by rosuvastatin 48.12%. We observed a very high adherence rate to the recommended intensity by the ACC/AHA guidelines among 94% of the patients during the study period.

Conclusion

The results of this retrospective study show high adherence rates of prescribing high-intensity statins as recommended by the (ACC/AHA) guidelines in patients who were admitted due to ACS





Study Field: Ophthalmology.

Study Design: Systematic review and meta-analysis.

Extended Depth of Focus versus Trifocal for Intraocular Lens Implantation: An Updated Systematic Review and Meta Analysis

Mohammad Karam, Nahlaa Alkhowaiter, Ali Alkhabbaz, Ahmed Aldubaikhi, Abdulmalik Alsaif, Eiman Shareef, Rand Alazzaz, Abdulaziz Alotaibi, Mona Koaik, Samir Jabbour.

Background

To compare the outcomes of extended depth of focus (EDOF) versus trifocal intraocular lenses (IOLs) in patients undergoing cataract surgery.

Methods

A systematic review and meta-analysis were performed as per the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) Guidelines and a search of electronic information was conducted to identify all comparative studies of EDOF versus trifocal lenses were included. Postoperative refraction and visual acuity were primary outcome measures. Secondary outcome measures included postoperative defocus curves, intraocular aberrations, contrast sensitivity (CS), quality of vision (QoV) questionnaire score, haloes and glare, spectacle independence and patient satisfaction. Fixed and random effects models were used for the analysis.

Results

A total of 28 studies enrolling 3065 eyes from 1766 patients were identified. Trifocal IOL showed a significant improvement in postoperative refraction, particularly sphere (Mean difference [MD] = - 0.17; $P = 0.01$) and spherical equivalence (MD = -0.11, $P = 0.0001$) compared to EDOF IOL. However, no statistically significant difference was observed in postoperative cylinder (MD = -0.02, $P = 0.36$) or postoperative astigmatism. Trifocal IOL reported significantly superior postoperative visual acuity only at near vision outcomes, namely uncorrected near visual acuity (UNVA) (MD = 0.12, $P < 0.00001$) and distance-corrected near visual acuity (DCNVA) (MD = 0.12, $P = 0.002$). Distant visual acuity was statistically significantly improved for the EDOF group, particularly in postoperative corrected distance visual acuity (CDVA) (MD = -0.01, $P = 0.002$), although no significant difference was noted in postoperative uncorrected distance visual acuity (MD = -0.00, $P = 0.97$). Intermediate visual outcomes were not statistically significant between the two groups, namely uncorrected intermediate visual acuity (UIVA) (MD = 0.00, $P = 0.89$) or distance-corrected intermediate visual acuity (DCIVA) (MD = -0.01, $P = 0.39$). For secondary outcomes, defocus curve demonstrated favourable results for trifocal IOLs at near vision and EDOF IOL at intermediate vision. Ocular aberration and CS were not statistically significant between the groups. Haloes (Odds ratio [OR] = 0.66, $P = 12$), glare and patient satisfaction were comparable in both groups. Finally, trifocal IOL group had a statistically favourable QoV questionnaire score (MD = 1.24, $P = 0.03$) and spectacle independence (OR = 0.26, $P = 0.02$) over the EDOF IOL group.

Conclusion

Overall, outcomes of EDOF IOLs are comparable to trifocal IOLs. The latter group yields improved near visual acuity as well as postoperative refraction, particularly sphere and spherical equivalence. Overall, the use of trifocal versus EDOF IOLs should be based on individual basis and the clinician's judgement.





Study Field: Clinical Pharmacy/Cardiology

Study Design: Systematic Review and Meta-Analysis

Anticoagulation versus no anticoagulation in elderly patients with nonvalvular atrial fibrillation: a systematic review and meta-analysis of randomized controlled trials and observational studies

Rama Alagla, Shatha Alqarni, Sarah Alghonaim, khawla Qahtani, Lama Alnashwan, Seba Alobathani, Saleh Alqifari, Sumaya Almohareb, Khuloud Aljoudi, Omar Alshaya

Background

Advanced age is the most common risk factor for developing nonvalvular atrial fibrillation (NVAF), as well as increasing the risk of cardioembolic strokes. Despite the importance of anticoagulation, the increased risk of bleeding complicates the decision to initiate it in this vulnerable population.

Methods

We searched PubMed, Embase, and Cochrane databases from inception through October 2022 to identify relevant randomized controlled trials (RCTs) and observational studies for inclusion. Studies were included if evaluated elderly patients (≥ 75 years old) with NVAF and utilized oral anticoagulants (warfarin, apixaban, rivaroxaban, dabigatran, or edoxaban) in the treatment arm with no anticoagulation in the control arm. The primary efficacy outcome was the composite of stroke, transient ischemic attack, and systemic embolism. The primary safety outcome was major bleeding. Cochrane risk-of-bias and Newcastle-Ottawa Scale tools were used to assess risk of bias.

Results

A total of 1,019 articles were identified, and 7 studies met our inclusion criteria (3 RCTs, 1 subgroup of an RCT, 1 prospective, and 2 retrospective). The total number of patients was 3,944 who received anticoagulation and 17,643 who did not receive anticoagulation. Anticoagulation significantly decreased the risk of the composite outcome by 49% compared to no anticoagulation OR= 0.51 (95% CI: 0.34-0.76) with moderate heterogeneity $I^2= 65\%$. However, the anticoagulation group experienced more major bleeding events than patients who did not OR= 1.29 (95% CI: 0.96-1.73) with low heterogeneity $I^2= 8\%$. Any bleeding event was reported high in the no anticoagulation group OR= 0.89 (95% CI: 0.52-1.50). In addition, mortality was lower in the anticoagulation group OR= 0.87 (95% CI: 0.72-1.05).

Conclusion

Anticoagulation for stroke prevention in elderly patients with NVAF resulted in a lower risk of the composite outcome opposed with an increased risk of major bleeding. Diligent evaluation and family involvement is imperative when deciding to initiate anticoagulation.





Study Field: Neurosurgery

Study Design: Retrospective

Atypical meningiomas compared to other grade 2 meningiomas: histological features and prognosis

Saif Almeshari, Majed aljohani, Yazeed alharbi, Fahad aldwaihi

Background

The 2021 WHO classification of meningiomas describes atypical meningiomas as having one major feature (4-19 mitotic figures / 10 high power field or brain invasion) or 3 out of 5 minor features (Small cells with high N/C ratio, Large and prominent nucleoli, Patternless or sheet-like growth, Foci of spontaneous or geographic necrosis). Many meningiomas with one or two atypical features, but not enough to fulfill the criteria to be atypical meningioma are reported as grade 1 meningioma. The significance of each atypical feature on the prognosis or how it affects and changes the natural history of the disease is not yet clear. In this study, we try to study each atypical feature in atypical meningioma versus other grade 2 meningiomas and its possible relation to recurrence.

Methods

This is a retrospective study of patients with WHO grade 2 meningioma operated in our institution between January 2008 and December 2020. Demographic, radiological, and operative data was collected from the patient's chart, operative notes, and pathology reports. Pathology features are collected and analyzed in atypical meningioma and other WHO grade 2 meningiomas. The rate of recurrence, reoperation and readmission were recorded during the follow-up period. A statistical analysis was done to determine the significance of each pathological feature in regard to recurrence.

Results

A total of 230 patients with meningioma were operated in this period. Only 74 patients were included as WHO grade 2 meningioma with 60 (81%) patients having an atypical meningioma and 14 (19%) patients with chordoid or clear cell meningioma. The mean age was 51 years \pm 14. The most common location was meningioma abutting the frontal lobe (convexity). Major atypical features (4-19 mitotic figures or brain invasion) were more noted in the atypical meningioma, however, there was no significant difference between atypical meningioma and other types of meningioma. Increased Nuclear cytoplasmic ration and cellularity were found significantly more in atypical meningioma. The recurrence rate was 16.2% (12 patients). No specific pathology feature (major or minor) nor the type of Grade 2 meningioma was significantly related to recurrence.

Conclusion

The types of WHO grade 2 meningiomas (atypical, chordoid or clear cell) have similar prognosis and recurrence rates. There is no significant difference between the atypical features in indicating a more aggressive nature or risk of recurrence in grade 2 meningiomas.





Study Field: Plastic Surgery\Burn Surgery

Study Design: Systematic Review and Meta Analysis

Risk Models to Predict Mortality in Burn Patients: A Systematic Review and Meta Analysis

Abdullah Abdulhadi Al Qurashi; Hatan Mourtada; Qutaiba Shah

Background

The predictive capability of various risk assessment models (RAMs) in evaluating the risk of mortality in burn patients is not well established. It is also unclear which RAM provides the highest discriminative ability and present the highest clinical utility. We pooled all available studies to establish this validity and compare the predictive capability of the various RAMs.

Methods

We reviewed PubMed, MEDLINE and Embase from their inception up until December 2021 for studies evaluating risk of mortality in burn patients as stratified by Risk Assessment Models (RAMs). Data was pooled using random-effect models and presented as area under the receiver operating characteristic (AUROCs) curve.

Results

34 trials, comprising of a total of 98,610 patients, were included in our analysis. Most studies were found to have a low risk of bias and a good measure of applicability. 9 RAMs were evaluated. We discovered that the classic Baux, the revised Baux and the FLAMES scores presented with the highest discriminative power with there being no significant difference between the results presented by them (AUROCs [95% CI]: 0.92 [0.900-0.95], 0.92 [0.90-0.93], 0.94 [0.91-0.97], respectively, with $P < 0.00001$ for all).

Conclusion

Many RAMs exist with no consensus on the optimal model to utilize to assess risk of mortality for burn patients. This study is the first systematic review and meta-analysis to compare the current RAMs' discriminative ability to predict mortality in patients with burn injuries. This meta-analysis demonstrated that RAMs designed for assessing mortality in individuals with burns have acceptable to great discriminative capacity, with the classic Baux, revised Baux, and FLAMES demonstrating superior discriminative performance in predicting death. FLAMES exhibited the highest discriminative ability among the RAM's studied.





Study Field: Plastic Surgery

Study Design: Retrospective Review (Cross sectional)

Selecting the Best and Brightest: A Five-Year Analysis of Applications to Plastic Surgery Residency Training Programs in Canada by Saudi Arabian Medical Graduates

Dr Osama Samargandi; Abdullah Al Qurashi; Dr Hattan Aljaaly; Dr Omar Sadaqah

Background

The goal of this study is to examine applications to plastic surgery (PS) programs in Canada by Saudi Arabian Medical Graduates over a 5- years period to determine factors associated with successful entry onto programs.

Methods

This is a cross-sectional study targeting eligible Saudi Arabian applicants to a Canadian PS residency program. Data on all applicants during the period 2017-2022 were retrieved. Demographic data, qualification data, and completion of an elective rotation with a letter of reference were included. The two main outcomes analyzed were invited for an interview and offered a residency position.

Results

We reviewed 52 applications. Of the 18 applicants that received an invitation for interview, 8 were offered a residency training position. The median age was 27 years (IQR 25-38 years). The accepted applicants scored from 288 to 355 in the MCCEE [OIMS1] with an average of 3 published scientific papers. Significant variables associated with receiving an invitation for an interview were completing an elective in Canada ($P = 0.016$), having a master's degree ($P = 0.012$), and completion of an English test ($P = 0.032$). The last two variables were also significant in the regression model. The variables most likely to influence receiving a residency position offer are completion of elective training in Canada ($P = 0.004$), and receiving a letter of reference from a Canadian plastic surgeon (95 % CI: 0.77 - 76.69; OR: 8.90).

Conclusion

Completion of an elective rotation in Canada and obtaining Canadian letters of reference were found to be important factors for Saudi Arabian applicants to be invited onto a plastic surgery residency program. Other factors that improved chances include completion of an English assessment test and having a master's degree.





Study Field: Plastic Surgery

Study Design: A Systematic Review and Meta-Analysis

Venous Thromboembolism Risk Assessment Models in Plastic Surgery: A Systematic Review and Meta-Analysis

Hatan Mourtada; Abdullah Al Qurashi

Background

Postoperative venous thromboembolism (VTE) is the most common complication of plastic surgery procedures. Diverse risk assessment models (RAM) exist to stratify patients by VTE risk, but due to a lack of high-quality evidence and heterogeneity in RAM data, there is no recommendation regarding RAM that can be used for plastic surgery patients. This study compares the reliability and outcomes of Caprini and Anesthesiologists physical status classification (ASA) RAMs used in plastic surgery to help surgeons stratify the risk of VTE.

Methods

MEDLINE and Embase databases were searched between February 2010 and December 2021. All published English articles that report the incidence of VTE stratified by a RAM among patients who underwent plastic surgeries were included. The results of the presented meta-analysis were pooled using a random effects model.

Results

The database search revealed 809 articles, out of which, 8 studies ($n = 1,348,606$) were eligible. Out of the eight studies, six utilized the Caprini score, and three utilized ASA score. Super-high-risk patients were significantly more likely to present with VTE than their high risk (OR 2.92; 95% CI 1.26-6.78), medium risk (OR 5.29; 95% CI 2.38-11.79), or low risk counterparts (OR 10.00; 95% CI 2.32-43.10) at Caprini score. High-risk patients in ASA score showed significant increase in VTE incidents (OR 2.72; 95% CI 1.10-6.72).

Conclusion

Both Caprini and ASA risk assessment models showed compelling evidence of efficacy in our study. However, Caprini RAM is more predictive of post-operative VTE incidents in high-risk plastic surgery patients than ASA grading system.





Study Field: Plastic Surgery\Reconstruction Surgery

Study Design: systematic review and meta-analysis

Predictors of complications after Breast Reconstruction surgery: A systematic review and meta-analysis

Hatan Mourtada; Abdullah Al Qurashi

Background

Breast reconstruction is a unique surgical procedure that provides patients undergoing mastectomy with significant psychosocial and aesthetic benefits and has also become a crucial part of the treatment pathway for women with breast cancer. In this systematic review Breast reconstruction is a unique surgical procedure that provides patients undergoing mastectomy with significant psychosocial and aesthetic benefits and has also become a crucial part of the treatment pathway for women with breast cancer. In this systematic review and meta-analysis, we aim to identify the potential risk factors associated with postoperative complications.

Methods

We reviewed MEDLINE and Cochrane CENTRAL from their inception to March 2022, for published randomized controlled trials and observational studies in any language that assessed complications post-reconstruction procedure in breast cancer patients following mastectomy or evaluated at least one of the following outcomes of major or re-operative complications, hospitalization, seroma, or infection. The results from the studies were presented as odds ratios (ORs) with 95% confidence intervals (CIs) and were pooled using a random-effects model.

Results

Our pooled analysis of more than 100,000 patients demonstrated a significant correlation with BR postoperative complications and risk factors such as diabetes, hypertension, and obesity. Diabetes and the development of seroma were found to have a significant relationship. Risk variables such as age, radiotherapy, COPD, and smoking had no significant connection with 0-30-day readmission and 30-90-day readmission. In contrast, risk factors such as obesity, diabetes, hypertension, and smoking influenced 0-90-day readmissions. Our research also showed that risk variables increased infection risk after BR surgery.

Conclusion

This meta-analysis shows that risk factors like age, smoking history, high blood pressure, and body mass index (BMI) have a big effect on complications after BR, and patients with risk factors have a high rate of developing infection.





Study Field: Ultrasound, and interns

Study Design: cross sectional survey

Point-of-Care Ultrasound Training: An Assessment of Interns' Needs and Barriers to Training

Waleed Jarwan, Abdullah A Alshamrani , Afnan Alghamdi , Naveed Mahmood , Yousuf M Kharal , Rajkumar Rajendram , Arif Hussain

Background

The use of point-of-care ultrasound (POCUS) is generally on the rise worldwide. However, as the epidemiology of diseases and the approach to their management vary internationally, POCUS may not be universally applicable. The resources available for medical education are generally limited. Thus, when considering the development of a training program during the internship year, we sought to determine interns' perceptions of the applicability of POCUS to clinical practice, the current skill gaps, and barriers to training.

Methods

A validated questionnaire was distributed to the interns of the College of Medicine, King Saud bin Abdulaziz University for Health Sciences (KSAU-HS), Riyadh to determine their proficiency in POCUS, and their opinions on its applicability on a 5-point Likert scale. Each skill gap was calculated by subtracting self-reported proficiency in POCUS from its perceived applicability.

Results

Of the 300 total interns (male: 200, female: 100), 229 participated [response rate: 76%; male: 136 (68%), female: 93 (93%)]. The use of POCUS to detect abdominal free fluid was perceived to be the most applicable use (mean: 3.9 ± 1.1); scanning for consolidation was the least applicable (mean: 3.0 ± 1.2). Knowledge and proficiency among the sample were generally poor. The skill gap was greatest for the assessment of inferior vena cava collapsibility (mean: 1.4 ± 1.3) and least for the identification of pneumothorax (mean: 0.5 ± 1.5). Although three-quarters of the participants (170) agreed that POCUS was an essential skill, 36 (16%) stated that they had no interest in it, and nearly half (101) believed that they did not have time to learn POCUS.

Conclusion

While POCUS is applicable to medical interns in Saudi Arabia, significant skill gaps exist. However, our sample's perception of the applicability of POCUS was less favorable than that of internal medicine (IM) residents in Canada. Thus, initiating POCUS training during the internship year may yield suboptimal results. Interns must prioritize medical licensing examinations and applications for residency training. Indeed, many interns believe that they do not have enough time to learn POCUS. Thus, prioritizing the training of residents in POCUS may be a more effective use of the finite resources available for medical education.





Study Field: Pharmacy - Healthcare education

Study Design: Pre-post quasi-experimental study

Readiness and attitude of healthcare professions students towards interprofessional education: a pre-post study in a large health sciences university in Saudi Arabia

Fai Alnashmi, Omar Alshaya, Sitah Alshutwi, Abdullah Alkhalayal, Hisham Badreldin, Ahmed Alrumayyan, Hind Alghadeer, Abdullah Alabdali, Abdulkareem Albekairy

Background

Interprofessional education (IPE) is an integral part of health professions education and a key component in refining students' knowledge and skills to work effectively in a multidisciplinary team. Data to describe students' readiness for IPE is scarce, especially in Saudi Arabia (SA), which we aim to improve through this evaluation.

Methods

This is a pre-post quasi-experimental study that utilized Readiness for Interprofessional Learning Scale (RIPLS) to evaluate senior students from various health colleges, including medicine (COM), pharmacy (COP), nursing (CON), and applied medical sciences (CAMS) at King Saud bin Abdulaziz University for Health Sciences in Riyadh and Jeddah. Students experienced two hours of IPE sessions composed of two stages: a team-based learning tackling an asthma exacerbation case (first hour) and a simulation-based learning tackling a pediatric trauma case (second hour). RIPLS was completed pre- and post-IPE sessions. Mann-Whitney U test with an alpha of <0.05 was used for analysis as the data was not normally distributed per the Shapiro-Wilk test.

Results

222 students completed the pre-IPE RIPLS (167 in Riyadh and 55 in Jeddah), and 174 students completed the post-IPE RIPLS (133 in Riyadh and 41 in Jeddah) with 68% female participants. Students were distributed as: 57 from COM, 76 from COP, 138 from CON, and 125 from CAMS. Significant improvements were seen between the pre-IPE and post-IPE groups in two RIPLS domains: teamwork and collaboration (mean score: 4.58 vs. 4.72, $p = <0.001$) and the positive professional identity (4.45 vs. 4.62, $p = 0.029$). No improvements were seen in two RIPLS domains: the negative professional identity (3.53 vs. 3.5, $p = 0.7$) and the roles and responsibilities (3.05 vs. 3.08, $p = 1$).

Conclusion

The findings encourage the implementation of IPE in health professions colleges to equip students with the skills and knowledge needed to work collaboratively in multidisciplinary teams.





Study Field: Clinical Practice

Study Design: retrospective cohort study

Non-Dihydropyridines Calcium Channel Blockers for Terminating Supraventricular Tachycardia in Emergency Department: 5 years of experience in Saudi Arabia

Shaden Alshehri, Abdulrhman Alshaya, Saad Alghamdi, Khloïd Almutairi, Khalid Alhelal

Background

Background The general pharmacological management of Supraventricular Tachycardia (SVT)s includes adenosine, non-dihydropyridines calcium channel blockers (NDCCBs), or beta blockers. The AHA/ACC HF guidelines recommend that NDCCBs be avoided in patients with heart failure with reduced ejection fraction (HFrEF). Despite these recommendations, NDCCBs are still used in patients in SVTs with HFrEF although efficacy and safety in this setting is not established. We aimed to evaluate the effectiveness and safety of NDCCBs in HFrEF patients for the termination of SVTs.

Methods

Method This is a retrospective cohort study that was conducted in king Abdulaziz Medical City. We included patients aged 18 or older with HFrEF that have been diagnosed with SVT and were treated with either adenosine, metoprolol or diltiazem in the emergency department from June 2015 and June 2020. Eligible patients were subsequently categorized into three groups, adenosine group, diltiazem group, and metoprolol group. The major outcome was delta heart rate, defined as (HR upon admission with SVT - HR after drug administration). Minor outcomes include the incidence of bradycardia (HR<50 mmHg) after drug administration, and the need for another dose due to inadequate first response.

Results

Result A total of 107 patients were screened, of which 35 patients were included. Among them, 5 recieved adenosine, 15 received diltiazem, and 18 received metoprolol. The median HR delta was 71 in adenosine group, and 59 in diltiazem group, and 28.5 in metoprolol group. All patients in the three groups did not develop bradycardia. Among the adenosine group (3/5) 60% of patients needed another dose, (5/15) 33% of patients in diltiazem group, and (9/18) 50% of patients in metoprolol group.

Conclusion

Conclusion In our study adenosine was associated with higher delta HR, in comparison to diltiazem, and metoprolol with no difference in the incidence of bradycardia. However, diltiazem seemed to have better control of the SVT rhythm compared to others. Bigger and more robust studies are needed to determine the role of these agents in patients with HFrEF who develop SVTs.





Study Field: Nephrology-Infectious Diseases- Internal medicine

Study Design: Retrospective Cohort Study

Presentation and Outcomes of Patients With End- Stage Kidney Disease Hospitalized With COVID- 19 at a Tertiary Center in Riyadh, Kingdom of Saudi Arabia

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Background

Patients with end-stage kidney disease (ESKD) are disproportionately vulnerable to COVID-19 and its complications due to the older age and significant burden of comorbid conditions. Data about the impact of COVID-19 on the ESKD population in the Kingdom of Saudi Arabia is scarce, and this study aims to bridge this gap.

Methods

This is a retrospective cohort study that included ESKD patients who were receiving either in-center hemodialysis (HD) or peritoneal dialysis (PD) for at least three months and were hospitalized due to COVID- 19 at King Abdulaziz Medical City in Riyadh (KAMC) between March 2020 and March 2021. Of note, the in- center hemodialysis means that the patients come to the dialysis center three times per week to receive their dialysis sessions, as home hemodialysis is not available at our center. Multivariate logistic regression was performed to explore the association of clinical characteristics and laboratory parameters with ICU admission and mortality.

Results

A total of 104 patients were included in the analysis. The mean age was 62.6 (SD=17.4) years, 101 (97%) were on HD, predominantly through a central venous catheter (72%), and 53 patients (51%) were male. Patients with COVID-19 were either asymptomatic (42%) or had mild symptoms (37%), mainly cough and fever. At the time of admission, 37 patients (36%) had extrapulmonary symptoms, and 13 patients (12%) had altered mental status. Normal chest X-ray (48%), followed by bilateral lung infiltrates (24%), and unilateral lung infiltrate (11%) were the most common radiological findings. We did not observe any thromboembolic events. Twenty patients (19%) required ICU admission and 19 patients (18%) died during hospitalization. Predictors for in-hospital mortality were: 1) the need for inotropes (adjusted OR: 53.01, $p=0.006$), 2) age (adjusted OR: 1.07, $p=0.019$), and 3) C-reactive protein (CRP) level on admission (adjusted OR: 1.02, $p=0.04$). We did not find any strong predictor for ICU admission.

Conclusion

Our study demonstrated that COVID-19 carries significant mortality and morbidity in the ESKD population. Age, inotropic support requirement and elevated CRP on admission predicted mortality in our population. The high rate of adverse outcomes of COVID-19 among ESRD patients calls for strict implementation of preventive measures, including vaccination, social distancing, and universal masking at the level of both the healthcare providers and patients. Further studies are needed to assess the association of COVID-19 and hypercoagulability ESKD population.





Study Field: Pharmaceutical sciences

Study Design: In Vitro and In-Silico Study

Luteolin-7-O-Glucoside As A Novel Anti-Tubulin Binding Agent With Potential Use In Cancer Therapy: In Vitro and In-Silico Study

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Background

Cancer is responsible for approximately 10 million deaths worldwide, with 70% of deaths occurring in low- and middle-income countries. Consequently, new and effective medications are required. Therefore, the potential benefits of *Ziziphus nummularia* and *Ziziphus spina-christi* against cancer were investigated, along with a deeper understanding of their anti-cancer mechanisms.

Methods

Several extracts, including chloroform, ethanol, ethyl acetate, and water, were prepared from *Z. nummularia* and *Z. spina-christi*. The extracts were tested and evaluated for their anti-cancer properties using the MTT Cell Viability Assay in four cancer cell lines including breast (KAIMRC2 and MDA-MB-231), colorectal (HCT8), and liver (HepG2). Next, KAIMRC2 and HCT8 cells were used for the high-content imaging (HCI)-Apoptosis Assay and the ApoTox-Glo™ Triplex Assay. Microtubule staining and western blotting for multiple downstream markers were performed in the KAIMRC2 cell line. Liquid chromatography-mass spectrometry (LC-MS) was performed to identify secondary metabolites in the ethanol and ethyl acetate extracts, followed by molecular docking into the tubulin crystal structure.

Results

The results of the eight extracts showed that *Ziziphus nummularia* ethanol extract against KAIMRC2 demonstrated the highest potency with an IC₅₀ value of 29.2 µg/ml. The HCI assay on KAIMRC2 showed the induction of apoptosis that was further confirmed by ApoTox-Glo™ Triplex Assay which indicates the induction of apoptosis and reduced cell viability. Microtubule staining showed a disrupted microtubular network that could be mediated by luteolin-7-O-glucoside which demonstrated the highest docking score (-7.686) and similar binding interactions relative to the native ligand.

Conclusion

Our findings indicate that *Ziziphus nummularia* possesses a promising anticancer activity which could be further examined using in-vivo studies.





Study Field: Respiratory Therapy and public health .

Study Design: Systematic review and meta-analysis research

Forty Years of Tobacco Use in Saudi Arabia: 1980-2020

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Background

The tobacco epidemic is one of the world's most serious public health issues, and all forms of tobacco are dangerous to health. Smoking is the most common form of tobacco use reported to be the second cause of death worldwide. In Saudi Arabia (SA), one of the primary public health concerns is tobacco use and the harm it causes to both users and second-hand smokers. The number of tobacco users has fluctuated during the last decade. Several prior studies in SA reported tobacco usage status; however, they were inconsistent in showing the timeline. Therefore, this study was designed to conduct a comprehensive review of the prevalence of tobacco use in the nation.

Methods

We combed through all tobacco-related literature (cigarette and/or shisha) and included every original study that estimated tobacco use prevalence between 1980 and 2020. We divided them into community-based, university-based, and school-based studies.

Results

The prevalence of tobacco use (cigarette and shisha) and cigarette use were measured among different categories which were community settings, college students, and school students. With respect to community settings, the prevalence of tobacco and cigarette in 2016 was the greatest ($\approx 50\%$); however, the highest prevalence was recorded for males ($\approx 45\%$) in 1999 and 1987 in reference to females ($\approx 15\%$). Additionally, tobacco and cigarette use were predominant in 1986 among male university students ($\approx 50\%$), and among female university students in 2015 ($\approx 30\%$). The research studies for the prevalence among school students were limited for males only until 2005 when females were included.

Conclusion

In Saudi Arabia, the studies were inconsistent and conducted in different geographical locations, hence the results on tobacco usage were fluctuating. Therefore, a continuous national surveillance system is required to examine the timeline of tobacco prevalence .





Study Field: ENT

Study Design: Retrospective case-control study

Assessment of Pre-Operative Vitamin D Serum Levels in Thyroid Cancer Patients

Abdulaziz Alsalem, Abdulaziz Alnasser, Thamer Althanian, Abdulaziz Alarifi, Mohammed Alesla

Background

Vitamin D (VIT-D) has been reported to be associated with various cancer types, but the association between VIT-D and thyroid cancer (TC) remains ambiguous and controversial. Thus, we aim to investigate the association between VIT-D levels and TC and the role of VIT-D supplementation in TC incidence.

Methods

This retrospective case-control study was conducted on patients who underwent thyroidectomy at King Abdulaziz Medical City between January 2016 and January 2022. Pre-operative VIT-D serum levels were evaluated along with the histopathology of their resected thyroid nodule (TN). Multivariable conditional logistic regression was computed to estimate the association between serum 25(OH)D level and TC.

Results

633 patients were included and divided into 325 cases (malignant TN) and 308 controls (benign TN). The mean age was 46.83 (± 13.8) years, with female dominance (83.7% vs. 16.3%). The TC group had a significantly higher serum 25(OH)D level than the controls (51.12 vs. 46.17, p-value 0.037). However, there was no significant difference between the two groups on serum 25(OH)D level once categorized into (deficient, inadequate, normal, and high). Patients on VIT-D supplements had a lower incidence of thyroid cancer (45.5%) than those not on VIT-D supplements (57.5%), with a significant p-value (0.003). Significant variables were included in multivariable regression models. Patients on VIT-D supplements were 37% less likely to have thyroid cancer than those not on VIT-D supplements (OR=0.634; 95% CI=0.460 - 0.873).

Conclusion

There is no significant correlation between VIT-D insufficiency and TC. However, patients on VIT-D supplements are less likely to have TC than those not on VIT-D supplements, and further studies with a prospective design are necessary to further define this factor's role.





Study Field: ENT

Study Design: Retrospective chart review study

Management Outcomes of CSF Rhinorrhea Among Saudi Adult Patients in Riyadh, Saudi Arabia: 6 Years tertiary Center Experience

Abdulaziz Ali Alnasser, Mohammed Abdulaziz Alfurayh, Ahmed Ali Sharahily, Abdulaziz Mohammed Bin Akrish2, Mohammed Abdullah Asiri, Mohammad Jihad Almahdi, Riyadh Ali Alhedaithy

Background

Cerebrospinal fluid (CSF) rhinorrhea is a condition that occurs when the CSF leaks through an osseous defect at the base of the skull. The underlying dura mater, subarachnoid mater, and sinonasal mucosa are disrupted, resulting in an active CSF leak and flow of clear fluid from the nose. CSF rhinorrhea is considered a rare clinical phenomenon with many etiologies, which can either be acquired, congenital, or spontaneous.

Methods

A retrospective chart review was carried out with the aim of finding all patients who were presented with CSF rhinorrhea at King Abdulaziz Medical City, Riyadh, Saudi Arabia. Medical records were reviewed from January 2016 to April 2022 to extract our variables including demographic data, pre-operative risk factors, type of management, and post-operative complications.

Results

32 patients were either operated or conservatively managed, 23 (71.87%) were female vs 9 (28.12%) male. 8 (25%) patients had diabetes mellitus, 6 (18.75%) patients had hypertension, 4 (12.5%) had dyslipidemia. The mean age was 42.81 years (± 0.45). The mean BMI was 34.33 (± 8.71). History of previous nasal surgery was the most common risk factor among our patients. Most of our patients had a defect in the ethmoidal sinus causing CSF Rhinorrhea. Clear Rhinorrhea was the most common initial presentation among our patients. Most of our patients were treated via endoscopic endonasal repair (EER) approach. The most common technique used was surgical grafting with middle turbinate being the most common harvested graft. Epistaxis was the most common complication reported shortly after surgery.

Conclusion

CSF rhinorrhea is a phenomenon that is difficult to diagnose as it requires a high index of suspicion. The most common defect site was the ethmoidal sinus with equal distribution in the right and left cribriform plate. Most of the patient underwent EER and had a successful surgery with minimal complications. Most commonly was epistaxis and was readily treated





Study Field: ENT, Public Health, Humanitarian

Study Design: Retrospective chart review study

Saudi Otolaryngology-Head & Neck Surgery Workforce: Is There Any Need for More Otolaryngologists?

Abdulaziz Alnasser, Mohammed Alshenaiber, Abdulelah Alhawas, Naif Alotaibi

Background

The workforce in Otolaryngology-Head & Neck Surgery (OHNS) is a crucial issue where many countries have a shortage in the number of qualified otolaryngologists available to meet the present and future healthcare needs, and the demand for otolaryngologists is rising globally. Limited data are known regarding the OHNS specialty human power in Saudi Arabia (SA), and the need for more otolaryngologist-head & neck surgeons is a commonly debatable subject. Thus, we aimed to study the actual OHNS human power available in the market to identify future workforce-related challenges and to determine the healthcare standards in terms of OHNS practice.

Methods

This a retrospective chart review descriptive study targeting OHNS surgeons registered in the local health authority. The number of practicing OHNS in SA including region, gender, and nationality in the period of 2010 to 2021 was extracted from the authority's database. The annual percent growth rate (APGR) of several variables was calculated as well as the number of OHNS workforce per 100000 of the population

Results

In 2021, the overall number of physicians in SA is 151634 from which there are 2138 OHNS accounting for (1.4%). 1295 (60.57%) are non-Saudi, whereas 843 are Saudi. Most of the OHNS workforce are males 1758 (82.22%) Vs. 380 (17.78%) females. The number of OHNS workforce per 100000 of the population is 6.34. Additionally, the geographic distribution of OHNS workforce per 100000 in the 13 governmental provinces of SA ranged from 3.54 to 10.36 where Jizan was the lowest and Riyadh was the highest. The OHNS workforce has grown from 1448 in 2010 to 2138 in 2021 with an APGR of 4.33%, and the Saudi OHNS workforce has increased from 234 to 843 with an APGR of 23.66%. Hence, the increase in OHNS demand. The female OHNS workforce is approximately 4.3 times higher than in 2010. The trend of the non-Saudi workforce was fluctuating showing some rises and declines for consecutive years.

Conclusion

The number of OHNS workforce has been increasing, and the Saudi proportion did not show any decline in the field reflecting the population demand. However, the non-Saudi workforce was not stable in numbers, and this can be attributed to their sudden departure and contract termination hindering healthcare demands and creating more shortages in the field





Study Field: Surgery, Education, Simulation.

Study Design: Randomized controlled experimental study

Cognitive Load Effect on Intraoperative Teaching and How To Improve Trainees Knowledge Retention

Abdulrahman Yousef Alhabeeb, Jawad Yousef Alhabeeb, Meshal Ali Alothri, Moustafa Sami Alhamadh, Rakan Saad Aldusari, Raghad Almunyif, Saleh Alnasser, Dr. Fareeda Mukhtar

Background

The operative room (OR) environment is inevitably subjected to cognitive distractors and stressors which increases surgeons' cognitive load (CL) and can affect performance. Surgical trainees are expected to function and learn during their participation in the OR. There is little research studying the effect of the OR environment on learners' CL and learning.

Methods

A randomized controlled experimental study was conducted after obtaining institutional ethical review board approval. Through email invitations, undergraduate medical students were invited to participate in a simulation-based scenario to learn about the chest tube insertion procedure. Volunteering students were randomized into two groups. The control group (CG) participated in a stress-free simulation-based teaching session. The experimental group (EG) participated in simulation-based teaching session with realistic - OR like - environment. CL was assessed subjectively by a modified Leppink scale, and objectively through a heart rate monitor and a tactile response task (TRT) device. Knowledge retention was assessed by an administered exam 15 minutes after the end of the scenario.

Results

A total of 61 participants were enrolled with a mean age of 21.3 ± 1.2 years. Students in their pre-clinical years comprised 56% and females constituted 54% of the cohort. The CG and the EG had 30 and 31 participants, respectively. The EG had higher Extraneous-CL scores attributed to the environmental noise ($p < 0.01$) and instructions ($p = 0.05$). They also had higher rates of TRT skips (19% vs 5.3%; $p < 0.01$) and acceleration of heart rate during the procedure ($p < 0.01$). The CG had higher exam scores (67.5% vs 57.4%; $p = 0.02$). Participants who had prior surgical skills training and OR exposure had better Germaine-CL scores ($p = 0.01$) and exam scores ($p = 0.03$) compared to their counterparts in the same group. Reported familiarity with the anatomy, disease pathophysiology and study of related topics in class did not impose statistical differences in any measured parameter.

Conclusion

The study suggests that the OR environment strains trainee through increasing their extraneous cognitive load which may affect their ability to learn and retain new information. This effect is potentially mitigated by skill-based training rather than theoretical knowledge. These initial findings merit further study.





Study Field: Surgery, Spine, Orthopedic, Trauma.

Study Design: Retrospective cohort study

Returning to Work and Narcotic Use After Traumatic Spine Fractures: Current Status in Saudi Arabia.

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Background

The consequences of traumatic spine fractures are inexorable and have a major burden not only on the patients' physical and psychological health, but also on the patients' social life and financial status. Owing to the fact that many spinal fracture victims have life-long crippling deformities and pain, we aimed to investigate the return to work after surgically treated traumatic spinal fractures, develop eventual predictors of delayed or failure to return to work, and assess the use of narcotics following such injuries.

Methods

This was a single-center retrospective cohort study that was done in a tertiary care center in Riyadh, Saudi Arabia. Patients with traumatic spine fractures who required surgical intervention from 2016-2021 were enrolled. Indications for surgical treatment included: three-column fractures or fracture-dislocations, fracture with neurological injuries or local deformity, unstable fractures in polytrauma patients. Early return to work was defined as returning to work within 3 months and remaining at work for more than 6 months of the following year. Late return to work was defined as returning to work within 2 years and remaining at work for more than 6 months of the following year. Return to work was modelled using multivariate logistic regression analysis.

Results

Within the 173 patients with TSF, male patients accounted for 82.7%, and motor vehicles accident (MVA) were the most common mechanism of injury accounting for 80.2%. The majority of the fractures were three-column fractures (32.2%), and neurologically intact patients represented 59%. Only 38.15% of the patients returned to their jobs after their injury, and 24.24% of them had to change their work style or university specialty. Contrarily, patients who haven't returned to work accounted for 27.1%. Majority of the patients didn't use narcotics more than 1 week after discharge (93.1%). A significant difference was found between older age and not getting back to work ($P=0.005$). Moreover, higher surgical blood loss, operation time, and hospital length of stay were significantly associated with not returning to work ($P=0.001$, $P=0.003$, $P=0.012$, respectively). In multivariate regression analysis, every increase of 100 ml of blood loss during the operation was found to decrease the chance of getting back to work by 25% ($P=0.04$). Furthermore, every increase of one hour in operation time decreases the chance of getting back to work by 31% ($P=0.03$).

Conclusion

Returning to work is an important aspect that needs to be taken into consideration by healthcare providers. We found that age, longer surgery time, higher blood loss, and longer hospital stay are significantly impacting patients' returning to work.





Study Field: Genetics and Pediatrics

Study Design: Experimental

OR12D2 Gene Variations in Children with Autism Lower the Risk of Developing Attention Deficit Hyperactivity Disorder

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Background

Autism spectrum disorder (ASD) is a neurodevelopmental multifactorial disorder with a high genetic heterogeneity. Studies have suggested potential involvement of impaired olfaction in ASD. Significant regulatory variants were reported in Saudi autistic children, where significant association were shown in variants in the olfactory receptor family 12 subfamily D member 2 (OR12D2) and olfactory receptor family 5 subfamily V member 1 (OR5V1) genes.

Methods

In this pilot study, 63 subjects were categorized into four groups: autism with ADHD (n=15); autism with developmental delay (n=16); autism only (n=17), and healthy controls (n=15). Extracted DNA were subjected for OR12D2 gene amplification and Sanger Sequencing. Applied biosystems 3500 series data collection software 4 was used to check the sequences quality. DNAdynamo and mutation surveyor were used to analyze the sequences for the identification of genotypes. Using haploview software, genotypes of all categories were subjected for the identification of haplotypes and risk alleles.

Results

Among patients with autism, eight variants were detected in OR12D2 gene by direct sequencing analysis, including a novel variant (NM_013936.4:c.219 G>C). Single nucleotide polymorphisms, rs9257834G, rs2073154C, and rs2073151G were found to be associated significantly (p-value <0.05) with autism compared to autism and ADHD. Significant (p-value=0.0061) risk haplotype (rs 9257834G; rs 4987411T; rs 2073154C; rs 2073153T; rs2073152G; rs 2073151G.) was observed with ADHD development among autism patients. The observed risk haplotype in patients with autism can trigger ADHD up to 7.5 times.

Conclusion

The novel mutation identified in OR12D2 gene had no impact on autism, ADHD and development delay. Autistic children devoid of OR12D2 gene variant have a higher risk of developing ADHD compared to the mutant OR12D2. Moreover, no significant association between autism and development delay was identified among the variants in OR12D2 gene.





Study Field: Neurosurgery, Neuro-oncology

Study Design: retrospective cohort

Is brain invasion an independent prognostic factor in otherwise benign meningioma?

Majed A. Aljohani, Saif Almeshari, Fahad Aldhowaihy, Yazed Alharbi, Sarah Basinwah

Background

Meningiomas are benign primary brain tumors histologically arising from the arachnoid cap cells. Although benign, the classification of meningioma suggests that some meningiomas are more aggressive than others. The upgrade of a meningioma from grade 1 (benign) to 2 (atypical) or from grade 2 to 3 (Malignant) mainly depends on atypical features that, if present collectively, qualifies the pathology to be a grade higher. Only one of two major criteria (brain invasion or 4-19 mitotic figures/ 10 high power field) is needed to upgrade the pathology. In the most recent WHO CNS classification of meningioma, brain invasion significance in determining the grade of the meningioma have been debated. studies report a high and 40% recurrence rate in patients with brain invasion. In this study, we aim to determine the significance of brain invasion as an independent factor in the prognosis of an otherwise benign meningioma.

Methods

This is a retrospective study on patients with WHO grade 1 and grade 2 meningioma operated in our institution between January 2008 and December 2020. Demographic, radiological, and operative data was collected from the patient's chart, operative notes, and pathology reports. All atypical features including brain invasion were collected from the final pathology reports and reviewed by a neuro pathologist. Patients were stratified in four groups: WHO grade1 meningioma, WHO grade 2 meningioma with brain invasion as the only feature, WHO grade 2 meningioma with no brain invasion, WHO grade 2 meningioma with brain invasion and other atypical features. All four groups were analyzed to determine the indication of brain invasion is an independent factor for aggressiveness and recurrence.

Results

A total of 185 meningiomas with grades 1 and 2 were surgically removed in this period with a female predominance (75%). 25 patients (13.5%) had radiological evidence of recurrence. Group A (WHO grade 1 meningioma) consisted of 116 patients. Group B (WHO grade 2 meningioma with brain invasion as the only feature) consisted of 4 patients. Group C (WHO grade 2 meningioma with no brain invasion) consisted of 43 patients, Group D (WHO grade 2 meningioma with brain invasion and other atypical features) consisted of 10 patients. there was no statistical difference between the four groups regarding tumor recurrence over 56 months follow- up. There was a statistically significant recurrence rate in WHO grade 2 meningioma compared to grade 1 meningioma regardless of brain invasion.

Conclusion

Brain invasion alone is not an independent prognostic factor for meningioma aggressiveness. The grade of the meningioma is a significant measure of aggressiveness and indicates a higher chance of recurrence regardless of the criteria that fulfilled the grade of the pathology. Further studies with larger groups are needed to study the impact of brain invasion on meningioma prognosis.





Study Field: Neuro-ophthalmology, Vascular Neurology

Study Design: Retrospective cohort

Visual Impairments After Stroke: A Descriptive Study, in Tertiary Hospital, Central Region, Saudi Arabia

Taim Muayqil, Majed A. Aljohani, Maha Barakeh, Buthaina Almajed, Abdullah Alomar, Renad AIMogren

Background

While many patients have visual impairments due to stroke, evidence of the prevalence is missing. A significant proportion of patients in stroke units may have unrecognized visual problems resulting in little or no further investigation or management. This would affect their quality of life, ability to live independently, and ability to drive, leading to loss of confidence and depression. This study aimed to evaluate the need for early detailed visual assessment in post-stroke patients and to determine factors leading to visual impairment in stroke patients.

Methods

A retrospective observational study was conducted on patients admitted for stroke from January 2020 until March 2021 at King Saud University Medical City (KSUMSC). Medical records were reviewed for patients over 18 years old and admitted with a new stroke confirmed by the admitting physician. Data collected from medical records included; demographic data, medical history, stroke type, and presence of visual impairments, including; decreased visual acuity, visual field defects, oculomotor deficits, and Perceptual eye problems. Patients were stratified into 2 groups: patients with visual impairments and patients without visual impairments. Patients with visual impairments were further classified as; symptomatic if presented with the visual impairments at admission or asymptomatic if visual impairments were only discovered after examination. All groups were analyzed to determine factors leading to visual impairment in stroke patients.

Results

Our cohort consisted of 448 stroke admissions with a mean age of 59.9 ± 13.8 . 273(60.9%) of the sample were males. 108 (24.1%) of the total cohort had one or more new documented visual impairments caused by the stroke they presented with, of which 75(69.4%) were symptomatic. The remaining 340 (75.9%) had no documented visual impairments, of them 16(3.93%) had symptoms but with the unremarkable examination. Regarding types of visual impairments, most patients exhibited oculomotor problems 51(11.38%) such as impaired elevation, horizontal gaze palsy, nystagmus or saccade; the second type was visual field defect 34(7.59%) such as homonymous hemianopia, quadrantanopia defects, or Unspecified. Only a few patients reported having perceptual eye problems 5(4.63%). The newly documented visual impairments were higher in patients with normal HbA1c (<5.6), with a significant P-value ($P=.026$). 27(36.1%) of male patients were asymptomatic ($P=.029$)

Conclusion

A large percentage of patients did not report their visual symptoms after stroke, especially males. With the lack of standardization in visual assessment after stroke, many visual impairments might be unrecognized. Lower hba1c levels (<5.6) were associated with developing more visual impairments. Further studies are required to determine the associated factors.





Study Field: Neurology, Epilepsy

Study Design: retrospective cohort

New-onset refractory status epilepticus (NORSE); A single-center retrospective cohort of 24 cases

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Background

The term new-onset refractory status epilepticus (NORSE) is applied to the uncommon presentation of refractory status epilepticus in patients without a prior diagnosis of epilepsy or other pre-existing relevant neurological disorder, with no clear acute or active structural, toxic, or metabolic cause. There are no clear guidelines for evaluating and managing patients who present with NORSE. This study aimed to describe patients presenting with NORSE focusing on clinical, laboratory, neuroimaging, etiology, and treatment, then to evaluate factors correlated with outcomes defined by functional status and developing drug-resistant epilepsy in subsequent follow-ups.

Methods

A retrospective, single-center cohort study (2010-2021) of consecutive adult patients in KFSH&RC with new-onset refractory status epilepticus NORSE. Inclusion criteria was according to the 2018 proposed consensus of NORSE; data collected included; clinical, laboratory, neuroimaging, electroencephalographic features, and identified etiology after extensive workup. In addition to the length of stay, medications, interventions, and finally, patient outcomes (good outcome defined as 0-2 mRs score) and diagnosis of epilepsy on follow-up.

Results

Among 24 confirmed NORSE cases, 9(37.5%) progressed to super refractory seizures. 15(62.5%) were males. The most common comorbidities were cancer in 2(8.33%), and diabetes mellitus type1 in 2 (8.33%), while the majority of remaining cases were medically free 15 (62.5%). Fever and/or infectious symptoms were the most common prodrome 14 (58.33 %) patients, followed by headache 9 (37.5%). 10(41.6%) had no clear etiology identified even after extensive evaluation, while most common found etiologies were NMDA encephalitis in 3(12.5%) and ADEM in 2 (8.33%). MRI was normal in 12(50%) of patients, while 9(81.8%) out of 11 who had FDG-PET scans showed abnormal results, with the most common finding being global/regional hypometabolism. 22(91.67%) received immunotherapy, 4(16.67%) died in the hospital; among the surviving patients, only 5(20.83%) had a good outcome (modified Rankin Scale score 0-2). 13(100%) patients with non-cryptogenic NORSE experienced prodromal symptoms as opposed to only 7(70%) with cryptogenic NORSE ($P=0.034$). 13 (100%) of patients rendered as having poor outcomes at discharge were diagnosed with epilepsy. Conversely only 3(60%) patients were deemed to have good outcomes have been diagnosed with epilepsy later on. ($P= 0.02$)

Conclusion

This single-center study sheds light on the catastrophic outcomes of NORSE, Almost half of the cases had no clear etiology even after extensive workup; it was also associated with high mortality and severely decreased functional status in most survivors. While initially, most of the cases were medically free. The results of larger-scale studies are needed to clarify etiologies and determine the role of different interventions





Study Field: Dermatology

Study Design: a systematic review and network meta-analysis

The efficacy and safety of topical minocycline, metronidazole, ivermectin, and azelaic acid in moderate-to-severe papulopustular rosacea: a systematic review and network meta-analysis

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Background

Papulopustular rosacea is a common inflammatory cutaneous disease affecting the face. The aim of this network meta-analysis was to compare the efficacy and safety of different topical agents for papulopustular rosacea.

Methods

We searched Medline, Embase, and CENTRAL databases. We included randomized controlled trials (RCTs) that compared the different topical agents Minocycline (1%, 1.5%, and 3%), Metronidazole (1% and 0.75%), Azelaic acid (15% and 20%), and Ivermectin (1%) to topical vehicle or another topical agent for the management of moderate-to-severe papulopustular rosacea. We sought to evaluate the proportion of patients achieving success on the Investigator Global Assessment (IGA) score and adverse events. The efficacy of the different topical agents was explored through frequentist network meta-analysis, using the Netmeta statistical package in R software. All treatments were ranked using the netrank function, yielding P scores

Results

A total of 19 RCTs that enrolled 8208 participants were deemed eligible. As per P-scores, Azelaic acid 20% yielded the highest effectiveness in IGA score (P-score= 0.97), followed by Ivermectin 1% (0.88), Metronidazole 0.75% (0.62), Azelaic acid 15% (0.53), Minocycline 1.5% (0.37), Minocycline 3% (0.37), Minocycline 1% (0.23) and topical vehicle (0.04). Azelaic acid 15% yielded the highest odds for adverse events after treatment (P-score= 0.14) compared with topical vehicle

Conclusion

This network meta-analysis demonstrated that Azelaic acid 20% was the most effective topical agent in improving IGA score while Azelaic acid 15% showed the highest adverse event profile in the management of moderate-to-severe papulopustular rosacea.





Study Field: Cardiopulmonary diseases

Study Design: Analytic cross-sectional study

Length of stay and comorbidities prevalence among individuals with chronic obstructive pulmonary disease in national guard health affairs

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Background

Chronic obstructive pulmonary disease (COPD) remains an important cause of morbidity and mortality affecting healthcare services. Although previous studies have addressed the burden of COPD at the national level; however, there is a lack of current data that examined the prevalence of COPD co-exists comorbidities as a predictor for hospital length of stay. The aim of the current study, therefore, was to assess the prevalence of co-existing comorbidities and their effect on the length of hospital stay among admitted patients.

Methods

A cross-sectional study was carried out among admitted patients to King Abdulaziz Medical City in Riyadh between 2017-2022. All adult patients above 40 years old who have been admitted to the hospital with COPD diagnosis were included in the study. Each patient was followed from admission until the discharge date. Length of stay longer than 10 days was the outcome of interest. Comorbidities information was collected for each patient through the medical files. Multivariate logistic regression models were employed to examine the predictor of prolonged hospital stay.

Results

A total of 644 patients with COPD diagnoses were included in this analysis. The mean age of the patients was 72 ± 10 years, 59% were female patients, and 52% were obese. The median length of hospital stay was 5 days (IQR 3-8 days), and 142(22%) had prolonged hospital stays of more than 10 days. For co-exists comorbidities, pneumonia was the most associated comorbidity (75%), followed by hypertension and diabetes (41%, and 40%, respectively) among all populations. Predictors of prolonged length of stay among admitted COPD patients were male gender (odd ratio OR=1.7,95%Confidence interval (CI)1.14-2.47), hypertension (OR=1.91,95%CI 1.14-2.47), and cancer (OR=2.5,95%CI 1.3-5.0).

Conclusion

Hypertension, male gender and cancer found to be strong predictors for prolong hospital stay. Early intervention and disease control for these comorbidities in people with COPD has the potential to reduce hospital stay and better quality of life for this venerable population.





Study Field: Clinical

Study Design: A multicenter, retrospective cohort study

Standard dosing of Enoxaparin Versus unfractionated heparin in critically ill COVID19 patients: A Multicenter Cohort Study

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Background

Thrombotic events are common in critically ill patients with COVID-19 and have been linked with COVID-19-induced hyperinflammatory state. In addition to anticoagulant effects, heparin and its derivatives have various anti-inflammatory and immunomodulatory properties that may affect patient outcomes. This study compared the effectiveness and safety of prophylactic standard-doses of enoxaparin and UFH in critically ill patients with COVID-19.

Methods

A multicenter, retrospective cohort study included critically ill adult patients with COVID-19 admitted to the ICU between March 2020 and July 2021. Patients were categorized into two groups based on the type of pharmacological VTE prophylaxis given in fixed doses (Enoxaparin 40 mg every 24 hours versus UFH 5000 Units every 8 hours) throughout their ICU stay. The primary endpoint was all cases of thrombosis. Other endpoints were considered secondary. Propensity score matching was used to match patients (1:1 ratio) who received UFH to patients with Enoxaparin prophylaxis dose based on the predefined criteria. Multivariable logistic, Cox proportional hazards, and negative binomial regression analysis were used as appropriate.

Results

: A total of 306 patients were eligible based on the eligibility criteria; 130 patients were included after PS matching (1:1 ratio). Patients who received UFH compared to Enoxaparin had higher all thrombosis events at crude analysis (18.3% vs. 4.6%; p-value=0.02) as well in logistic regression analysis (OR: 4.10 (1.05, 15.93); p-value=0.04). Although there were no significant differences in all bleeding cases and major bleeding between the two groups (OR: 0.40 (0.07, 2.29); p-value=0.31 and OR: 1.10 (0.14, 8.56); p-value=0.93, respectively); however, blood transfusion requirement was higher in the UFH group but did not reach statistical significance (OR: 2.98 (0.85, 10.39); p-value=0.09). The 30-day and in-hospital mortality were similar between the two groups at Cox hazards regression analysis. In contrast, hospital LOS was longer in the UFH group; however, it did not reach the statistically significant (beta coefficient: 0.22; 95% CI: -0.03, 0.48; p-value=0.09).

Conclusion

Prophylactic enoxaparin use in critically ill patients with COVID-19 provided a significant reduction in thrombosis with similar bleeding risk compared to UFH





Study Field: Public Health

Study Design: Qualitative phenomenological Study

The Experience of Parents of Visually Impaired Children in King Khaled Eye Specialist Hospital: Qualitative Study

Dr. Nouf Alwatban

Background

This study explores the experience of parents having a visually impaired child in Saudi Arabia, with a focus on the received ophthalmic care services, lived emotional milestones, and the faced facilitators and challenges within the continuum of care.

Methods

A qualitative phenomenological approach was used in this study, using face-to-face interviews with a total of 20 parents, including both mothers and fathers. A total of 19 semi-structured interviews were conducted in King Khaled Eye Specialist Hospital (KKESH), Riyadh, Saudi Arabia between July and September 2022.

Results

The findings suggest that having a child with visual impairment often profoundly affects the overall parenting experience through changes related to parents' emotional status and their daily life. Moreover, the majority of the parents faced particular challenges concerning access to ophthalmic care services, community, and education. Religious beliefs were found to be instrumental in shaping parents' attitudes and were the most facilitative factor.

Conclusion

The outcomes of the study suggest increasing pediatric ophthalmic care across the regions in Saudi Arabia to help parents in utilizing a simpler and direct pathway to ophthalmic services and to help in the early detection of ocular problems and prevent visual impairments. In addition, the provision of appropriate family support services along with other areas like special education are necessary to meet the rights and needs of those parents and their children. Finally, further research on neglected areas of pediatrics ophthalmic care for policy change is needed.





Study Field: Pharmaceutical Science

Study Design: Experimental Study

Preparation and characterization of gentamycin/thymoquinone co-encapsulated polymer-lipid hybrid nanoparticles

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Background

Despite its high bactericidal activity, gentamycin (Gen) is oto- and nephrotoxic, with a high propensity for acquired bacterial resistance and biofilm formation. The goal of this project is to enhance the therapeutic efficacy of Gen by co-encapsulating with thymoquinone (TQ) in optimized polymer-lipid hybrid nanoparticle systems.

Methods

To incorporate Gen and TQ into Polymer-lipid hybrid nanoparticles (PLN), a direct emulsification-solvent-evaporation method was used. The particle sizes and size distribution of the formed PLN were determined using a light scattering technique, and particle morphology and composition were determined using transmitted electron microscopy. A sensitive HPLC method was used to determine drug loading and entrapment efficiency. The dialysis bag technique was used to investigate the drug release profile. The antibacterial activity was tested against a variety of *S. aureus* resistant strains and biofilms.

Results

The prepared PLN average size ranged from 129.91.8 to 163.83.9 nm. The polydispersity index for all of the prepared formulations was in the range of 0.12 to 0.14, indicating very good particle size distribution. The values for zeta-potential were extremely low. Entrapment efficiency was above 85% in most cases. Increasing the polymer ratio resulted in smaller particle size and greater size uniformity. The TEM images of the particles revealed a uniform spherical shape and drug entrapment in the core of the particles. Both Gen and TQ demonstrated a consistent drug release profile, with Gen releasing at a faster rate than TQ.

Conclusion

The co-encapsulation of Gen and TQ into PLN was accomplished successfully using the emulsification-solvent-evaporation method. The prepared PLN exhibited distinct properties such as small particle sizes, high size uniformity, and high entrapment efficiency. The prepared system has the potential to significantly improve antibacterial activity against resistant strains of bacterial isolates and biofilms.





Study Field: Cardiology

Study Design: Observational, quantitative, cross-sectional survey study

An Assessment of The Influence of SARS-CoV Outbreak in Riyadh on Medication Adherence in Hypertensive Patients in NGH

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Background

The impact of the COVID-19 outbreak on medication adherence has not been studied previously; this cross-sectional survey-based study on hypertensive patients was conducted to determine the impact of COVID-19 on medication adherence.

Methods

A cross-sectional study conducted on hypertensive patients at King Abdulaziz Medical City (KAMC). Five hundred Patients were selected by a non-probability convenience sampling. The level of medication adherence was measured using a modified questionnaire after reviewing the literature. Data collection was done via interviews and the data was analyzed using the Statical Package for Social Sciences (SPSS).

Results

The 500 patients divided into 237 (47.4%) male and 263 (52.6%) female participants. The majority of patients were non-smokers, while 20.6% of the sample were smokers. Furthermore, 65% confirmed having other comorbidities. Almost 65% of the sample reported total adherence to their medications. The study considered those that missed more than 7 continuous days of medication to be non-adherent. As such, almost 5.8% of the sample reported non-adherence to their medications which was a noticeable decrease from previous studies. The variables that proved to have an association with medication adherence were level of education, awareness of blood pressure target, forgetfulness as a mental illness symptom, maintenance of social relationships, delays in medication refills and skips in medical appointments.

Conclusion

When compared to previous studies, this study revealed an increase in adherence rate, but there was no conclusive evidence of a correlation.





Study Field: Infectious Disease

Study Design: Retrospective single center cohort study

Clinical Characteristics and Outcomes of Bloodstream Infections Caused by Potential AmpC Beta-Lactamase-Producing Enterobacterales

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Background

AmpC beta-lactamases are inducible enzymes produced by select Enterobacterales. The production of AmpC beta-lactamases increases the risk of clinical failure in patients treated with a third-generation cephalosporin, even if the isolate was shown to be initially susceptible. Carbapenems are the mainstay of therapy. However, data are conflicting about what other antibiotics can withstand the presence of AmpC. The aim of our study is to evaluate the clinical outcomes in patients with bloodstream infections due to potential AmpC-producing organisms.

Methods

Retrospective, single-center, cohort study of adult patients with bloodstream infections due to *Enterobacter cloacae*, *Klebsiella aerogenes*, *Citrobacter freundii*, *Serratia marcescens*, *Morganella morganii*, and *Providencia stritti*. Patients with multiple infections or polymicrobial cultures were excluded. We used descriptive statistics to summarize baseline characteristics and treatment outcomes. Statistical analysis was conducted using SPSS V29.0.

Results

104 patients met the inclusion criteria. The mean age is 58.37 years (± 17.7), and 58.65% of subjects are male. The median PITT bacteremia score was 1(1-10). Sixty patients were infected with *E. cloacae*, 28 with *S. marcescens*, 9 with *K. aerogenes*, 4 with *P. sturtii*, and 2 with *M. morganii*. Three isolates were resistant to carbapenems. Sixty-six (63.46%) patients were on a carbapenem-based definitive regimen. Other definitive regimens include ceftriaxone, piperacillin/tazobactam, ciprofloxacin, gentamicin, colistin, tigecycline, trimethoprim/sulfamethoxazole, and ceftazidime/avibactam. The mean duration of definitive antibiotic therapy was 8.6 days. A total of 35 (33.6%) patients were admitted to the critical care unit. In patients who received non-carbapenem definitive therapy, mortality within 30 days was seen in 8 out of total 9 deaths, and In-hospital mortality was 11 out of 16. Total treatment failure was observed in 13 patients.

Conclusion

Our findings show that bacteremia caused by potential AmpC-producing organisms are associated with substantial morbidity and mortality. Higher rate of treatment failure was observed in patients treated with non-carbapenem agents.





Study Field: Emergency medical services

Study Design: Retrospective study

Characteristics of Pre-hospital Stroke Patients in Riyadh, Saudi Arabia; A Retrospective Study

Dr. Abdullah Alabdali, Ms. Alanowd Alghaith, Afnan Alqahtani, Reem Alowayid, Shaden Alsagri, Alanwd Alshamari

Background

Stroke is a serious condition that can lead to a long-term disability or death if not recognized early and managed properly. Emergency Medical Services (EMS) personnel have a significant role in recognizing, stabilizing, and transporting suspected stroke patients to an appropriate facility. The Saudi Red Crescent Authority (SRCA) has recently implemented a new pathway for stroke patients, in which suspected patients will be transported immediately to the operation room without passing by the emergency department, this study aimed to identify the characteristics of stroke patients transported by EMS by the new stroke pathway.

Methods

This was a retrospective study between January 2022 to August 2022; data were analyzed from all suspected stroke patients brought by SRCA in Riyadh, Saudi Arabia, and the stroke pathway was activated. We evaluated all the data recorded in the prehospital setting including the patient's demographic and the characteristics of stroke patients.

Results

In our study, we included a total of 182 suspected stroke patients, and the majority were Saudi (62%). Male patients accounted for (63.1%), and the median age for all patients was 61 years old. In addition, (70.9%) of the patients had symptoms within 3 hours or less compared to (29.1%) whose symptoms onset was longer than 3 hours. In addition, among the suspected stroke patients, 26 different signs and symptoms were identified at the presentation. One-side weakness was the most common of all presenting signs and symptoms, followed by slurred speech accounting for 48.7% and 32.5%, respectively.

Conclusion

In conclusion, the majority of suspected stroke patients transported by SRCA were adult, male, and Saudi. The most common symptoms are one-sided weakness and slurred speech, and most of the patients received prehospital care within 3 hours of symptoms onset. To provide the best care possible for this population, more investigations are required to identify the new stroke pathway's effectiveness.





Study Field: Urology, Family medicine

Study Design: Cross sectional

Quality of Life of Saudi Women with Chronic Lower Urinary Tract Symptoms in Riyadh, Saudi Arabia.

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Background

Lower urinary tract symptoms (LUTS) have been defined as qualitative pathological changes of the lower urinary tract that are subjectively noticed by an individual, their caretaker, or their partner, leading them to seek medical attention. Chronic LUTS are reported to affect more than half of all women, and have a significant impact on their quality of life (QoL). We aimed in this study to assess the QoL of adult Saudi women with chronic LUTS.

Methods

A cross-sectional study was done on 390 female patients diagnosed with LUTS at three tertiary care hospitals in Riyadh, Saudi Arabia: King Abdulaziz Medical City (KAMC), King Fahad Medical City (KFMC), and Prince Sultan Military Medical City (PSMMC), in the period from October to December 2021. The data was collected using self-administered questionnaire which comprised demographic characteristics, International Prostate Symptom Score (IPSS) for assessment of LUTS severity, and King's Health Questionnaire (KHQ) for assessment of QoL.

Results

In regard to severity according to IPSS, symptoms were mild, moderate, and severe in 11%, 51%, and 39% of participants, respectively. Increased age and parity were found to have significant association with increased symptoms severity (P-value <0.05). The current study reported a moderate effect of LUTS on QoL. There was significant correlation between increased symptoms severity and negative impact on QoL, excluding the personal relationships domain. Highest scores in KHQ, which indicate worse QoL, were found in the domains of incontinence impact and emotions, while the lowest scores, which indicates better QoL, were found in the domains of social limitations and severity measures. Employed females were found to have worse QoL in the severity measures domain, which refers to the degree of urinary symptoms affecting day-to-day functioning. In addition, younger age was found associated significantly with better QoL, especially in the domains of general health, personal relationships, and severity measures.

Conclusion

In current study, majority of patients reported moderate symptoms severity. Age and parity were found to have significant effects on the severity of LUTS. Chronic LUTS have a significant impact on the QoL of Saudi women in many aspects, including physical, social, and emotional health, especially for those who have moderate to severe symptoms. Healthcare providers should assess high-risk women for the presence of LUTS. Furthermore, we recommend evaluating the QoL of patients with LUTS as a part of routine management.





Study Field: Medicine

Study Design: Retrospective cohort study

Utilization of Prophylactic antibiotics for cardiac patients undergoing dental procedure in Saudi Arabia

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Background

This study aimed to determine the characteristics of AP utilization and the level of adherence of King Saud University Medical City (KSUMC) staff to the post-2007 AHA guidelines for prophylaxis of IE in cardiac patients undergoing dental procedures.

Methods

The study was carried out as a retrospective cohort study. The study included all cardiac surgery inpatients who underwent dental procedures between 2015-2021 at KSUMC. Excluding patients with long-term or concurrent antibiotics use for other indications.

Results

Overall, 170 (69.39%) cardiac patients received AP before a dental procedure. The most common comorbidities were hypertension (39.1%) and diabetes (34.2%). The majority of LR (68%) and MR (75.9%) received AP, despite the guideline's recommendation to limit AP to HR patients only. Moreover, only 58.33% of HR patients were prescribed AP. In total, out of the 170 patients who received AP, 95.9% of AP use was in patients not recommended to receive them. Only one patient developed IE during the 1-year follow-up. Regarding the predictors of AP prescription, tooth extraction was the only statistically significant predictor in our study ($p=0.001$), with an odds ratio of 3.83 (95% confidence interval, 1.726-8.498).

Conclusion

The study showed that there is an exceeding level of inconsistency (95.9%) in the AP utilization for cardiac patients in our sample compared to the recommendations of the post-2007 AHA guidelines.





Study Field: Head and Neck

Study Design: Cross-Sectional Study

Assessment of the ability, perception, and readiness of nurses to manage tracheostomy-related complications in Riyadh City: a cross-sectional study

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Background

Tracheostomy is a common procedure done in critically ill patients to help wean them from mechanical ventilation, and it's also the last resort to secure the airway in emergencies. Although it is considered a simple and quick procedure from a surgery standpoint, it requires meticulous post-operative monitoring and cares since complications are common and may lead to death if not managed immediately; however, these complications are avoidable with adequate care. This study aimed to assess and measure the nursing staff's readiness to manage tracheostomy complications in Riyadh, Saudi Arabia.

Methods

This cross-sectional study was conducted among 395 nurses in Riyadh, Saudi Arabia. A self-administered questionnaire was distributed among nurses via an online survey. The questionnaire included socio-demographic characteristics, a questionnaire to assess nurses' knowledge and practices toward tracheostomy indications, post-operative care, and management of tracheostomy complications.

Results

Nearly 60% had poor knowledge about tracheostomy-related complications and indications, 39% were moderate, and only 2.3% were classified as having good knowledge. Factors associated with increased knowledge were being highly professional, working in a tertiary/quaternary hospital, being a government employee, caring for tracheostomized patients, and attending courses or lectures about managing tracheostomized patients.

Conclusion

Nurses' knowledge of managing tracheostomy-related complications was deficient. Highly educated nurses working in tertiary government hospitals with previous experience with tracheostomy care tend to be more knowledgeable than other nurses; addressing the gaps in knowledge is a priority to minimize patients' complications and life-threatening situations.





Study Field: Public Health

Study Design: Cross-sectional

Vaccine Hesitancy Among Medical Students at a Tertiary Hospital-Affiliated Medical School

Ibrahim Omer, Abdullah Alhuzali, Tala Aletani, Zaher Althagafi, Abdullah Awadh

Background

Coronavirus disease 2019 (COVID-19) is a disease that has caused a global pandemic with long-lasting economic and cultural impacts. International governments have pushed efforts to scale up vaccine production to mitigate this crisis. Yet, vaccine hesitancy, especially among healthcare providers, remains an understudied subject that may hinder vaccine effectiveness.

Methods

Herein, we have carried out a cross-sectional study that evaluated vaccine hesitancy among medical students based on the 5C psychological antecedents, which include confidence, complacency, constraints, calculation, and collective responsibility; via an adopted pre-validated survey.

Results

Our results suggest that the majority of medical students were confident (79.7%), non-complacent (88%), did not have constraints against receiving the COVID-19 vaccine (97.4%), but -surprisingly- neither had calculation (38%) nor collective responsibility (14.7%). Many predictors of the 5C psychological antecedents have been reported, including academic year and gender.

Conclusion

This study suggests moderate levels of vaccine hesitancy among the medical student population included in our study. We urge medical students to be more aware of the public health concerns within their communities and look forward to institutionalized reforms that aim to increase awareness of COVID-19 and its available vaccines.





Study Field: Pharmacy practice

Study Design: Retrospective cohort study

Characteristics and outcomes of COVID-19 intensive care patients in Qassim region-KSA.

Rwida Mohammed Alharbi. Dr.Manal Selim. Dr.waleed hamaza. Dr.abdullah alowayed

Background

Epidemiological features characterization of the novel infectious disease caused by Coronavirus (COVID-19) is highly important for developing and implementing effective control measures. There is limited information describing the presenting features and outcomes of intensive care unit (ICU) patients with COVID-19 in Saudi Arabia.

Methods

A retrospective- hospital based study was conducted from March 2020 to October 2021 involving the review of medical records of the patients admitted to the ICU of a COVID-19 treatment centers. The demographic data, comorbidities, signs and symptoms of the patients were collected, also the need for ventilation, duration of ICU stay and death rate. All data were analyzed and the associations between variables were evaluated.

Results

Results: A total of 172 patients were included in the study, most of them were elderly (69.6 ± 18.2), males (56.4%), and Saudi (83.1%). About (55.2%) had cardiac diseases while (49.4%) had diabetes. Patients who needed invasive ventilation were (33.7%) versus (40.7%) needed non-invasive. Significant associations were found between age, comorbidities/ and mortality rate (52.3%), especially with cardiac diseases ($P=0.025$), diabetes ($P=0.009$) and kidney diseases ($P=0.003$).

Conclusion

Conclusion: COVID-19 infection is associated with a variety of different characteristics and outcomes. Increasing the awareness about risk factors involved in the prognosis of a COVID-19 infection improves the clinical outcomes by ensuring correct resource allocations and providing preventive measures into place.





Study Field: Pediatrics

Study Design: Cross-sectional questionnaire study

Attitude of pediatricians toward suspected cases of child sexual abuse (CSA) in Saudi Arabia

Khizra Sultana , Hassan Nazmus Saleheen , Dalal Ahmad Aldihan, Razan Hussain Al-Omar (presenter), Rana Obaid Alharbi, Raghad Saleh Allahidan , Rema Alshagar

Background

To assess the attitudes of pediatricians working at the Ministry of National Guard-Health Affairs (MNGHA) to report cases of child sexual abuse (CSA) and to determine the association between the demographic, cultural characteristics, and the attitude toward reporting.

Methods

A self-administered, hard copy questionnaire was distributed to 277 pediatricians, and the response rate was 58.48%. The sensitivity/specificity emphasis mean score was calculated. Categorical variables were tested against the sensitivity/specificity emphasis mean score using an ANOVA and an independent sample t-test. The reliability of the questionnaire was measured with Cronbach's alpha.

Results

In total, 153 completed questionnaires were analyzed. The responses were inclined toward balanced (indecisive toward reporting) and high specificity (favors the decision not to report suspected CSA). No significant difference was found in the sensitivity/specificity mean score between the different levels of professionals, experience, age, gender, and number of prior child abuse-related courses. The skepticism scale showed, for the different professional levels, that the staff physician/resident believed the 3- to 5-year-old girls and boys to be genuine. The consultants/associate consultants believed 6- to 12-year and 13- to 17-year-old girls and boys to be true most of the time. Nearly half of the participants indicated that their reporting decision was affected by the possible consequences of reporting suspected CSA for the children's families and the social perceptions of sexually abused children as adults.

Conclusion

The results highlight the low reporting rates of CSA cases. The findings suggest a lack of training and experience of the professionals in this area of assessing, detecting, and reporting CSA cases.





Study Field: General Surgery

Study Design: Cohort

Post-Operative Complications Following Incisional Hernia Repair in A Tertiary Hospital in Riyadh

Bashayer AlObaid, Malak Alshukr, Ghadi Almohaisen, Shihanah alkhelaiwi, Hanan Almkainzi

Background

Incisional hernia (IH) is one of the main complications after open and laparoscopic abdominal surgeries. However, there are no local studies showing the rates of post-operative complications following incisional hernia repair. This study highlights the post-operative complications following incisional hernia repair.

Methods

This study was designed as an observational retrospective cohort study of adults who had incisional hernia repair between the years 2016 to 2020. A total of 376 patients were involved. The study was conducted at King Abdulaziz Medical City, in Riyadh, Saudi Arabia. Data were calculated and presented using numbers and percentages. The relationship between surgical site infections and the baseline characteristics of the patients had been conducted using Chi-square test. Significant results were then tested in a multivariate regression model to determine the independent significant factor of surgical site infections.

Results

The most common complication after surgery was surgical site infections (27.1%), followed by recurrence of hernia (16.5%) and seroma (9.6%). Based on Chi-Square test, it was found that the prevalence of surgical site infection was significantly more common among diabetic patients ($p=0.019$), those who underwent open surgery. When conducting multivariate regression estimates (Table 4), it was observed that diabetes, type of surgery, and length of stay were not predicted to have a significant influence on surgical site infections ($p>0.05$).

Conclusion

The incidence of post-operative complications was found to be higher than the literature has suggested. Based on the results, it was found that the most common post-operative complications following incisional hernia repair include surgical site infections, followed by recurrence of hernia and seroma.





Study Field: Clinical

Study Design: observational retrospective review study.

Evaluation of Pharmacist role in prevention and management of allergic reactions among hospitalized patients

Rahf AlKanhal, Lamya AlSuhaibani, Rand AlDaajani, and Mohammad Shawaqfeh

Background

Allergic incidents among hospitalized patients have always been an issue in the medical field. With more medications arising and certain factors such as age, gender, and genetic polymorphism. The risk of allergy has increased over the last decade, and numerous studies have estimated the prevalence of allergy among inpatients, determined the timing, and identified some of the risk factors associated with allergy episodes.

Methods

The data registry was from the Ministry of National Health Affairs (MNGHA). The number of participants was 455; 369 participants were excluded.

Results

In this paper, out of 455 participants, only 86 had gone through an allergy incident that met the inclusion criteria, which could have been prevented if there was a pharmacist intervention. 369 participants were excluded for many reasons, such as patients having the allergy as an outpatient, a prior known history of allergy, contraindicated due to a known disease, and mild type of allergy. The most common cause is antimicrobial agents 41 (47.7%), followed by anticonvulsants 11 (12.8%), the contrast media in 8 cases (9.3%), and NSAIDs in 4 (4.7%). Moreover, the allergy treatment outcomes were improved or resolved in 73 encounters (84.9%). There were 7 anaphylactic shock (8.1%), and 6 deaths reported (6.98%). Unfortunately, there were 13 hospital readmissions (15.1%), and 11 ICU admissions (12.8%). However, the documented pharmacist interventions were only five (5.8%).

Conclusion

Pharmacists have a major role in ensuring the safety of medications. We recommend having more registered pharmacist interventions and increase monitoring of items with high risk of causing allergy.





Study Field: Medicine: Urology and Andrology

Study Design: Systematic Review

Male Infertility in the Middle East: A Systematic Review of Associated Factors, Publications Trend, and Literature Quality

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Background

Various etiologies for male infertility have been proposed; however, there still needs to be a consensus about the provoking factors for male infertility, especially in the Middle East. This systematic review aimed to pool all the available data on infertile males in the region to provide high-quality evidence to the literature about the associated factors of male infertility in the Middle east. The authors also appraised the quality of scientific studies and analyzed the publications' regional trend concerning male infertility.

Methods

PubMed\Medline, Cochrane CENTRAL, Google Scholar, and Ovid databases were searched from their inception until September 2022, looking for studies concerning male infertility in the Middle East. All the reported associated factors for male infertility were extracted, and each article was critically appraised using various quality appraisal tools. The publications' records were extracted to analyze the trend of scientific reporting in the region.

Results

253 publications concerning male infertility in the Middle East were included, pooling data for 99,394 infertile males in the region. The most common factor attributed to infertility was genetically-provoked, as over 24,000 men were affected by this factor. Azoospermia factors (AZF) microdeletions followed by genetic polymorphisms were the commonest genetic causes of infertility. In addition, azoospermia, oligospermia, and other semen abnormalities were found to be common non-genetic causes. The publications' trend concerning male infertility in the region was significantly decreasing, and the scientific reporting quality was found to range from average to poor.

Conclusion

This is the first systematic review to provide comprehensive data concerning male infertility in the Middle East. The authors analyzed the studies' quality and the publications' trend concerning male infertility in the region to provide valuable insights about the regional literature. The commonest cause of male infertility was genetically-provoked, of which AZF microdeletions were the commonest. The publications' trend is significantly decreasing, and the studies' quality requires more effort for improvement.





Study Field: Oncology and Infertility; Fertility Preservation

Study Design: Systemic Review

Ovarian Tissue Cryopreservation versus Other Fertility Preservation Techniques for Chemoradiation Induced Premature Ovarian Insufficiency in Women: A Systematic Review and Future Directions

Eman N Chaudhri; Ayman Salman; Khalid Awartani; Zaraq Khan; Teresa Woodruff; Alison Loren; Shahrukh K. Hashmi

Background

Current advances in cancer therapy have increased survival, emphasizing the need for life quality improvement. Fertility loss is common post-chemotherapy. Current guidelines establish embryo and oocyte cryopreservation to address premature ovarian insufficiency (POI). Ovarian tissue cryopreservation has also recently become an acceptable option for fertility preservation, particularly as it is the only option for pre-pubertal patients. Few definitions for optimum fertility outcomes, and few systematic reviews comparing embryo, oocyte, and ovarian tissue cryopreservation as means of fertility preservation (FP) in pre and post-pubertal female cancer patients exist. This systematic review aims to analyze the different fertility preservation techniques and procedures available to women with chemoradiation-induced premature ovarian insufficiency and to compare the benefits of each technique in restoring fertility, sexual hormone function, and quality of life.

Methods

Searches were conducted electronically on PubMed, Cochrane, EBSCOHost, including clinical trials, and prospective, and retrospective studies of female cancer patients undergoing anti-cancer therapy, with predefined MeSH terminology. Data was collected, analyzed, and compared. Non-randomized clinical studies were evaluated for risk bias through the Newcastle-Ottawa Scale. 24 studies are included in this study.

Results

647 patients opted for oocyte cryopreservation, 267 for embryo cryopreservation, and 1068 for ovarian tissue cryopreservation (OTC). 175, 2, and 26 live births resulted respectively from oocyte, embryo, and OTC. Failure rates of the respective FP methods were 2, 8, and 3 unsuccessful pregnancies. The majority of studies including OTC patients did not discuss live births as the preferred outcome, instead discussed the re-establishment of menses, sexual hormonal profile, and overall reproductive function with other fertility markers as indicators of reproductive function improvement.

Conclusion

The gonadotoxic effects of chemotherapy call for FP intervention, especially in family-seeking, and prepubertal females whose hormonal profile affects their overall physical and mental development. Oocyte and embryo cryopreservation/implantation are well-established procedures. With upcoming studies and advancements, live births are still a weak indicator when comparing well-established practices such as oocyte and embryo cryopreservation/implantation to novel methods such as OTC which still require time. However, with changing trends and life quality considerations, OTC is a promising interventional method for pre-pubertal patients facing the prospect of fertility loss which has been shown to provide optimal results in patients with complete follow-up.





Study Field: Neurology, Stroke

Study Design: retrospective cohort study

Intraluminal Thrombus of The Extracranial Cerebral Arteries in Acute Ischemic Stroke: Manifestations, Treatment Strategies, and Outcome

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Background

Free-floating thrombus (FFT) of the carotid artery is an uncommon finding that can lead to acute or recurrent ischemic stroke. Given the high risk of recurrence and the limited data to direct the appropriate treatment, the presence of FFT is considered a therapeutic challenge that is yet to be determined. Currently, antithrombotic in the form of single or dual antiplatelet, anticoagulation, or both antiplatelet and anticoagulation is considered the mainstay of therapy, but evidence of which one has a better outcome is lacking. In this article, we compared the outcomes of FFT-induced acute ischemic stroke based on the initial, short-term, and long-term therapies.

Methods

This was a single-center retrospective cohort study that included 28 patients who presented with stroke or transient ischemic attack and were found to have FFT of the extracranial arteries from 2013-2022. Patients who were non-eligible or lost for follow-up, had non-accessible brain CT angiography, missing data, brain death, poor prognosis, did not receive treatment, or had complete occlusion of the internal carotid artery were excluded. The primary outcomes were assessed radiologically by CT angiography and clinically using Modified Ranking Scale and NIHSS between treatment groups.

Results

More than half of the patients were males with a mean age of 57.8 ± 9.5 years and an average BMI of 26.9 ± 4.5 kg/m². Compared to patients who had non-internal carotid artery thrombus, those with internal carotid thrombus had significantly better discharge MRS and NIHSS ($P=0.02$ and $P<.0001$, respectively). Initial treatment with anticoagulants significantly improved the discharge MRS compared to the MRS at presentation ($P<.0001$) but not the NIHSS ($P=0.07$). Moreover, short-term treatment with anticoagulants was associated with a significant ($P<.0001$) reduction in the discharge NIHSS. Patients who received long-term antiplatelets had significantly better MRS compared to those who received anticoagulants. long-term treatment with either anticoagulants or antiplatelets significantly reduced the discharge NIHSS ($P=0.01$ and $P=0.008$, respectively).

Conclusion

Our findings suggest that initial and short-term treatment with anticoagulants and long-term treatment with antiplatelets might result in better neurological outcomes in patients with FFT-induced acute ischemic stroke. We recommend that the studied population might benefit from secondary prevention to mitigate the risk of recurrent strokes.





Study Field: Critical care

Study Design: Multicenter retrospective cohort

The impact of recombinant human erythropoietin administration on disease progress and outcomes in critically ill COVID-19 patients: A multicenter

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Background

The use of Erythropoietin-Stimulating Agents (ESAs) as adjunctive therapy in critically ill patients with COVID-19 may have potential survival benefits. However, insufficient evidence is available, particularly on their safety and efficacy. Therefore, the objective of this study is to evaluate the effect of ESAs on the clinical outcomes of critically ill COVID-19 patients.

Methods

A multicenter, observational cohort study was conducted from 01-03-2020 till 31-07-2021 and included all COVID-19 adult patients admitted to intensive care units (ICUs). Patients were categorized into two groups based on ESAs use during ICU stay (ESAs vs. control). The primary endpoint was the length of stay. The secondary endpoints were ventilator-free days (VFDs), 30-day and in-hospital mortality, and complications during ICU stay.

Results

A total of 1592 patients were evaluated for inclusion, of which 1457 patients were included. After Propensity Score (PS) matching (3:1), the overall included patients were 120. Among those, 30 patients received ESA. The mean age of the study population was 62.3 (± 14.75) years, and the majority were males (62.3 %). A longer duration of ICU stay as well as hospital stay were observed in ESA compared to the control group (beta coefficient: 0.64; 95% CI: 0.31-0.97; $P = < 0.01$, and beta coefficient: 0.41; 95% CI: 0.12-0.69; $P = < 0.01$, respectively). However, the ESA group's mean VFDs were statistically significantly shorter than the control group. No statistically significant differences between the two groups in terms of 30-day and in-hospital mortality (HR: 1.22; 95% CI: 0.7-2.12, $P = 0.48$ and HR: 1.07; 95% CI: 0.62-1.83, $P = 0.82$, respectively). In addition, the ESA group had more ICU complications.

Conclusion

The use of ESA in COVID-19 critically ill patients was associated with longer hospital and ICU stays, with no survival benefits but linked with lower VFDs.





Study Field: Internal Medicine - Cardiology

Study Design: A retrospective cohort study.

Incidence, Clinical predictors, and Clinical effect of new-onset atrial fibrillation in myocardial infarction patients.

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Background

New-onset atrial fibrillation (NOAF) is a common complication of myocardial infarction (MI) with an incidence of 6-21% and its development is associated with worse prognosis.

Methods

A retrospective cohort study was used to carry out this study. All MI patients admitted to King Khaled University Hospital, Riyadh, Saudi Arabia, between January 2015 to 2020 were eligible for inclusion. The study excluded those with a previous diagnosis of atrial fibrillation and patients who died at presentation.

Results

A total of 281 patients were analyzed with a mean age of 58.7 ± 12.7 . Incidence of NOAF was 7.8%. Significant predictors identified by multivariate logistic regression analysis included older age ($p=0.004$), history of MI ($p=0.012$), and undergoing coronary artery bypass graft surgery (CABG) as treatment ($p=0.016$). New-onset atrial fibrillation was associated with higher odds of major adverse cardiovascular event ($p=0.039$), ventricular tachycardia ($p=0.001$), and mortality ($p=0.031$).

Conclusion

New-onset atrial fibrillation is a relatively common complication of MI, and in our study, it was associated with higher odds of further complications including death. Therefore, identification of MI patients at risk of developing NOAF is crucial. Our study suggests that older age, a previous history of MI, and undergoing CABG are significant predictors of NOAF development.





Study Field: Medical Oncology & Thrombosis

Study Design: Cohort study

The Burden and Predictors of Venous Thromboembolic Diseases in Patients with Multiple Primary Malignancies

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Background

Venous thromboembolism (VTE) represents a considerable burden on cancer patients' survival and quality of life, but this burden varies based on the patient's baseline characteristics and cancer-related factors. Although solid evidence on the predictors and effect of VTE in cancer patients exists, they were not investigated in multiple primary malignancies (MPMs). We aimed to evaluate VTE rate, morbidity, and mortality to develop parameters that could predict VTEs and their associated mortality in patients with MPMs.

Methods

This was a retrospective cohort study that took place at King Abdulaziz Medical City, Riyadh, Kingdom of Saudi Arabia. Two hundred and forty-two patients with at least two biopsy-proven malignancies and had at least 3 months of follow-up after MPMs diagnosis were included.

Results

VTE was diagnosed in 14.5% of the cases, two-thirds of which were deep vein thrombosis. VTE was significantly associated with a higher mortality and worse survival. Predictors of VTE after MPMs diagnosis were a high ECOG performance status at MPMs diagnosis, a metastatic first primary malignancy, and ICU admission after MPMs diagnosis. Having a GI or hematological malignancy as the second primary malignancy, a high D-dimer at ICU admission, and palliative care referral were significantly associated with a higher mortality in patients who had VTE.

Conclusion

VTE was diagnosed in 14.5% of patients with MPMs and it significantly compromises their survival. We believe that these results might be of particular benefit since the phenomenon of MPMs is becoming more frequently encountered.





Study Field: Dermatology

Study Design: Retrospective, case-control study

The association between androgenic alopecia severity and the development of metabolic syndrome in Saudi Arabia: A case-control study

Almuntsrbellah Almudimeegh, Khalid Alekrish, Rakan Bahammam, Ibrahim Alhedaithi, Khalid Al Dakheel

Background

Androgenic alopecia (AGA) is a common type of chronic progressive hair loss that affects both males and females. AGA was shown to be associated with metabolic syndrome (MS) in many studies; the correlation between the AGA grade and MS, however, is still debatable.

Methods

This case-control study included 319 patients attending a dermatology clinic at a tertiary care hospital. Anthropometrics, blood pressure, lipid profile, and fasting blood sugar were collected from patients' records. Patients with AGA were allocated to the case group and were stratified based on severity using the Ludwig hair loss scale for females and the Norwood scale for males. The control group was composed of patients free of any hair condition. The MS diagnosis was based on the 2005 update of the NCEP ATP III criteria where if a patient crossed the threshold value in three or more of anthropometrics, blood pressure, high-density lipoprotein, and fasting blood sugar, they are considered to have MS. Data were entered in Microsoft Excel and analyzed using Statistical Product and Service Solutions version 25.

Results

Most patients in the control and AGA groups were females (78.1% and 97.3%, respectively). MS was seen in 26.4% and 10.2% in cases and controls, respectively ($P < 0.05$). Furthermore, MS was found in 21.6% of Grade I, 30.5% of Grade II, and 42.9% of Grade III female AGA patients. The increase in prevalence of MS with increasing severity of AGA was not found to be statistically significant ($P = 0.108$).

Conclusion

Our findings suggest a statistically significant association between MS and AGA. The prevalence of MS was found to increase with increasing severity of AGA, although the analysis showed no statistical significance. Based on the results of our study, we think that early screening for MS might be beneficial to patients with any grade of AGA, as this will encourage early lifestyle modification and hopefully lessen - or altogether prevent - future complications.





Study Field: General Surgery

Study Design: Retrospective cohort study

Outcomes of Road Traffic Accidents Before and After the Implementation of a Seatbelt Detection System: Comparative Retrospective Study in Riyadh

Ibrahim Al Babbain, Aljawharah Alabdulkarim, Ghadah Alquwaiee, Shikah Alsuwaid, Eythar Alrushid, Maram Albalawi

Background

Road traffic accidents (RTAs) are considered a major cause of death in Saudi Arabia. As seat belt compliance provides significant safety among drivers, a camera detection system has been implemented in March 2018 to enforce seat belt utilization, which can decrease the severity of road traffic injuries. There are no previous studies in the country that have assessed the effectiveness of a seat belt camera detection system on the severity of RTA-related injuries.

Methods

A retrospective cohort study was conducted at King Abdulaziz Medical Trauma Center in Riyadh, Saudi Arabia. The study included 688 adult patients who were involved in RTAs from the period of March 2016 to March 2020. A data extraction form included sociodemographics, clinical variables, and outcome measures. The data were analyzed using Statistical Analysis Software (SAS) to evaluate the primary outcome measures: mortality, ejection from the vehicle, ICU admissions, and severity measures (injury severity score (ISS) and Glasgow Coma Scale (GCS)) before and after the implementation of seat belt detection system. Associations of the outcome measures in the pre-implementation and the post-implementation periods' seat belt detection were assessed using regression tests.

Results

There was no significant difference in the mean age between the pre-implementation and post-implementation periods of the seat belt detection system (31.39 years and 32.57 years, respectively). All of the outcome measures have improved following the implementation of the seat belt detection system. Mortality and ejection rates decreased significantly with 58% lower risk of death (OR= 0.42; 95% CI= 0.2,0.8) and 37% lower risk of ejection (OR= 0.63; 95% CI= 0.42,0.94). ICU admissions showed a slight decline in the post-implementation period compared to the pre-implementation period (30.37% vs. 31.37, $p<0.7764$). Severity measures (ISS and GCS) were slightly improved in the post-implementation period. Head and neck injuries were dominant in the pre-implementation period, and chest injuries were the most common body injuries after the implementation.

Conclusion

This study highlights the direct association between compliance with seat belt use and the primary outcome measures among patients who survived a road traffic accident. All of the outcome measures showed improvement in the post-implementation period, which indicates the effectiveness of the newly implemented seat belt detection system. These findings raise awareness to the public in regard to seat belt compliance.



Poster Presentation





Study Field: Genetics

Study Design: Case report

Detailed genetic and clinical analysis of a novel de novo variant in HPRT1: Case report of a Saudi female with Lesch Nyhan syndrome

Joud Alkhalifah^{1,2} Albandary AlBakheet¹ Hanan AlQudairy¹ Sheikha Almoaily³ Namik Kaya^{1*} Zuhair Rahbeeni^{4*}

Background

Hypoxanthine-guanine phosphoribosyltransferase (HPRT1) deficiency is an inborn error of purine metabolism responsible for Lesch-Nyhan Syndrome (LNS). The disease is inherited in an Xlinked recessive manner and predominantly affects males. Females can carry a mutation as heterozygotes but typically they are asymptomatic because of the random inactivation of the affected allele. Nevertheless, although rarely, heterozygote females may manifest LNS with full characteristics. Herein, we describe a Saudi female with LNS.

Methods

A female sibling from a non-consanguineous Saudi family was recruited from medical genetics clinic at King Faisal Specialist Hospital and Research Center (KFSHRC). Peripheral blood samples were collected into EDTA tubes from the affected girl and her parents'. In addition, a skin biopsy was used for primary skin fibroblast culture. Genomic DNA (gDNA) was isolated from the blood then Whole exome sequencing (WES) was performed on the DNA; to confirm the result, gDNA samples were amplified by PCR using HPRT1-specific primers. Analysis of the X inactivation pattern was performed.

Results

The patient (a 4-year-old girl) presented with typical characteristics of the disease, which includes global developmental delay, self-mutilation, hyperuricemia, hypotonia, speech delay, spasticity, and seizures. Her general biochemical laboratory results were normal except for high levels of uric acid. The abdominal MRIMRS, mostly unremarkable, showed bilateral echogenic foci within the renal collecting system. Genetic testing (whole exome sequencing, iterative variant filtering, segregation analysis, Sanger sequencing) pointed to a novel de novo frameshift variant in HPRT1. X-inactivation assay using HpaII showed the presence of a 100% skewed X chromosome carrying the affected allele. RT-PCR of cDNA indicated the complete loss of the expression of the normal allele.

Conclusion

Our study presents the 15th female patient, a severe case of LNS, from Saudi Arabia with 9th novel de novo variant of HPRT1, and briefly reviews previously reported female cases in the literature.





Study Field: Respiratory

Study Design: A quantitative cross-sectional study

Descriptive of Dyspnea severity among Saudi Smokers: A preliminary result

Leenah Al-mowais, Amal Abuthiyab, and Janna Alsuheil

Background

Cigarette smoking has a significant role in the development of respiratory symptoms in adults. Dyspnea is one of the cardinal respiratory symptoms. This study aims to describe the level of dyspnea among adult Saudi smokers. In addition, the strength of the association between the severity of dyspnea and the number of smoking years

Methods

A cross-sectional study was conducted among Saudi adult smokers from different regions in the kingdom. A self-administered questionnaire involving a validated tool for assessing dyspnea i.e., D-12 which contains 12 items that provide a global score of dyspnea. The score is calculated using summation for each item as 0 "mild" to 3 "severe". Therefore, a total score of 36 indicates maximal severity. Descriptive and correlation statistics were used to analyze the preliminary data. Institutional review board (IRB) approval was acquired.

Results

277 responses were acquired all are Saudi Smokers. The majority is male $n=221$ (80%), from Riyadh region $n=193$ (70%), and 235 (85%) participants report no medical chronic condition. The overall mean value of the D-12 score was 6.2 ± 7.4 with a range of 0 - 34. The correlation coefficient revealed that there was no correlation between the severity of dyspnea and the number of smoking years ($r=-0.01$, $p=0.81$) Figure 1.

Conclusion

The results of using the D-12 questionnaire indicate that the severity of the dyspnea do not rise to higher levels among Saudi smokers and might not necessarily correlates with the number of smoking years. A further analysis will assess the dose dependent smoking and severity of dyspnea.





Study Field: Ob-gynecology

Study Design: cross-sectional study

Pregnant and Breastfeeding Women's Attitudes and Fears Regarding COVID-19 Vaccination: A Nationwide Cross-Sectional Study in Saudi Arabia.

Amjad Alotaibi, Ebtessam Almajed, Aisha Alotaibi, Kholoud Alotaibi, Sara Albisher.

Background

Contracting coronavirus disease (COVID-19) during pregnancy has been linked to an increased risk of severe maternal and fetal complications. Mass vaccination is considered a promising solution to successfully combat the COVID-19 pandemic. It includes vaccinating of pregnant and breastfeeding women. The success of a vaccine is determined not only by its efficacy, but also by its acceptability. Therefore, our study aimed to explore the acceptability and reluctance of pregnant and breastfeeding women to receive COVID-19 vaccination in Saudi Arabia.

Methods

This cross-sectional study was conducted in Saudi Arabia from March 2022-beginning to June 2022-end. Using an online self-administered questionnaire with a convenience sampling technique, we assessed women for pregnancy, gravidity, parity, high-risk pregnancy, trimester of pregnancy, and current or planned breastfeeding. Furthermore, we assessed patients with preexisting chronic illnesses. The questionnaire comprised sociodemographic data and items drawn from Goncu Ayhan et al, including vaccination history, perception of risk related to the COVID-19 pandemic, impact of the COVID-19 pandemic, and acceptance and attitude toward future COVID-19 vaccination.

Results

A total of 854 women (615 pregnant and 192 breastfeeding women) were included. Predictors of COVID-19 vaccination acceptance were found in women with a high level of education, those who lived with an elderly family member, and had close contact with a COVID-19-positive person. The reasons for declining vaccination included COVID-19 diagnosis during pregnancy and concerns about side effects of COVID-19 vaccines. A total of 503 (58.9%) women believed that COVID-19 vaccines had the potential to harm their babies. Only 415 (48.6%) agreed they would take the COVID-19 vaccine if it were recommended for pregnant women.

Conclusion

Pregnant and breastfeeding women fear COVID-19 vaccination due to safety concerns for their babies. COVID-19 vaccine acceptance varies among pregnant and breastfeeding women, regardless of whether they receive the COVID-19 vaccine. Our study underlines the importance of public education campaigns to improve the overall quality of information on COVID-19 vaccination, particularly among pregnant and breastfeeding women.





Study Field: Dentistry

Study Design: cross-sectional

Pregnancy outcomes in relation to oral health status

Reema alsubaie; Turki Alshehri; Razan Alwalmani; Ghena Alhumaid; Abdulsalam Alshehri; Balgis Gaffar

Background

Pregnancy is an important period that causes numerous changes in the body as well as the oral cavity. Pregnant women are more likely to develop gingivitis, pyogenic granulomas, and a variety of salivary abnormalities. The probability of an unfavorable pregnancy outcome has also been linked to periodontal disease. It's been reported that a large majority of women who become pregnant are completely uninformed about the role of oral health status and dental care on their pregnancy and that the oral health status of a mother is closely linked to her offspring.

Methods

A purposive sampling technique was used to recruit pregnant women from the selected facilities. Data was collected using a validated self-administered questionnaire available in English and Arabic. The questionnaire included sections about background information, perceived oral health status, oral hygiene practices, and dental visits.

Results

A total of 481 women were recruited. Almost all were Saudis (95.6%), 53% were between 25 - 40 years old and 76.7% had a university education. From the participants 360 (74.8%) had a previous pregnancy and 310 (64.4%) reported facing dental problems and complaints during their pregnancy, 239 (49.7%) noticed a deterioration in their oral health during pregnancy, and 308 (64%) did not face any complications during or after delivery. Less than half (40.7%) rated their oral health as good and only 22% visited a dentist during their pregnancy. Dentists (44.1%) followed by media (38.9%) were the main source of oral health information. Dental problems during pregnancy were significantly associated with adverse pregnancy outcomes ($P=0.007$). Pregnant women's perceptions about their oral health, not visiting the dentist during pregnancy and gingivitis were significantly associated with adverse pregnancy outcomes ($P<0.001$).

Conclusion

Dental problems during pregnancy, oral health perceptions, lack of dental visits and gingivitis were significantly associated with adverse pregnancy outcomes. Oral health educational campaigns are needed to clarify misconceptions among pregnant women and encourage regular dental visits during pregnancy.





Study Field: Radiology

Study Design: Cross Sectional Study Design

Assessment of Adherence to Radiation Protection Protocol and Practice In Radiology Department

Mr. Mohammed Abdulmohsen Alsubaie, Mr. Gokulchandra Singh Oinam, Mr. Fahad Farraj Alqabbani, Mrs. Wnni Philips

Background

Good adherence to radiation protection practices by radiology technologists is required to ensure the radiation safety of occupational workers, patients, and environmental protection.

Methods

Data on 130 occupational workers who work in the radiology department of King Abdul-Aziz Medical City, Riyadh, Saudi Arabia, were acquired using a convenience sampling technique. The duration of the study was from May 2021 to December 2021. A prospective cross-sectional study design was used.

Results

A total of 130 distributed questionnaires, 101 of which were received back with a response rate of 77.69%. In total, 37 (36.6%) female and 64 (63.4%) male radiographers participated in this study. Table 1 summarizes the radiographer's demographic information, including age and degree of education. The radiographer's ages ranged from 24 to 45 years old. Approximately 94.1% held a bachelor's degree, whereas less than a quarter earned a master's degree (4%) or Ph.D. (2%). The results show that many radiology technologists have good adherence, but we find that they need more knowledge about the importance of wearing aprons and keeping the minimum distance to improve their adherence to radiation protection.

Conclusion

Our study showed that the majority of the radiographers had high to moderate adherence to radiation protection practices, except for a few of the parameters.





Study Field: Radiology

Study Design: Cross Sectional Study Design

Assessment of Adherence to Radiation Protection Protocol and Practice In Radiology Department

Mr. Mohammed Abdulmohsen Alsubaie, Mr. Gokulchandra Singh Oinam, Mr. Fahad Farraj Algabbani, Mrs. Wnni Philips

Background

Good adherence to radiation protection practices by radiology technologists is required to ensure the radiation safety of occupational workers, patients, and environmental protection. The aim of this study is to improve the knowledge of radiation protection and adherence to radiation safety measurements among healthcare workers employed ionizing radiation.

Methods

Data on 130 occupational workers who work in the radiology department of King Abdul-Aziz Medical City, Riyadh, Saudi Arabia, were acquired using a convenience sampling technique. The duration of the study was from May 2021 to December 2021. A cross sectional study and a suitably and structured questionnaire was adapted from the previous similar studies and assess knowledge of radiation protection and adherence to radiation safety measurement designed in line with the current research objectives were collected from occupational workers.

Results

A total of 130 distributed questionnaires, 101 of which were received back with a response rate of 77.69%. In total, 37 (36.6%) female and 64 (63.4%) male radiographers participated in this study. Table 1 summarizes the radiographer's demographic information, including age and degree of education. The radiographer's ages ranged from 24 to 45 years old. Approximately 94.1% held a bachelor's degree, whereas less than a quarter earned a master's degree (4%) or Ph.D. (2%). The results show that many radiology technologists have good adherence, but we find that they need more knowledge about the importance of wearing aprons and keeping the minimum distance to improve their adherence to radiation protection.

Conclusion

Our study showed that the majority of the radiographers had high to moderate adherence to radiation protection practices, except for a few of the parameters.





Study Field: Dermatology

Study Design: Case Report

Unilateral Lichen Planus Pigmentosus with Blaschko's line distribution: A Case Report

Almuntsrbellah Almudimeegh¹, Mohammed Habib ², Omar Alsuhaibani², Nawaf Alkhudhayri²

Background

Lichen planus pigmentosus (LPP) is a distinctive variant of Lichen planus (LP) described for the first time in 1974. A wide range of presentations and distribution patterns have been reported, mainly presenting as dark brown hyperpigmented macules and patches, typically involving sun-exposed areas such as the face, neck, and flexural folds. It is more common in dark-skinned patients with a female predominance. Rarely, LPP may present as a Blaschkoid distribution, with only a few cases reported in the medical literature. We report an unusual case of LPP that developed with a unilateral Blaschkoid distribution on the left side of the trunk in a 32-year-old female following weight reduction surgery.

Methods

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Results

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Conclusion

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Study Field: Emergency Medical Services - Prehospital Setting

Study Design: Cross-sectional Study

Pedi STAT in Prehospital Setting

Alanowd S. Alghaith, Raghad F. Althaqeb, Raghad H. Abuhaimeed, Munirah N. Alturki, Shatha M. Alanizi and Winnie Philip

Background

Medication Error (ME) is a preventable incident that results in misusing of pharmaceuticals harming the consumer. ME risk increases in emergency care, particularly in critical pediatric situations and prehospital setting, since medications for pediatric must be calculated based on the patient's weight, which may result in arithmetic errors¹⁻². The ME occurrence reached 20%, and in a local study ME incidence accounted for 8.7%³⁻⁴. Efforts were made to prevent pediatric ME in the prehospital setting. One of the numerous efforts to eliminate pediatric MEs is the development of easily used applications. Pedi STAT EMS is a tool intended to assist medical professionals mainly with drug dosing using patient weight. This study aims to assess and compare the rates of MEs by using the already developed application, Pedi STAT, and the conventional method of giving correct doses and routes for pediatric emergencies.

Methods

A prospective cross-sectional study design was used for the study. Data were collected from paramedics with bachelor's degree or higher working with Saudi Red Crescent Authority and Ministry of National Guard Health Affairs. The study excluded emergency medical technicians and EMS interns. Alternate simple random was used to recruit participants into two groups using the same questionnaire to calculate medication using the conventional way or using Pedi STAT EMS. The questionnaire was developed by an expert in the field using pediatric clinical scenarios where participants are asked to provide the medication name, dose, and route. Four pediatric clinical scenarios consist of pediatric cardiac arrest, asthma exacerbation, seizures, and hypoglycemia.

Results

This is a preliminary analysis since the study is still ongoing. 31 participants provided an agreement to the study. Male paramedics accounted for 87%, 84 % were bachelor's degree holders and 87% were certified in pediatric resuscitation courses. 48% of participants used the conventional method and 52% used the Pedi STAT. A statistical significance was found when the participants used Pedi STAT compared to the conventional method in all clinical scenarios (Figure 1) especially Epinephrine dose, Epinephrin route, asthma medication dose, Midazolam dose and hypoglycemia medication dose with the respective p values 0.025, 0.048, 0.002, 0.037, and 0.020. The average mean time for conventional method was greater (17.8 minutes) than for Pedi STAT (11.72 minutes) with p value 0.865, which are not statistically significant

Conclusion

The initial study finding supported the use standardize precalculated applications such as Pedi STAT reduces pediatric ME and decreases the time consumed in calculating pediatric medication doses compared to the conventional way. These results give a positive indication that the use of the application will have a positive return on the outputs of the medical services provided out of the hospital.





Study Field: CAMS Students in KSAU-HS Riyadh

Study Design: Cross Sectional Study

Self-directed Learning Readiness Among Undergraduate Applied Medical Students: A Cross sectional Study.

Fatmah Othman, Reema Alrogi, Sadeem Alotaibi, Lena Alsaikhan, Ghadah Alenazi.

Background

Introduction: Self-directed learning (SDL) is a technique of instruction that has increasingly been used in adult education at academic institutions. It has a scale that was made to assess self-directed learning readiness (SDLR). SDL is an element of a new medical curriculum that employs problem-based learning (PBL), which is an innovative method that shifts the educational setting away from a teacher-centred towards student-centred learning. Evidence indicates that students with low SDL readiness who were given an SDL project, experienced significant levels of anxiety, whereas, students with strong SDL readiness who were exposed to increasing degrees of teacher guidance, experienced high levels of anxiety. **Objectives:** The study aimed to determine the level of self-directed learning readiness (SDLR) among undergraduate students at the College of Applied Medical Sciences (CAMS) in King Saud bin Abdul Aziz University for Health Sciences (KSAUHS) Riyadh. The study also investigated potential relationships between SDLR and selected demographic variables of the samples.

Methods

Methods: This study used an analytical cross-sectional survey design and Simple Random Sampling Method. The data was gathered from 42 students of different programs at CAMS through an online questionnaire developed by M Fisher. The research instrument, which is a five point Likert scale where score 1 indicates 'Strongly disagree', and a score 5 indicates 'Strongly agree', consists of 40 items under the three domains namely self-management, desire for learning, and self-control. The collected data was analysed through descriptive statistics, Pearson Correlation test and Independent t test with 5% significance level.

Results

Result: Of the 42 students, majority were females (59.5%), with most of them from the fourth year (66.7%). The study noted that 95.2% of the students had a daily smartphone usage, while 83.3% used internet daily. For the Grade Point Average (GPA), mean (\pm SD) score was $4.17 \pm (0.50)$ with a minimum of 3 and a maximum of 4. Self-directed learning readiness was indicated by an overall mean (\pm SD) score of $159.56 (\pm 16.85)$ with a minimum score of 124 and the maximum of 187. There were no statistical significance for the total score of SDL readiness among the students, and the variables such as gender, age, college year, and GPA score had the p values 0.409, 0.119, 0.973, and 0.193 respectively. The mean scores for SDLR subscales are given in Figure 1 with the highest mean score for the subscale 'Self-control' (60.31), followed by 'Desire for learning' (48.81), and 'Self-management' coming in at the lowest (46.64).

Conclusion

Conclusion: Fifty percent of the students showed good self-directed learning readiness. Training students towards self-directed learning is an integral part of the teaching-learning experiences in universities, which will contribute to learning independence and produce high quality health professionals in the days to come. **Conclusion:** Fifty percent of the students showed good self-directed learning readiness. Training students towards self-directed learning is an integral part of the teaching-learning experiences in universities, which will contribute to learning independence and produce high quality health professionals in the days to come.





Study Field: Cardiology

Study Design: systematic review and meta-analysis

Safety and Effectiveness of Evolocumab During Acute and Sub-Acute Phases of Acute Coronary Syndrome: a systematic review and meta-analysis

Abdullah F. Alzarroug, Haif K. Al Gahtani, Saad N. Algahtani, Hatan K. Alghamdi, Mohammad F. Alhinti, Sara N. Algahtani

Background

Coronary Artery Disease (CAD), manifested mainly as Acute Coronary Syndrome (ACS), continues to be a major cause of mortality globally and a significant contributing factor to the Global Disease Burden. Research into the pathophysiology of CAD reveals that elevation of low-density lipoprotein cholesterol levels attributed to proprotein convertase subtilisin/Kexin type-9 (PCSK9) during and following ACS puts patients at high risk of subsequent adverse events. Evolocumab has been associated with a significant reduction in LDL-C levels through PCSK9 inhibition compared to traditional statin therapy.

Methods

We conducted a systematic review and meta-analysis of literature addressing the efficacy and safety of evolocumab compared to other lipid-lowering therapies. An extensive internet-based literature search using pre-determined key phrases supported by medical sub-headings and Boolean operators was performed in October 2022 to identify literature pertinent to the research topic. The search was primarily based on the National Library of Medicine (PubMed and Clinical Trials), MEDLINE, Cochrane and the Science direct literature databases. Subsequently, the researchers devised PICO's-based screening criteria which had to be met by each identified study for inclusion in the review and meta-analysis. Two independent reviewers conducted data stratification and quality assessment of identified studies. Statical analysis of the primary and secondary outcomes was conducted on the Cochrane REVMAN 5.4 statistical software for randomized trials.

Results

Two thousand five hundred and sixty potential studies were identified for inclusion in the systematic review. Data stratification, screening and quality assessment of these studies based on the eligibility criteria led to the exclusion of two thousand five hundred and fifty-one studies as they did not meet the standards set. Nine randomized controlled trials progressed to numerical analysis for validity and reliability. Eight studies were included in the meta-analysis. Meta-analytical results showed a significant decrease in LDL-C changes from initiation of evolocumab therapy to 8 weeks following ACS compared to placebo. Similar results were derived in the sub-acute phase of ACS [$P=0.00005$, thus < 0.05 , (SMD -1.95 (95% CI -2.29, -1.62)]. In addition, a significant prevalence of adverse and serious adverse events was reported in the meta-analysis. When compared to placebo, the risk of adverse effects and serious adverse effects from treatment was relatively higher in the evolocumab group (RR 1.04 (95% CI 0.99, 1.08) though statistically insignificant ($Z= 1.53$; $P=0.12$).

Conclusion

Early evolocumab therapy initiation was associated with a significant decrease in LDL-C levels and reduced incidence of adverse cardiovascular events.





Study Field: Domestic violence against women

Study Design: A descriptive cross-sectional design

What Are the Saudi Community Attitudes Towards Domestic Violence Against Women? A Cross-Sectional Study From Riyadh

Abeer Selim, Abeer Omar, Nada Almubayi, Aseel Alayed, Jamilah AlQahtani, and Anwar Almutairi

Background

Culture and social norms shape attitudes towards domestic violence against women (DVAW). Attitudes accepting DVAW contribute to violence. There is scarce evidence about community attitudes towards DVAW in Saudi Arabia.

Methods

The study explored the Saudi community attitudes towards DVAW. The study utilized a descriptive cross-sectional design using a self-report structured questionnaire to collect socio-demographic data and participants' attitudes towards DVAW.

Results

The study sample included 831 Saudi participants, 414 females and 417 males, between 18 and 79 years old. The majority of participants (69.5%) showed rejection of DVAW. Women were five times more likely to reject DVAW than men (OR = 5.19, 95% CI [3.6-7.4]). Participants with pre-university education and lower living standards reported rejection of DVAW compared to their counterparts.

Conclusion

In conclusion, the Saudi community showed rejection towards DVAW. Female gender and education below university degree predicted higher rejection towards DVAW. The Islamic nature of Saudi culture could explain the rejection of DVAW. References of Islam include Prophet Muhammad's life example, which includes Prophet Muhammad's sayings and doings (sunnah). Several verses in Qur'an (Islam Holy Book) address the creation of mankind based on equity, spouses' relationships based on mercy and compassion.





Study Field: Pharmaceutical Sciences

Study Design: Laboratory Experimental Study

Synthesis of Silver Nanoparticles Containing Saudi Medicinal Plants; Insights Into Anti-Cancer and Anti-Bacterial Activity

Afrah Mohammed, Arwa Alsubait, Fai Alenazi, Hayfa Alhaidal, Lamis Alsaqer, Layan Al Tuhayni, Shahad Alharbi, Shahad Alzahrani, Sahar Alghamdi*

Background

Plant-mediated nanofabrication is an emerging field of nanotechnology that is preferred over conventional techniques due to its safety, cost-effectiveness, environmental friendliness, and biocompatibility.

Methods

Present study focuses on the green synthesis of silver nanoparticles using silver nitrate (AgNO_3) and bio components of aerial extract of *Rhazya Stricta* (R.S), *Rumex Vesicarius* (R.V), *Calligonum Crinitum* (C.C), and *Calotropis Procera*(C.P). Different microscopic and spectroscopic characterization techniques were performed to confirm the biofabrication of R.S, R.V C.C and C.P mediated AgNO_3 NPs. The cytotoxicity of the AgNPs was measured against the large intestine adenocarcinoma cell line (HCT8) and human liver cancer cell line (HepG2) using an MTT assay. Moreover, the antibacterial activity of the prepared nanoparticles was evaluated on *S. aureus* and *E. coli* bacterial strains.

Results

Nanoparticle characterization, using EDX and TEM, exhibits excellent encapsulation of nanoparticles by medicinal herbs. Observed cytotoxicity against HCT-8 was found to be $\text{IC}_{50} 22.8 \pm 1.84 \mu\text{g/ml}$ for R.S, $\text{IC}_{50} 156.4 \pm 16.75 \mu\text{g/ml}$ for R.V, $\text{IC}_{50} 190 \pm 1.24 \mu\text{g/ml}$ for C.C, and $\text{IC}_{50} 21.2 \pm 0.12 \mu\text{g/ml}$ for C.P. Also, the MTT assay revealed cytotoxic activity against HepG2 that was $\text{IC}_{50} 55.6 \pm 4.9 \mu\text{g/ml}$ for R.S, $\text{IC}_{50} 138.7 \pm 8.2 \mu\text{g/ml}$ for R.V, $\text{IC}_{50} 191.7 \pm 8.7 \mu\text{g/ml}$ for C.C, and $\text{IC}_{50} 67.7 \pm 3.1 \mu\text{g/ml}$ for C.P. Furthermore, our findings would seem to show that there was antimicrobial activity against *S. aureus* with an inhibition zone of 19 mm for R.S, 20 mm for R.V, 20 mm for C.C, and 19 mm for C.P. An activity against *E. coli* strain was also observed with an inhibition zone of 20 mm for R.S, 18 mm for R.V, 18 mm for C.C, and 17 mm for C.P.

Conclusion

Silver Nanoparticles mediated by the previously mentioned plants could possess cytotoxic activity against several cancer cell lines. Such AgNPs treated by plant extracts would appear to enhance antimicrobial activity against well-known pathogenic strains, namely *S. aureus*, and *E. coli*.





Study Field: Dentistry

Study Design: cross-sectional study

Physicians' examination and referral practices on orthodontic problems in children-Saudi Arabia

Abdalaziz Alsuliman, Deema Alomran, Hanan Alsheheri, Maram Almalki, Suha Alenazi, Lubna Alnasser.

Background

The primary goals for orthodontic therapy are to enhance oral function, appearance, and overall dental health. Management for orthodontic problems should begin early in many cases for more efficient treatment and to reduce the likelihood of difficulties later in life. Physicians are usually more likely to examine children in early life, thus, they have a significant role in detection of dentofacial problems. Thus, the study aim was to investigate the examination and referral practices of physicians regarding orthodontic problems in children in Saudi Arabia.

Methods

A validated E-questionnaire was distributed to Physicians with different experiences in Saudi Arabia. A scoring system was applied to assess the levels of physicians' examination and referral practices. Multiple regression analysis was applied to identify predictors of examination and referral practice. Significance was considered at $P < 0.05$.

Results

Total number of responses was 518. Majority of participants were, Males (55%), Aged 35 years or younger (77%), had 5 years of experience or less (62%), and were General practitioners (48%). The mean score of cavity element examined was 3.2 ± 1.7 with the maximum elements scored as 6 elements. Less than half of physicians (46%) practice a satisfactory oral cavity examination. And Approximately (9%) of physicians did not perform oral cavity examination at all. As for referral practices, dental developmental conditions were the main reason for orthodontic referral (53%). And approximately (15%) of physicians did not report orthodontic referral for their patients. Predictors on whether a physician performs an oral cavity examination or not are years of experience, and type of practice.

Conclusion

There was a variability among physicians regarding the examination and referral practices on orthodontic problems. A significant portion of physicians had less than satisfactory oral examination ritual. It is recommended to include dental courses in medical curriculum, to improve oral and orthodontic knowledge.





Study Field: Plastic surgery, General Surgery, Trauma

Study Design: Cross-sectional Study

Awareness, Attitude, and Willingness Toward Bleeding Control by Bystanders in Riyadh

Amr Y. Arkoubi , Sajad A. Salati , Alwaleed I. Almughira , Abdullah I. Abuharb , Khalid A. Almutairi , Fahad A. Alosaimi ,
Mohammad Aldayel

Background

Hemorrhage after trauma is the second leading cause of death in patients in the prehospital environment, and intervention by bystanders before the arrival of professional rescuers has the potential to save lives in such circumstances. No studies have been conducted in Saudi Arabia till date to assess the knowledge and awareness of bleeding control by bystanders. Hence, this study was conducted with an aim to assess the level of awareness, attitude, and willingness toward bleeding control by bystanders in Riyadh city, the capital of Kingdom of Saudi Arabia (KSA).

Methods

This is an observational cross-sectional survey design that was conducted from July 2022 to August 2022 using an electronic questionnaire targeting populations who live in Riyadh city. MS Excel 2022 was used for data entry and coding, while SPSS Version 26 (IBM Corp., Armonk, NY) was used for data analysis.

Results

In this study, 585 adults from Riyadh city were recruited. Among the participants, 62.9% of them were between 16 and 26 years of age; 55.4% were males and 90.3% were Saudi Arabian citizens. Of the participants, 76.1% reported that they did not have any experience in participation in bleeding control related activity. Fear of causing more harm to the patients by attempting bleeding control was expressed by 65.1%. In general, 40.2% of the participants have adequate knowledge considering controlling of bleeding in an emergency setting. Higher level of education and having a previous first aid training were associated with better knowledge significantly ($p=0.001$ and 0.012 , respectively).

Conclusion

There is a great need to improve the level of awareness about the role of bystanders in bleeding control and to design community-level activities to popularize this important life-saving skill.





Study Field: Emergency Medical Services

Study Design: Quantitative cross-sectional

The Obstacles that Paramedics Face in Terms of Dealing with Bariatric Patient

1-Abdulrahman Hassan Alsereh.. There are more but I could not write them here

Background

This study aimed to identify and assess the most common challenges and obstacles facing paramedics when managing bariatric patients in prehospital care. Furthermore, the study investigated the injuries that the paramedics' may sustained when managing bariatric patients in prehospital care.

Methods

: A quantitative online survey cross-sectional retrospective study of all Saudi Red Crescent Authority (SRCA) paramedics and Emergency Medical Services (EMS) interns who have been approached to bariatric patients in Riyadh from 2021 to 2022. Incomplete surveys and surveys completed by other health care providers were excluded. A consecutive sampling technique was used to obtain the sample size of 1150 paramedics and EMS interns in SRCA, and with the help of Raosoft sample size calculator, the required sample size was calculated as 290. An online questionnaire using Google Forms was used to collect the demographic data and select the level of difficulty when managing bariatric patients, challenges and obstacles that paramedics' face when caring for bariatric patients, and the injuries that the paramedics' sustained when managing these patients. Frequencies and percentages were used to represent the categorical variable. Finally, all collected data was stored in Microsoft excel (2019) sheet and exported to SPSS statistical software.

Results

A total of 43 paramedics and EMS interns have been responded so far to our questionnaire. All the 43 (100%) respondents were males, the majority were paramedics (77%) and more than half of the participants (51%) had a 1-10 years level of experience. The majority of the respondents (63%) reported the level of difficulty when managing bariatric patients as "very difficult". The most common challenge when managing these patients was lifting and movement (91%) (Table 1). Prolapsed disc was the most common injury encountered by paramedics when managing bariatric patients (39%) (Figure 1).

Conclusion

The findings of this study showed that the management of bariatric patients in prehospital is very difficult especially during lifting and movement which may endanger the health of paramedics. Future research are needed to assess the effectiveness of applying alternative equipment and specialized team to manage bariatric patients such as using hydraulic stretchers.





Study Field: Neurology

Study Design: Retrospective chart review

Post-stroke epilepsy in Saudi Arabia - frequency, management and outcomes at a comprehensive stroke center in Riyadh, KSA

Meshari S. AlSudayri, Moath S. AlMosa, Ziyad AlGhweinem, Sultan AlShehri, Naif H.Ali, Ramesh Vishwakarma, Ismail A. Khatri

Background

Approximately 5% to 7% of patients with stroke develop post-stroke epilepsy (PSE). There is no prior report of frequency, characteristics and outcomes of post-stroke epilepsy in Saudi population.

Methods

After IRB approval, a retrospective chart review was performed on patients admitted with stroke at King Abdulaziz Medical City, MNGHA, Riyadh between January 2016 and December 2020. Post-stroke epilepsy was defined as one or more seizures after the 7th day of incident stroke. Data was collected about demographic features, stroke characteristics, epilepsy management and outcomes. Data was analyzed using Statistical Analysis Software (SAS).

Results

A total of 2985 stroke patients were included, of whom 2596 (87.0%) had ischemic stroke, whereas 389 (13.0%) had hemorrhagic stroke. PSE occurred in 164 (5.49%) patients. In the ischemic group, 129 (4.97%) had PSE, whereas 35 (8.99%) in hemorrhagic group. The mean age was 64.9+/-15.9 years, 102 (62.2%) were men, and 157 (95.7%) were Saudis, 145 (88.4%) were married. Only 46 (39.7%) patients presented within 6 hours of symptoms onset. Mean NIHSS at presentation was 11.3+/-7.1. The commonest type of seizures were generalized in 96 (58.5%), focal in 45 (27.4%), whereas in 23 (14.0%) were unclassified. A total of 26 (16%) patients had status epilepticus., epileptiform abnormalities were seen in 16 (9.8%) patients on electroencephalogram. Treatment was started in 151 (93.8%) patients after first seizure, levetiracetam was the commonest 1st antiepileptic drug (AED) used in 133 (82.6%). Side effects were reported in 11 (6.9%) patients, including behavioral changes in 9 (5.5%), irritability in 6 (3.7%) patients. A total of 19 (11.8%) patients needed 2nd AED, whereas 10 (6.1%) needed 3rd AED. The mean follow up after stroke was 32.7+/-31.4 months. At last follow up, 120 (87%) were seizure free.

Conclusion

Post-stroke epilepsy was common in our cohort. The patients with hemorrhagic stroke were more likely to have post-stroke epilepsy compared to ischemic stroke. Generalized seizures were the commonest type of seizure. Most patients had good control at last follow up requiring only monotherapy.





Study Field: Orthopedic surgery

Study Design: Cross-sectional study

Factors Influencing the Selection of Saudi Board Orthopedic Surgery Applicants: National Survey of Program Directors

Alwaleed Abdullah Alshahir, Fahad Helal Alhelal, Majed Salah Abaalkhail, Faisal Mohammedsaleh Konbaz, Rayed Meshal Al Jehani, Sami Aleissa

Background

Around the globe, medical students vie to secure a seat in orthopedic residency programs. This rigorous competition places orthopedic surgery as one of the most competitive specialties in the medical field. Although several studies internationally were published regarding the factors that influence program directors in choosing their ideal applicant, the data with that regard in Saudi Arabia is still lacking.

Methods

In this cross-sectional study, an electronic survey was constructed due to the novelty of such study in Saudi Arabia. The survey was sent to all orthopedic surgery program directors to explore their opinion on the factors that influence their decision in choosing an applicant. SPSS was used to analyze the data in this study. frequencies were used to calculate the demographical data, multiple choice questions, and yes/no questions. While the ranking of factors relating to residency selection criteria was given a mean score.

Results

In this study, 22 orthopedic surgery program directors responded to our survey. When program directors were asked to rank the factors of residency selection criteria, good impression on interviews, prior experience in orthopedic surgery such as electives, and performance on ethical questions during interviews were the top-ranked factors with a mean of 9.18, 8.95, and 8.82 respectively. When answering multiple choice questions, program directors preferred letters of recommendation from recommenders that they personally know, clinical experience such as electives taken at the program director's institution, and the quality of publications as the most important aspect of research. Most program directors (90.9%) relied on their residents' and fellows' opinions when selecting candidates, and (77.3%) did not think gender has an influence on the selection of applicants.

Conclusion

As this study highlights the factors that influence and attract program directors of orthopedic surgery in choosing their candidates, applicants of orthopedic surgery currently have the advantage of early planning to build a strong application that will persuade program directors into choosing them.





Study Field: Nephrology

Study Design: Retrospective cohort study

Presentation and Outcomes of Patients With End-Stage Kidney Disease Hospitalized With COVID-19 at a Tertiary Center in Riyadh, Kingdom of Saudi Arabia.

Mohammed Tawhari , Eythar Alrushid , Ghadah Alquwaiee , Shuq Alanazi , Joud Alkhudair , Abdulaziz Aldalaan , Shikah Alsuwaid , Aljawharah Alabdulkarim , Fawaz Tawhari , Khaled M. Hattan , Ibrahim Tawhari , Mansoor Radwi

Background

Patients with end-stage kidney disease (ESKD) are disproportionately vulnerable to COVID-19 and its complications due to the older age and significant burden of comorbid conditions. Data about the impact of COVID-19 on the ESKD population in the Kingdom of Saudi Arabia is scarce, and this study aims to bridge this gap.

Methods

This is a retrospective cohort study that included ESKD patients who were receiving either in-center hemodialysis (HD) or peritoneal dialysis (PD) for at least three months and were hospitalized due to COVID 19 at King Abdulaziz Medical City in Riyadh (KAMC) between March 2020 and March 2021. Of note, the in center hemodialysis means that the patients come to the dialysis center three times per week to receive their dialysis sessions, as home hemodialysis is not available at our center. Multivariate logistic regression was performed to explore the association of clinical characteristics and laboratory parameters with ICU admission and mortality.

Results

A total of 104 patients were included in the analysis. The mean age was 62.6 (SD=17.4) years, 101 (97%) were on HD, predominantly through a central venous catheter (72%), and 53 patients (51%) were male. Patients with COVID-19 were either asymptomatic (42%) or had mild symptoms (37%), mainly cough and fever. At the time of admission, 37 patients (36%) had extrapulmonary symptoms, and 13 patients (12%) had altered mental status. Normal chest X-ray (48%), followed by bilateral lung infiltrates (24%), and unilateral lung infiltrate (11%) were the most common radiological findings. We did not observe any thromboembolic events. Twenty patients (19%) required ICU admission and 19 patients (18%) died during hospitalization. Predictors for in-hospital mortality were: 1) the need for inotropes (adjusted OR: 53.01, $p=0.006$), 2) age (adjusted OR: 1.07, $p=0.019$), and 3) C-reactive protein (CRP) level on admission (adjusted OR: 1.02, $p=0.04$). We did not find any strong predictor for ICU admission.

Conclusion

Our study demonstrated that COVID-19 carries significant mortality and morbidity in the ESKD population. Age, inotropic support requirement and elevated CRP on admission predicted mortality in our population. The high rate of adverse outcomes of COVID-19 among ESRD patients calls for strict implementation of preventive measures, including vaccination, social distancing, and universal masking at the level of both the healthcare providers and patients. Further studies are needed to assess the association of COVID-19 and hypercoagulability ESKD population.





Study Field: Respiratory.

Study Design: Quantitative retrospective cohort study.

Pediatric Asthma-related emergency department visits in national guard hospitals.

Naif A. Alsowailam, Ossama Saud Almuthayyeb, Nasser Naif Alqahtani, Saad Hatem Oqilan

Background

Asthma is a chronic disorder that could influence diseased patients' well-being and quality of life. In Saudi Arabia, asthma impacts more than 2 million people, and the prevalence of asthma is increasing worldwide, particularly among children. Asthma exacerbation among the pediatric population increases the need for emergency department (ED) visits. The study aims to investigate the characteristics of these ER visits and address the outcome of ER-admitted patients due to asthma exacerbation.

Methods

An ambidirectional cohort study is conducted among pediatric asthma patients from different NGHAs at the national level (i.e., five hospitals). The study involved any pediatric patient (age of 18 and below) admitted to ER due to an asthma attack during the period from January 1st, 2022, to August 31st, 2022. Descriptive and association statistics were used to analyze the preliminary data, and an Institutional review board was acquired.

Results

2,797 pediatric patients were admitted to ER due to an asthma attack. Patient characteristics are 936 (33.5%) females and 1861 (66.5%) males. Median age 5 IQR[3-9]. Also, ED sites which are Riyadh 2143 (76.6%), Al-Madina 249 (9%), Jeddah 154 (5.5%), Dammam 149 (5.3%), Al-Ahsa 103 (3.6%). A chi-square test showed a significant association between males and the frequency of ED visits, $p < 0.001$ (Figure 1).

Conclusion

The presented study report that male pediatric patient is associated with more ER visit when compared to female patient. The investigation of this study is still ongoing, more characteristics of multi-ED visits will be reported, and these may benefit the healthcare providers and policymakers in setting an appropriate plan for managing pediatric asthma-related ER visits.





Study Field: Clinical Practice

Study Design: Case Report

Therapeutic Plasma Exchange (TPE) and The Supratherapeutic Effect of Unfractionated Heparin (UFH): A Case Report and Review of Literature

Shaden Alshehri, Khalid Al Sulaiman , Ohoud Aljuhani , Shmeylan Al Harbi , Mai Alalawi, Abeer A. Alenazi, Raed Kensara , Omar A. Alshaya

Background

Therapeutic plasma exchange (TPE) is an extracorporeal method of filtration indicated in several conditions, such as myasthenia gravis (MG). The removal and replacement of plasma through TPE affect the level of coagulation factors suggesting alterations in homeostasis. TPE also has the potential to remove medications from the plasma. Insufficient data are available that evaluate the effect of TPE on certain medications, such as unfractionated heparin (UFH).

Methods

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Results

Case presentation: We report a case of a 78-year-old female with MG. She underwent a thymectomy complicated by phrenic nerve injury and respiratory failure requiring admission to the intensive care unit and mechanical ventilation. She developed a provoked left upper extremity deep venous thrombosis and started on therapeutic UFH with a target aPTT of 50-80 seconds. Despite being on immunosuppressants, additional therapy with TPE was deemed necessary for her MG exacerbation. Therefore, she received five sessions of TPE given every other day. Interestingly, while on TPE therapy, the aPTT increased significantly post each TPE reaching >170 seconds in some instances. As a precautionary measure, heparin infusion was held for one day based on the institutional heparin protocol and the physician's decision. Fortunately, the patient did not develop any bleeding complications.

Conclusion

Conclusion: TPE treatment temporarily depleted coagulation factors, leading to supratherapeutic aPTT levels. UFH dose adjustment and frequent assessment of aPTT levels are essential during TPE treatment to minimize any serious bleeding complications. Future studies with a larger sample size are required to focus on understanding the effect of TPE on medications.





Study Field: Medical Chemistry

Study Design: in-vitro study

Antioxidant and Antidiabetic potentials of date palm pollen (*Phoenix dactylifera* L.)

Iloah abdulmohsen alghonaim , dr.sridevi chigurupati

Background

The selected plant, Date Palm *Phoenix dactylifera* L. (*P.dactylifera* L.) belongs to the Arecaceae plant family. There is not much work reported on antioxidant and antidiabetic properties about *P.dactylifera* L. pollen obtained from the Gulf region. The study aims to prove antioxidant and antidiabetic properties of *P. dactylifera* L. pollen extracts obtained from the Gulf region.

Methods

The extraction of the pollen is performed by the maceration method using ethanol as a solvent. Total phenolic content (TPC) and total flavonoid content (TFC) were estimated by the Folin-Ciocalteu method and the Aluminum chloride method, respectively. Antidiabetic activity was evaluated by an alpha amylase inhibition study.

Results

TPC in *P.dactylifera* L. pollen extract (PDPE) was found to be 60 ± 0.32 mg GAE/g of dry weight. TFC was found to be 80 ± 0.08 mg QUE/g of dry weight. The DPPH method on PDPE (IC_{50} : $57.06 \pm 0.17 \mu\text{g/mL}$) showed good free radical inhibiting activity when compared with the standard drug, ascorbic acid (IC_{50} : $44.52 \pm 0.23 \mu\text{g/mL}$). PDPE (IC_{50} : $38.8 \pm 0.09 \mu\text{g/mL}$) showed good antidiabetic activity compared with the standard drug, acarbose (IC_{50} : $21.58 \pm 0.15 \mu\text{g/mL}$).

Conclusion

PDPE is therefore can be recommended to be a potential source for preparing antioxidant and antidiabetic drugs. PDPE can be used in the treatment of diabetic disease after performing more clinical investigations.





Study Field: Neurology

Study Design: Case-Control

The Diagnostic Utility of Central Vein Sign in Patients with Multiple Sclerosis in a Tertiary Care Center

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Background

The diagnosis of multiple sclerosis (MS) remains a challenge in the current clinical practice, given that alternative diagnoses of non-specific white matter diseases (WMDs) mimic MS both clinically and on magnetic resonance imaging (MRI) of the brain. The central vein sign (CVS) is a vein that passes through demyelinating central nervous system lesions, which is best detected on susceptibility-weighted imaging (SWI) sequence. The currently implemented MS diagnostic criteria do not incorporate the CVS despite the credit it has gained as an essential biomarker in diagnosing MS. This study aimed to evaluate the diagnostic value of the CVS for differentiating MS from non-specific WMDs.

Methods

This retrospective case-control study reviewed brain MRI scans of 430 patients between January 1, 2016, and August 16, 2022, in King Abdulaziz Medical City, Riyadh, Saudi Arabia. Investigators detected the occurrence of the CVS on brain MRI while being blinded to patients' demographic and clinical data. Sensitivity and specificity were assessed for different CVS lesion criteria, which were defined by the absolute number or the proportion of lesions with CVS. Additional findings of MS on brain MRI, such as T1 Hypointensity and Dot-Dash sign, were also recorded. Furthermore, cardiovascular risk factors were compared between MS and non-specific WMDs, and the impact of these cardiovascular risk factors on the diagnostic utility of the CVS was assessed.

Results

A total of 341 participants were included in this study after excluding 89 participants due to insufficient imaging quality or unavailability of SWI sequence. Patients with MS included 148 women (65.5%) and had a mean \pm SD age of 37 ± 10 years, a mean (range) disease duration of 8 (1-36) years, and 156 patients (69%) had an Expanded Disability Status Scale score of less than six. Patients with non-specific WMDs included 72 women (62.6%) and had a mean \pm SD age of 44 ± 15 years. A total of 5308 brain lesions were analyzed: 4490 in MS patients and 818 in non-specific WMDs patients. In MS patients, the CVS was detected in 1272 lesions (28.3%), most of which were located in the deep white matter ($p < 0.0001$ MS vs. other WMDs). The two CVS lesion criteria had a sensitivity of 80.6% and a specificity of 75.2% for distinguishing MS from non-specific WMDs. The most common additional MRI finding for MS patients was T1 Hypointensity, which was found in 97 MS patients (42.9%). Age, hypertension, and dyslipidemia were significantly different between MS and non-specific WMDs patients ($p < 0.0001$), as well as diabetes ($p=0.0007$). Furthermore, the proportion of CVS was not influenced by any of these cardiovascular risk factors.

Conclusion

The proposed CVS criteria yielded high specificity and sensitivity in differentiating MS from other WMDs. The CVS may be an early diagnostic biomarker for MS; therefore, its implementation would improve the current diagnostic criteria for MS. The CVS is suggested to be included in the upcoming revision of the MS diagnostic criteria. Future studies may be needed to confirm the applicability of this proposed criteria to enhance MS diagnosis in clinical practice.





Study Field: Transplant Surgery , Nephrology

Study Design: retrospective cross-sectional study

Obesity and kidney transplant candidates: An Outcome Analysis Based on Body Mass Index

Rayan Bahashwan, Saad Almousa , Nawaf Alawad , Abdulaziz Aldalaan , Abdullah Alangari , Mohammed Almusallam

Background

Obesity is a well established risk factor for a decline in renal function , post operative complications and outcomes are worse in obese patients when compared with their nonobese counterpart , such as higher rates of wound complications, longer hospital stay, and delayed graft function. The correlation between having high BMI and the postoperative outcomes of kidney transplantation has not been investigated yet in Saudi Arabia. There is still little to no evidence that obese patients who have undergone kidney transplantation are devoid of any complications before, during or after their procedure.

Methods

A retrospective cross-sectional study was conducted using charts of nearly 142 patients in King Abdullah Specialist Children Hospital in Riyadh, who had kidney transplant surgery in the organ transplantation department. All Obese patients with BMI >29.9 who underwent Kidney Transplant Surgery in King Abdulaziz Medical City from 2015 until 2022 were identified by searching computer records. Details of hospital admissions were retrieved. The main variable is kidney transplant. The other independent variables include the age, gender, location of residence, length of stay in the hospital, age at transplant, medications, date of surgery, on dialysis, dialysis period, and the presence of comorbidities

Results

A total of 142 patients fulfilling the inclusion criteria were included. Regarding medical history, Hypertension was reported among 121 (85%), followed by dialysis (77%; 110), Diabetes mellitus (52.%; 74), Dyslipidemia (24%; 35), endocrine diseases (15%; 22), and Cardiovascular diseases (16%; 23). Exact of 41 (39%) of the study patients had renal dialysis for less than 2 years, 41 (39%) for 2-5 years and 22 (21%) for more than 5 years. Post-transplant outcome among study patients by their body mass index. As for length of hospital stay, 36% stayed for less than 1 week (36% of obese class 1, 33% of obese class 2, and 50% of obese class 3) while 25% of the study cases stayed for more than 2 weeks (23.5% of obese class 1, 33% of obese class 2, and none of obese class 3). As for graft function, it was stable among 82% of study cases (80% of obese class 1, 89% of obese class 2, and all of obese class 3). Considering post-transplant complications, 14% of the study cases had DM (17% of obese class 1, 4% of obese class 2, and none of obese class 3) and UTI among 7% of the cases (6% of obese class 1, 11% of obese class 2, and none of obese class 3). As for patients' fate, only 1 case (0.7%) was died which was obese class 1. All these differences according to patients BMI was statistically insignificant.

Conclusion

obese patients are more likely to experience difficult intraoperative management along with a complicated postoperative course due to numerous concomitant comorbidities. New onset diabetes after transplant (NODAT) was the most prominent post-transplant complication followed by UTI. A remarkable reduction in serum creatinine and BUN has been observed at time of discharge and after 6 months compared to pretransplant measurements. Delayed graft function or failure was infrequent and has been noted in only a handful of cases, as most patients had stable grafts throughout their course. The results of this study offer a relatively contrasting view towards the role of pretransplant weight loss procedures, such as sleeve gastrectomy or gastric banding, when compared to recent literature, which entails the necessity of further research to compare potential benefits versus complications





Study Field: Neurology-neurosurgery-ophthalmology

Study Design: Case report

Oculomotor nerve palsy following coronary artery bypass graft surgery: can pituitary apoplexy complicate the post-operative course of cardiac surgery?

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Background

The oculomotor nerve consists of parasympathetic and general somatic efferent fibers [1]. Together, these fibers mediate pupillary constriction, elevation of the eyelid through the levator palpebrae superioris and movement of most extra-ocular muscles, namely, the medial rectus, superior rectus, inferior rectus and inferior oblique muscles [1]. The development of oculomotor nerve palsy after coronary artery bypass graft surgery (CABG) is rare. A review of the literature reveals few reported cases. Considering the rarity of such phenomenon, we hereby report the clinical presentation, radiological imaging and outcome of a patient with oculomotor nerve palsy following CABG. In addition, a review of the pertinent literature is discussed.

Methods

Clinical presentation A 65-year-old male, known to have three-vessel coronary artery disease, diabetes mellitus and hypertension, was referred to the neurosurgery department due to ptosis and anisocoria that developed 1 day after CABG. The patient was noted to have right 'eyelid drop, dilated pupil and double vision' upon elevation of the eyelid. The patient reported no history of headache, vomiting, loss of consciousness, symptoms suggestive of brainstem involvement or pituitary axis hypo/hypersecretion upon initial presentation. **Physical examination** The patient was vitally stable, alert and oriented to person, place and time with a Glasgow coma scale (GCS) of 15/15. There was right-sided paresis of the levator palpebrae superioris and the extra-ocular muscles; medial rectus, superior rectus, inferior rectus and inferior oblique muscles with a 5-mm dilated pupil. The left eye extra-ocular muscles were intact. The left pupil measured 3-mm and was reactive to light and accommodation with no gaze preference. The visual acuity was slightly impaired. The remainder of the neurological examination was unremarkable.

Results

Neuroradiological imaging Computed tomography (CT) scan revealed widening of the sella turcica with an isodense soft tissue lesion in the pituitary gland (Fig.1A). Magnetic resonance imaging (MRI) demonstrated a pituitary adenoma with acute hemorrhage causing right-sided mild mass effect on the cavernous sinus (Fig. 1B-D). **Outcome and follow-up** The diagnosis of pituitary apoplexy was established after brain CT and MRI. Follow-up images showed marked improvement in the size of the cystic hemorrhagic pituitary lesion (Fig. 1E). Given the improvement of symptoms, the stable condition of the patient, the acute state of bypass surgery and the high-risk of peri-operative cardiac events under general anesthesia, conservative management was considered. Upon follow-up, the patient developed central hypoadrenalism and hypothyroidism. The patient is currently followed-up in neurosurgery, ophthalmology and endocrine clinics. The visual acuity and palsy had gradually improved.

Conclusion

Pituitary apoplexy, following CABG, is a rare phenomenon in the post-operative period of cardiac surgery. Such patients may present with unilateral pupillary dilation, ptosis and diplopia. High index of suspicion is required to promptly identify such complication to avoid further neurological sequelae.





Study Field: Medical Microbiology

Study Design: Lap trials

Spectrum of Pathogens Isolated from Patients with Hemolytic Diseases

1 Samiah Hamad S. Al-Mijalli, 2 Alshehanah Abdullah Reda and 3 Nawaf Mohammad Alnafisi

Background

Patients with hemolytic diseases are at higher risk of infections. Moreover, infections are significant contributors to morbidity and mortality in patients with hemolytic disease. Frequent screenings of infections, the spectrum of the organism, site of infection like blood urine sputum. Details of bacteremia must be explored and treated earliest to reduce morbidity and mortality in patients with hemolytic disease. The study has aimed to identify the prevalence of infection in patients with hemolytic disease in the Saudi population

Methods

A total of 113 samples were examined for microbial growth on six different culture media (BAP, NA, MacConkey, CAP, Salmonella Agar and PDA), At microbiology and toxicology laboratories at in Security Forces Hospital and King Fahd Medical City in Riyadh Saudi Arabia

Results

The characteristics of 113 episodes of invasive bacterial infection among patients with hemolytic diseases were examined. Salient pathogens were *K. pneumoniae* MDR, tissue MARSA, AFB tissue, *E. coli*, *Pseudomonas aeruginosa*, *H. pylori*, *C. arbiran*, *Enterobacter cloacae*, HBS Group A, H1N1, *Candida albicans*. The most frequent pathogen was *K. pneumoniae* MDR, tissue MARSA, the most frequent pathogen in the urine was *K. pneumoniae* and *E. coli*. Pathogen isolated in the sputum were *Pseudomonas aeruginosa*, *K. pneumoniae*, *Acinetobacter*. The most frequent pathogen in the stool was *Clostridium* Bacteremia was caused by tissue MARSA, *S. aureus*, *Enterobacter*, *K. pneumoniae*.

Conclusion

Infection is prevalent in patients with hemolytic diseases. *K. pneumoniae* tissue MARSA, AFB, *E. coli* 9 (7.96%) and *Pseudomonas* were salient pathogens. Patients with hemolytic diseases should be investigated early and aggressively for infection.





Study Field: adult medical oncology

Study Design: cross sectional

A Descriptive Study of the Types and Survival Patterns of Saudi Patients with Multiple Primary Solid Malignancies: A 30-Year Tertiary Care Center Experience

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Background

Cancer survival has improved significantly, which reflects the achievements in screening, diagnosis, and treatment. As a consequence, multiple primary malignancies are diagnosed more frequently, with an incidence ranging from 0.52-11.7%. The types of malignancy that coexist and survival patterns vary notably in different countries and geographical areas. Due to the limited literature in Saudi Arabia, a baseline of prevalent malignancy combinations and their survival patterns would support early detection and disease management.

Methods

This was a retrospective descriptive study conducted from 1993-2022 at King Abdulaziz Medical City, Department of Medical Oncology, Riyadh, Saudi Arabia. Patients with at least two biopsy-proven solid malignancies were included. Patients with hematological malignancies, missing data, or an uncertain or indecisive pathology report were excluded.

Results

In total, 321 patients were analyzed. More than half (57.3%) of the patients were female. A third (33%) of the cases were synchronous, and 67% were metachronous. The most frequent site of the first primary malignancy was breast cancer, followed by colorectal, skin, and thyroid cancers. The most frequent site of the second primary malignancy was colorectal cancer, followed by thyroid, breast, and liver cancers. Only 4% of the cases had a third primary malignancy, with colorectal and appendiceal cancers being the most frequent. The most frequently observed histopathology in the synchronous and metachronous malignancies was adenocarcinoma. Breast-colorectal, breast-thyroid, and kidney-colorectal were the most frequently observed malignancy combinations.

Conclusion

The current study offers a baseline of multiple primary malignancies in Saudi Arabia and provides supporting evidence that the pattern of multiple primary malignancies varies among different countries and ethnicities. The possibility of developing another primary malignancy should be considered when treating and monitoring cancer patients.





Study Field: Cardiology, Pulmonology, Rheumatology

Study Design: case report

Isolated Cardiac Sarcoidosis Presenting as Torsades de Pointes in a Patient With Non-ischemic Cardiomyopathy: A Case Report

Moustafa S. Alhamadh , Thamer S. Alhowaish , Abdulrahman Yousef Alhabeeb , Rakan B. Alanazi , Ayah Boudal , Khalid Al Khathlan

Background

Sarcoidosis is an immune-mediated, inflammatory, non-caseating-granulomatous disease that can virtually infiltrate any organ. Cardiac sarcoidosis is a leading cause of death in patients with sarcoidosis. Its clinical presentation is highly heterogenous and unpredictable, ranging from asymptomatic to life-threatening conduction disturbances, such as ventricular arrhythmias, and heart failure. Herein, we report a case of isolated cardiac sarcoidosis presenting as sinus bradycardia with first-degree atrioventricular block and an episode of non-sustained polymorphic ventricular tachycardia in a 42-year-old male with non-ischemic cardiomyopathy. He was diagnosed by cardiac magnetic resonance imaging and positron emission tomography with fluorodeoxyglucose and treated with oral prednisone.

Methods

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Results

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Conclusion

ICS is an exceedingly rare form of extrapulmonary sarcoidosis. The recognition of ICS requires a high index of clinical suspicion and a proper interpretation of CMR and PET with FDG. Since the prognosis of ICS can be extremely poor, prompt diagnosis and glucocorticoid initiation are crucial to prevent CS-related complications such as heart failure and ventricular arrhythmias.





Study Field: Orthopedics

Study Design: Case report

Simultaneous Surgical Management of Acute Tibial Shaft Fracture and Post-traumatic Ankle Arthritis

Abdullah Alzahrani, Ali Alshehri, Khalid Alsheikh, Faisal Alzahrani, Rand Alshaya, Ibrahim Ababtain

Background

Background Tibial shaft fractures are severe injuries that could result in severe complications. The gold standard surgical procedure for tibial shaft fractures is reamed intramedullary nailing. However, the presence of post-traumatic ankle arthritis with tibial shaft fracture can alter the treatment plan. One possible solution is to perform closed reduction and internal fixation (CRIF) and tibiotalar calcaneal arthrodesis (TTCA) simultaneously using a retrograde femoral nail, which was implemented in our case report. To our knowledge, the previous literature does not describe a case using the same technique for the same purpose.

Methods

Case Presentation A 71-year-old male patient with a history of type II diabetes mellitus and hypertension presented with pain in his right leg and ankle after falling out of bed and twisting his ankle. The leg pain started after the injury; however, he suffered from severe ankle pain 2 years before the injury due to a previous right ankle fracture, which was managed by open reduction and internal fixation (ORIF) 3 years before this visit. Radiographs of the leg showed a tibial spiral fracture. Ankle radiography showed post-ORIF status and severe tibiotalar post-traumatic arthritis. The patient underwent CRIF of the tibia and TTCA using a femoral nail. He tolerated the procedure without complications. The patient was discharged with regular follow-ups. Full weight-bearing, as tolerated, was started 3 months after the surgery. Around 9 months after the procedure, the patient was actively mobile with full weight-bearing.

Results

Discussion Tibial shaft fractures are generally managed with CRIF using an intramedullary nailing technique because it lowers the incidence of implant failure. We preferred using a femoral nail because it offers higher stability. Furthermore, femoral nails provide a more comprehensive size range in terms of length and diameter and have less inherent angulation. We performed the surgery using the retrograde approach because it does not invade the proximal tibia, which might compromise its strength. Some limitations of this technique are that it is technically demanding and limits the ROM of the subtalar joint. Furthermore, reaming would be challenging if the intramedullary canal diameter is less than 7 mm. Moreover, this technique would not be possible if the intramedullary canal is deformed. On the other hand, one of the advantages of this technique is that the femoral nail allows for physiologic loading of the tibia, talus, and calcaneus. Furthermore, this technique allows for significant pain improvement and maintains the correction of the hindfoot and forefoot. Additionally, internal fixation can be dynamized.

Conclusion

Conclusion Using a retrograde femoral nail for simultaneous tibial shaft fracture CRIF and ankle arthrodesis has proven successful. The success of this procedure is mainly because the femoral nail works as a rigid and stable load-sharing construct. The patient could walk 3 months after the surgery, did not report any pain, and was satisfied with the results.





Study Field: Pediatric ENT

Study Design: Case Report

Juvenile Ossifying Fibroma in Anterior Ethmoidal Sinus in B-cell Acute Lymphoblastic Leukemia and MHC Class II Deficiency Patient: Case Report

Abdulaziz Alnasser, Abdurhman Alsaif, Ali H. Alassiri, Mazyad M Alenezi, Jaber Alshammar

Background

Juvenile ossifying fibromas (JOF) are rare benign tumors affecting the craniofacial area, and they present more in younger age groups. JOF, both psammomatoid and trabecular variants, are aggressive lesions and have a high tendency for recurring after surgical resection.

Methods

We are presenting a case of psammomatoid JOF found in the right anterior ethmoidal sinus of a 9-years-old girl who was recently diagnosed with B-cell acute lymphoblastic leukemia (ALL) and is a known case of major histocompatibility complex class II deficiency.

Results

The patient was 4 years post hematopoietic stem cell transplant and was following up for regular intravenous immunoglobulin transfusion where she had fever, otalgia, and frontal headache. CBC was alarming for leukemia, and further investigation confirmed the diagnosis of ALL. Sinus CT showed right anterior ethmoidal sinus complete hyperdense opacification and mucosal thickening. Opacification remained after initial antimicrobial therapy; MRI excluded any intraorbital and intracranial extension. Endoscopic sinus surgery for specimen collection and debridement of the lesion was done. Histopathology revealed juvenile aggressive ossifying fibroma, psammomatoid type. After the surgery, there were some symptoms of sinusitis for which CT and MRI imaging was done and showed residual hyperdense opacification, and minimal enhancement post contrast more in the right side, respectively. Imaging results urged the need for a second surgery, but no recurrence was detected. Further imaging showed persistence of opacification despite conservative management. The complicated character of the case may have hindered any further invasive management. Unfortunately, the patient suffered from disease complication, infections, and died from multi-organ failure. A similar case reported in the literature of a girl who had acute lymphocytic leukemia who was in remission for 3 years. These two cases may have had the two same conditions coincidentally; However, this also can raise suspicion for an undiscovered relationship between acute lymphocytic leukemia and JOF.

Conclusion

JOF is a rare clinicopathological entity that mainly affects the young and most require surgery. Post-operative long-term follow-ups are needed for early identification of this aggressive lesion recurrence.





Study Field: physiological, pharmacy

Study Design: Observational and cross-sectional questionnaire

Knowledge, attitude, and practice of using isotretinoin (Roaccutane) and its impact on the mental health status among Saudi population.

khoulod alsabih

Background

Isotretinoin is used to treat severe and moderate acne. Possible side effects include depression, suicide, and suicidal ideation. While isotretinoin, used to treat acne vulgaris, has not been proofed to be associated with depression or suicide, the possibility to it is rare yet, it exists.

Methods

Observational and cross-sectional questionnaire carried among 122 participants to determine knowledge, attitude, and practice regard the use of isotretinoin medication among Saudi population. Data was collected by online questionnaire that has been created in google form and then published in different social media platforms over a period from Feb 2022 to May 2022.

Results

: Most of the participant (90%) have previous knowledge the side effects of isotretinoin medication. In contrast of the knowledge regarding the uncommon side effects like psychological changes. However, in this practice they show that the medication clearly has an effect on the mental health of the participants.

Conclusion

: In general, majority of the participants have good knowledge toward the general side effects of Isotretinoin which are dry skin, eyes and lips, Back pain, joint pain yet there is not enough awareness about the mental health side effects of Isotretinoin on mental health. This highlights the need for optimal education by health care providers to improve their practices and pay more attention to the psychological side effects of the drug.





Study Field: Medicine

Study Design: Cross sectional

Prevalence of Depression in Post-Bariatric Surgery Among Saudi Females in Riyadh 2022

Abdulrahman Bashir Ahmad Hussamuldin, Shujon Mohammed Alazzam, Sarah Saad Alamer, Jana Sameer Sendy, Qamar Alsayed Altriny, Lujain Saad Alamer, Lama Suliman Aleid

Background

Obesity is one of the major health problems that can lead to numerous comorbidities such as cardiovascular disease, metabolic syndrome and increased mortality. Obese individuals have an increased risk of psychological distress, depression, anxiety, impaired health-related quality of life (HRQoL). Obesity is associated with an increased risk of depression and suicidal ideation, especially women. Higher rate of depression has been observed among patients with obesity-related comorbidities. Bariatric surgery has been shown to improve several psychological symptoms. we aim To estimate the prevalence of depression in post-bariatric surgery among Saudi adult females in Riyadh 2022.

Methods

A cross sectional study. Target population are Saudi adult females who had bariatric surgery, the data was collected between January 2022 and November 2022. Online questionnaire was distributed to eligible participants to assess the prevalence of depression after bariatric surgery. The data was analyzed through statistical program (SPSS). Permission was taken from the participants to use their information. Assuring them that the data in this study used only for scientific purposes.

Results

the participants were 172 females with post bariatric surgery. The majority of them 89% were from Saudi Arabia, the mean age of the participants 43% was from 28-38 years old, 53.5% were married, 62.8% with university educational level. The study revealed most of them 30.8% had minimal to mild severity of depression. Most of them 15.7% diagnosed with Polycystic Ovary Syndrome (PCOS), although 37.2% revealed no complications after surgery. 75.6% did the surgery within the past year and 25.6% most of them got none-minimal depression.

Conclusion

It was concluded in this study that the majority of the participants was diagnosed with PCOS who had the surgery withing the past year and got minimal depression with no other complications. There was significant statistical relation between the age and depression.





Study Field: Medicine

Study Design: Cross sectional

Screening for Depression in Saudi Arabia

Mohammed AlMahdi Balla Elnour, Rawaf Muhammed Alkhathran, Abdulalziz Abdullah Alghamdi, Abdallah Adnan Rifaey, Abdullah Moheeb Alabdullah, Bakr Zuhair Raddawi, Malik Mohammed Almansour, Rayan saleh almogheer, Samer Ahssan Alawi, Khalid Riyadh Malaekkah, Abdulrahman Bashir Ahmad Hussamuldin

Background

Depression is a common mental disorder that presents with depressed mood, loss of function and concentration. We aimed to evaluate the pattern of Depression among adolescents and adults in Saudi Arabia.

Methods

A cross sectional study included 166 random participants in Riyadh KSA, data collected through self-administered questionnaire in Hospitals and health care centers developed specifically for purpose of this study after consulting epidemiologist and literatures, the study excluded who didn't complete the questionnaire. Data analysis was completed using SPSS program. P value 0.05% or less considered significant.

Results

Majority of the participants were females (58%), age 15-20 (73%), had a traumatic event (62%), had a stressful event (80%), not married (78%), didn't have chronic diseases (83%), no addiction to alcohol or drugs (97%), isolated life in society (60%), were bullied (60%), losing interest (42%), felt hopeless (36%), sleep problems (32%), felt tired (41%), losing appetite (35%), didn't think about suicide (74%). In degree of depression most of them had mild depression (31%), moderate (27%), minimal (24%), moderately severe (11%), severe (4%), from the mild depression they were males (21%), and females (32%), in higher education (35%), common risk factor was stressful event (80%).

Conclusion

Majority of the participants had mild depression, with significant relationship between depression and level of education





Study Field: Medicine

Study Design: Cross sectional

A cross-sectional study of the prevalence of electronic cigarette use, knowledge, and attitudes among Saudi youth.

Abdulmalik Abdulghani, Saud Almohrij, Talal M. Abukaram, Faisal Alturki, Mohammed Alaitan, Emran Shamia, Mohammed Alsadun, Abdulrahman Bashir Ahmad Hussamuldin, Mohammed Alnour, Ammar Fathi

Background

E-cigarettes is a lithium-ion battery device that deliver nicotine via inhaled vapor. Its use is gradually rising among the youth. There are misconceptions regarding the use of e-cigarettes, with many users unaware about the harmful effects of vaping. The knowledge and attitudes regarding the use of e-cigarettes needs to be studied to find ways and formulate policies to reduce its prevalence. We aim To study the prevalence of e-cigarettes among Saudi youth and document their knowledge and attitudes regarding the harmful effects of vaping. The study also correlated the attitudes and level of awareness with the educational level of the participants.

Methods

It is a cross-sectional study conducted on 388 participants involving both the genders in Riyadh, KSA. Data was collected through systemically random sampling and analyzed using the Statistical Package for the Social Sciences (SPSS). Graphs and tables were used to present data and suitable statistical tests of significance used for data analysis, p-value of < 0.05 or less was considered significant.

Results

The use of E-Cigarettes in this study was 60% with a high male prevalence rate. The use was less in post-graduate participants as compared to the lower educational level. Awareness level also correlated with the educational level with high level of awareness in the post graduate participants.

Conclusion

Unfortunately, vaping is high among the Saudi youth and more so in males as compared to females. The level of education plays an important role in determining the use of e-cigarettes with high educational status demonstrating increased level of awareness of harmful effects amongst them.





Study Field: Medicine

Study Design: Cross sectional

Association of Depression and Anxiety With Ischemic Heart Diseases Among Adults in Riyadh, Saudi Arabia 2022

Eman Alkhalidi, Gharam Alhenaki, Layan Alqahtani, Abdulrahman Bashir Ahmad Hussamuldin, Hanin Zakieh, Deemah Alquraish

Background

Depression is a serious mental disorder that can negatively impact the daily function of many individuals. The most diagnosed mental disorders are anxiety disorders. Despite that, the treatment of both anxiety disorders and depression is often neglected. Many chronic disorders and physiological imbalances like hypertension and hyperglycemia can be the result of psychiatric illnesses and vice versa. Our aim of this study is to determine the relationship between Psychological Disorders and Ischemic heart diseases among adults in Saudi Arabia in 2022.

Methods

Our study is a cross-sectional study. The target population was adults 18 years old and over, and the sample size of 304 adults. The data were collected between April 2022 and June 2022 in Riyadh, KSA. Questionnaires were distributed to participants who meet the criteria to determine the relationship between psychological disorders and ischemic heart diseases. The Hospital Anxiety and Depression Scale was used in both Arabic and English. The data was cleared, coded, and entered through the Statistical Package for the Social Sciences (SPSS).

Results

Of 304 participants, only 5 were previously diagnosed with ischemic heart disease (IHD). 1% of those participants had abnormal results in the HADS anxiety section. ($P = 0.16$) Furthermore, in the depression section of the HADS, 0.7% had abnormal results. ($P = 0.14$) None of the participants with an IHD diagnosis had borderline abnormal results in either section of the HADS.

Conclusion

The number of participants who were previously diagnosed with ischemic heart disease was limited. Despite that, an association between psychological disorders including anxiety and depression with ischemic heart disease was found using the HADS. Further and larger studies are required to establish a clearer relationship.





Study Field: Ophthalmology

Study Design: cross-sectional

Preference of refractive errors correction methods among Qassim university students: a cross-sectional study

Norh Alharbi, Tariq Alrashidi, Mansourah Bedaiwi, Khozama Alaqi, Shoug Alnasyan, Faisal Almishali, Asma Alsohaibani

Background

The prevalence of refractive error is considered to be a significant health issue. It can lead to lifelong negative consequences such as unstable emotional developments and poor academic performance. It can also affect people's quality of life. This research aims to assess the knowledge and preference towards refractive error correction methods among the students at Qassim university.

Methods

The study is Cross-sectional, online questionnaire-based study. Sample was collected from Qassim university students in Qassim Region in Saudi Arabia. Data was collected from the online questionnaire platform. Questionnaire was designed by Google forms. Data was collected in excel sheet then was transferred into SPSS software for statistical analyses.

Results

In this study, we were able to collect data from 1310 students at Qassim University. Among the sample, 82.5 % of them were females and 67.9 % were aged between 21-30 years old. The prevalence of refractive errors among the participants was 65.7 % (N=861). The leading cause of refractive error was myopia (722/861, 83.9%), Among 861 patients with different refractive errors, spectacle was the most common correction method used (72.3%), followed by contact lenses in 33.1 % while 10.6% had already done refractive surgery and 14.8 % reported never using correction methods for their refractive errors.

Conclusion

There is an increasing rate of having refractive errors among university students at Qassim University. spectacle was the most common correction method used followed by contact lenses then refractive surgery. Moreover, the study showed that many students had good knowledge considering refractive surgery however most of this information was from family and friends. Therefore, we recommended that refractive surgical correction methods should be introduced by physicians and provide students with more information about the safety and efficacy of these surgeries where fear of complications was the main barriers for not performing refractive surgery.





Study Field: Dermatology

Study Design: Case Report

Generalized morphea induced by COVID-19 vaccine in chronic urticaria patient.

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Background

Adverse events following vaccinations have been noted for centuries, but as of recently, discussions concerning these adverse effects have increased due to the COVID-19 pandemic and the consequent delivery of COVID-19 vaccinations. Through presenting new cases of such adverse events and reviewing the literature, we aim to facilitate the recognition of COVID-19 vaccine-induced autoimmune diseases that may occur in the years after the pandemic has been contained. We report on a case of biopsy-proven morphea after the COVID-19 vaccine, in which case the patient developed diffuse skin lesions all over her body. The patient was known to have chronic urticaria and received two doses of the Pfizer-BioNTech COVID-19 vaccines. The patient started to notice itchy lesions on her arms two months after taking her second dose of the vaccine. This is the first case reported of generalized morphea following COVID-19 vaccination with another autoimmune disease and represents the first case of generalized morphea reported in the Middle East.

Methods

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Results

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Conclusion

Recent COVID-19 vaccines have been linked to some types of dermatologic conditions and different types of morphea. Therefore, it is imperative to consider these links if a patient presents with an exacerbated or new-onset cutaneous disease. It is important to report and understand the possible adverse events following COVID-19 vaccination in patients with chronic urticaria.





Study Field: Patient Safety, Nursing

Study Design: A descriptive correlational research design was used in this study

Perception of Patient Safety Culture among Internship Nursing Students

Nesreen AbouZeid, Ghadeer Al.Nufie, Noura Aldhoyan, Rana Alqahtani, Riham Alhalawi, Hind Al.Ghanami, Reema Al.Shahrani, Juwaher Al.Mutairi, Fatimah Al.Ahmad, Sarah Faqihi, Areej Al.Anzi, Maha Al.Otabi

Background

Patient safety is assumed to be a serious health concern worldwide that needs a scientific and continuous effort on its evaluation and improvement. Patient safety culture is defined as the shared convictions, values, and standards that impact wellbeing care supplier activity and behaviors that advance safe patient care (Sorra et al., 2018). Nurses have the most direct interaction with patients so they are responsible in safety improvements at hospitals (Wei et al., 2018). As a role, from patients to politicians, safety is everyone's business in the core of care, and nurses from around the world are having an important role to play in improving patient safety. Nurses are playing a very major role in patient safety. The diligence of their practices at the bedside is ensuring the considerable of patient safety. Patient safety education among training nurses is an essential learning prerequisite at all training levels. This study was aimed to assess the patient safety culture perception among internship nursing students.

Methods

A descriptive correlational research design was used in this study. One validated adopted reliable tool was used for data collection in this study titled as "Awareness Patient Safety Questionnaire-IV". The study was conducted at the college of nursing, Princess Nourah Bint Abdulrahman University PNU. A convenient sample of 107 internship nursing students was included in this study during the second semester 1442 H.

Results

58.2% of participants did not study patient safety culture before. Questionnaire got negative responses by the participants. Namely, "Patient safety- General" and "Professional incompetence as error cause" and they have positive response toward patient safety culture hence most of their answers were in the direction of positively worded questions.

Conclusion

There is no relationship between the grade point average GPA and level of perception of patient safety culture. The intern nursing students' responses showed that they have awareness of patient safety culture due the fact they have personal knowledge, or they had previously studied the culture in term of medical errors and patient safety.





Study Field: pharmaceutical science

Study Design: in-vitro and in-silico studies

In Vitro Anti-Proliferative and Apoptotic Effects Of Polygonaceae Family Against Various Cancer Cell Lines

Raghad Abdullah Alshafi, Allulu Yousef Alturki, Sara Abdulaziz Alghashem, Rasha Saad Suliman, Zeyad Alehaideb, Rizwan Ali.

Background

Cancer is acknowledged as a global public health issue. As a result, there is a constant search for more effective drugs with fewer adverse effects. Researchers' interest in medicinal plants has grown in recent years since various plant species have demonstrated interesting biological activity. Thus, we intend to research two therapeutic herbs that are often found in the Middle Eastern region but have yet to be well investigated, including *Calligonum Comosum* and *Rumex Vesicarius* from Polygonaceae plant family.

Methods

The medicinal extracts were prepared using four different solvents including chloroform, ethanol, ethyl acetate, and water. Prepared extracts were examined against three types of cancer cell lines including breast (KAIMRC2, and MDA-MB-231), colorectal (HCT8), and liver (HepG2). High Content Imaging (HCI)-Apoptosis Assay and the ApoTox-Glo™ Triplex Assay were performed on extracts that demonstrated the highest potency.

Results

Eight extracts were prepared, and performed an MTT on two cell lines colorectal (HCT8), and liver (HepG2). The results were promising with *Calligonum Comosum* in ethanol and *Calligonum Comosum* in water extracts with IC₅₀ values of 143.1 µg/mL, 385.3 µg/mL, 147.4 µg/mL and 888.9 µg/mL for HepG2 and HCT8, respectively. Further investigation was performed for the two extracts that showed the highest activity on the breast (KAIMRC2, and MDA-MB-231) cell line. The *Calligonum Comosum* in ethanol exhibited the highest cytotoxic activity with IC₅₀ values of 54.97 µg/mL and, 58 µg/mL, respectively. Then, HCI-Apoptosis Assay was conducted on HCT8 and KAIMRC2 cell lines that were treated with extract *Calligonum Comosum* in ethanol which demonstrated induction of apoptosis. Moreover, ApoTox-Glo™ was carried out on the two breast cancer cell lines that were treated with *Calligonum Comosum* in ethanol, and the results were correlated with HCI-Apoptosis Assay.

Conclusion

Few studies have explored and investigated the Polygonaceae family's promising anti-cancer properties in numerous cancer cell lines. Nevertheless, additional biological characterization against various cancer types, as well as additional mechanistic studies, are required to assess the bioactive metabolites' potential application in drug discovery.





Study Field: Respiratory Therapy

Study Design: Cross-sectional observational design .

The Implementation of ABCDEF Bundle in Saudi Intensive Care Units

Mohammed Aljohani, Rayan Almuhanha, Sami Alanazi

Background

The ABCDEF bundle is an evidence-based, multidisciplinary approach to improve patient-centred outcomes in the intensive care unit (ICU). The purpose of this study is to evaluate the implementation of the ABCDEF bundle in different hospitals in Saudi Arabia.

Methods

A cross-sectional sample of ICU health care providers in Saudi Arabia was surveyed using an online questionnaire. The questionnaire consists of 34 items that evaluate the current practice at different ICUs across the five Saudi geographical regions.

Results

A total number of 117 participants was collected. Implementation rates for the ABCDEF bundle were, Element A (regular pain assessment: 64%), Element B (Both spontaneous awakening trial and breathing trial: 93% and 92%), Element C (Choice of sedation and sedation assessment: 42%) Element D (delirium assessment: 57%), Element E (early mobility: 28%), and Element F (family engagement: 44%). The participants reported that implementation of the entire bundle was 14%.

Conclusion

The lowest adherence to the ABCDEF bundle elements was for early mobilization. Moreover. The implementation rates for each element as well as the entire bundle were extremely low. ICUs should develop strategies to facilitate the implementation of ABCDEF bundle through addressing barriers and promoting interprofessional teamwork.





Study Field: King Abdulaziz Medical City (KAMC) cardiology department, in Riyadh, Saudi Arabia.

Study Design: A cross section retrospective study

Cardiac Abnormalities associated with newly diagnosed hyperthyroidism: A single Center Experience.

Reham Aljohani, Yumna Alsitary, Raghad Alsadun, Majd Bin Khunayn, Amjad Ahmed, Yousef Saleh, Ahmed Alsaileek, Ahmed Aljizeeri

Background

Thyroid dysfunction and Cardiovascular diseases (CVD) are well documented to be interlinked. Hyperthyroidism interferes with the modifiable cardiovascular (CV) risk factors such as hypertension, dyslipidemia and diabetes resulting in alterations to the cardiovascular structures. Data about cardiovascular abnormalities in newly diagnosed hyperthyroidism is limited.

Methods

This is a retrospective analysis of all the patients with new diagnosis of hyperthyroidism at King Abdulaziz Medical City-Riyadh from 2011-2021. Patient was identified through the electronic and manual medical records . Demographic data and cardiac abnormalities were retrospectively collected by reviewing both medical records.

Results

A total of 129 patients (age 53.54 ± 30.3 years, 75.9% females) who are newly diagnosed with hyperthyroidism were included in the analysis. Males were older (58.68 ± 19.4 vs 51.90 ± 32.9 , P value = 0.280). Atrial fibrillation and heart failure were the most encountered cardiac abnormalities (10, 8.06% and 7, 5.6%) respectively. The most common cardiac abnormality was heart failure (8.06%). Female patients have lower percentages of cardiac diseases. Atrial fibrillation accounted for 10% in male patients. The percentages of patients with risk factors to develop cardiac disease such as diabetes (14, 46.67%), hypertension (14, 46.67%) and dyslipidemia (18, 60%) were noted to be higher in males. DM and HTN are shown to be significantly increasing cardiac abnormalities in hyperthyroidism patients.

Conclusion

Atrial fibrillation and heart failure are the most common encountered new cardiac abnormalities in patients with newly diagnosed hyperthyroidism. Cardiac risk factors are more commonly seen in female. Larger studies are needed to establish the prognostic value of these findings.





Study Field: Genomic Medicine and Molecular Genetics

Study Design: Original Research Article (Laboratory-Based)

Novel NFkB Variant V213E: Phenotypic Description & Molecular Modeling

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Background

Mutations of NFkB1 are known to cause immune dysregulation and/or deficiencies in otherwise healthy individuals, due to the role of NFkB1 as a transcriptional regulator of immunomodulating proteins. We present a patient with recurrent upper and lower respiratory tract infections as well as massive splenomegaly with gallbladder complications. Our proband, a 22-year-old male, presents with a clinical picture of immunodeficiency and has a maternal cousin with a similar gene mutation but a differing phenotype. Whole exome sequencing was utilized to discover a novel, single-point mutation variant in NFkB1, V213E, discovered through Whole Genome Sequencing (WES) of our probands genome.

Methods

Whole genome sequencing of the patient who presented to allergy and immunology was referred for Whole genome sequencing which was completed and in silico homology modeling using I-TASSER software was carried out for the novel NFkB mutation found in the patient's sequence. Molecular dynamics simulations of both the wild type and variant mutant form fitted to accommodate the novel mutation were conducted and analyzed to assess for possible pathogenicity of the novel mutation.

Results

This pathogenic variant V213E replaces Valine with Glutamic Acid at position 213 in the transcription regulator's sequence. We perform molecular modeling to analyze the proteomic impact and difference in molecular dynamics of the variant mutant protein, which showed no gross changes in form, but multiple dynamic changes downstream affecting the protein's overall function and possibly DNA Interaction. Analysis of the proband's family showed no significant family history except for the maternal cousin with a mutation in NFkB1.

Conclusion

This research both highlights the heterogeneity in the phenotype of NFkB1 pathogenic variants as shown in this proband, full penetrance of the variant mutation, and confirms the pathogenicity of a new variant through protein modeling techniques and molecular dynamic simulations. This finding can lead to additional NFkB mutation discovery, and also warrants investigation into how exactly certain variants are pathogenic to design targeted treatment in the future.





Study Field: Critical Care

Study Design: A Multicenter, Cohort Study

The association between tocilizumab therapy and the development of thrombosis in critically ill COVID-19 patients: A Multicenter, Cohort Study

Khalid Al Sulaiman , Ohoud Aljuhani⁵ Ghazwa B Korayem⁷., Ali F. Altebainawi⁶, Ramesh Vishwakarma⁴, Samiah, Rahaf Alqahtani¹, Mashael Alfaifi, Weam Als Salman

Background

The use of tocilizumab for the management of COVID-19 emerged since it modulates the inflammatory markers by blocking interleukin 6 receptors. Concerns regarding higher thrombosis risk while being treated with tocilizumab raised in the literature. The aim of this study to investigate the association between tocilizumab therapy and the development of thrombosis in critically ill COVID-19 patients.

Methods

A propensity score-matched, multicenter cohort study for adult critically ill patients with COVID-19. Eligible patients admitted to ICU between March 2020 and July 2021 were categorized into two sub-cohorts based on tocilizumab use within 24 hours of ICU admission. The primary endpoint was to assess the incidence of all thrombosis cases during ICU stay. The secondary endpoints were 30-day mortality, in-hospital mortality, and the highest coagulation parameters follow-up (i.e., D-dimer, Fibrinogen) during the stay. Propensity score matching (1:2 ratio) was based on nine matching covariates.

Results

Among a total of 867 eligible patients, 453 patients were matched (1:2 ratio) using propensity scores. The thrombosis events were not statistically different between the two groups in crude analysis (6.8% vs. 7.7%; p-value=0.71) and regression analysis [OR 0.83, 95% CI (0.385, 1.786)]. Peak D-dimer levels did not change significantly when the patient received tocilizumab (beta coefficient (95% CI): 0.19 (-0.08, 0.47)), while there was a significant reduction in fibrinogen levels during ICU stay (beta coefficient (95% CI): -0.15 (-0.28, -0.02)). On the other hand, the 30-day and in-hospital mortality were significantly lower in tocilizumab-treated patients (HR 0.57, 95% CI (0.37, 0.87), [HR 0.67, 95% CI (0.46, 0.98), respectively).

Conclusion

The COVID-19 cytokines surge interaction with interstice coagulation markers is complex. Our findings found comparable thrombotic odds with remarked mortality benefit in COVID-19 patients who were treated with tocilizumab. Further studies needed to understand the reality of immune modulation and COVID-19 infection.





Study Field: Medical Education

Study Design: Qualitative study

Developing Leadership Among Dental Residents At Prince Sultan Medical City In Riyadh, Saudi Arabia: An Exploratory Study

Dr.Hawazen A.Radhwan

Background

The Saudi Commission for Health Specialties (SCFHS) adopted the CanMEDS framework as a way of defining the competencies for all postgraduate programs, including dental specialty under its purview. Health care today requires leaders who make it possible for the most capable and appropriate individual to take charge within a given team in each context. It is imperative to understand the notion of the medical education and its influence on the training of future leaders. The major significance of this study is investigating the development of core competency for Saudi dental residency programs which is the leader role that has not been systematically studied.

Methods

This was a qualitative study employing the constructivist grounded theory approach. The sample size was determined using the theoretical saturation point, and we utilized a purposeful sampling technique. A semi-structured interviews were used for data collection between September 20 and November 20, 2022. They were conducted with residents in English by face to face and Zoom, using a semi-structured interview guide. Descript platform was used for the recordings' transcription. Ongoing data analysis was done using NVivo computer software by QSR International. The transcripts were read multiple times to familiarize with the data for thematic analysis, where the text was coded inductively. Themes were generated by identifying patterns in the data, where the text was coded inductively and merging similar codes. The data were interpreted within the themes and supported with the most relevant quotations.

Results

Seventeen Saudi board dental senior residents were required to serve the study purpose. Three themes have emerged: awareness of leadership, educational experience, and factors impacting leadership development. Marked awareness of participants about leadership as a definition was found. Meanwhile, it was limited as a competency. During their residency period, residents perceive the leader role concept, including a lack of consistency and structure under the training program. Summative reports were received as part of the assessment, whereas no integral protocol for formative feedback. Participants identified interdisciplinary specialties and training centers as strength factors during the residency program. However, heavy clinical duties and improper coaching are weaknesses that impact residents' leadership. development.

Conclusion

This study highlighted the awareness, educational experience, and factors that impact leadership development during the residency period. We found a marked gap related to awareness of leader role as a key competency. Residency programs may verify equivalent education of "leader role" for all specialties and training centers in residency training in Saudi Arabia. Dovetailing leadership coaching with daily teaching workflow and feedback structures and implementing faculty development initiatives to allow for appropriate feedback and assessment of these skills are advised. This is the first study about leadership education in residency training in Saudi Arabia to our best knowledge. There is a need for a randomized multicenter study to measure the competency level and engagement.





Study Field: Orthopedic surgery

Study Design: cross sectional

Identification of Etiology of Orthopedic Hardware Removal Among Patients Who Underwent Orthopedic Fixation Surgeries in King Abdulaziz Medical City

Wazzan Aljuhani, Mohammad Almosa, Mohammed Almusallam, Musaed Bin Dukhi, Soliman Alaraidh, Abdulaziz Bin Akrish, Nazish Masud.

Background

Hardware removal surgeries are substantially common. However, the justification of these surgeries has always been controversial. Indications for implant removal vary from pain, surgical site infection, and failure of osteosynthesis. Additionally, the surgery can be performed electively without any medical indication. Following these surgeries, many complications can occur. Therefore, surgeons and patients should be aware of the appropriate indications and have realistic expectations of the risks and benefits of implant removal. Our study aimed to identify the most frequent causes and outcomes of hardware removal.

Methods

A retrospective study of medical records was performed. We included all patients aged 14-94 years old who underwent hardware removal surgery in the orthopedic surgery department in King Abdulaziz Medical City, Riyadh, Saudi Arabia from the year 2010 to 2019. All relevant data such as demographic characteristics, location and type of hardware, indication for hardware removal, the duration between insertion and removal, and complications after removal were extracted and analyzed.

Results

A total of 224 medical records were reviewed. 190 were males and 54 were females, with a male to female ratio of 3.5:1. The peak age group was the 17-30 years. The mean BMI for was 27.77. Regarding employment, 65 (26.6%) of patient were unemployed, 53 (21.7%) were students, and 63 (25.8%) were soldiers. Most of the patients had the hardware for 1-2 years (27%) before presenting for removal. Plate and screws constituted 98 (40.2%) of all implants removed. The femur was commonest location of hardware, making up 51 (20.9%) of the cases. Patient's request constituted 117 (48%) of the indications. On the other hand, 60 (24.6%) removed the hardware due to pain, 15 (6.1%) had to remove the implant because of re-fracture. Only 30 (12.3%) patients reported complications after the removal.

Conclusion

Despite the numerous challenges of surgical hardware removal, our study contradicts the common belief that hardware removal is mostly without benefit. These findings may influence the surgeons' approach towards the procedure and patients counseling, nevertheless, to ensure patient safety and quality of life, the indication for surgery must be assessed thoroughly to avoid the occurrence of complications.





Study Field: Public Health

Study Design: cross-sectional

The Relation Between Body Mass Index and Musculoskeletal Injury

Abdulaziz A. Alangari, Mohammed M. Almutairi, Abdulmalik M. Arrajeh, Mohammad Aleidi, Mohammed Alqarni, Hesham A. Almeneif, Hamad K. Alolaywi.

Background

The nature and extent of the relation between body mass index (BMI) score and the risk of Musculoskeletal (MSK) injury are still unclear, with few studies investigating. So, the purpose of this study was to assess the association between BMI scores and MSK injury and to see if the site of MSK injury is affected by a specific BMI score. In addition, the risk of MSK injuries was compared among different adult age groups.

Methods

The study population included all patients above 18 years old with musculoskeletal injuries between January 2009 and December 2019 at King Abdulaziz Medical City (KAMC). The estimated sample size was 377. The study subjects were distributed according to their BMI into four categories (underweight, normal weight, overweight, and obese). Also, they were divided according to their age into young adults, middle age, and older adults. Each MSK injury was identified by its location as upper extremity, axial skeleton, or lower extremity.

Results

Only gender and age were significantly related to the site of injury, with P-values (0.018) and (0.001), respectively. As for the BMI category, its relation with the site of injury was nonsignificant (P-value: 0.092). The younger age group (≤ 35) has a significantly higher chance to be injured in the upper extremities compared with the older adults (≥ 56) (P-value = 0.014). While the axial skeleton (especially the lower back) was the most common site of injury in obese, overweight, and underweight categories, patients with normal BMI have lower extremities as their most common site of injury.

Conclusion

Although a higher BMI is associated with an increased risk of MSK injury, the difference in the BMI score seems to have no effect on the site of injury. By contrast, both gender and age group have a significant relationship with the site of MSK injury.





Study Field: Plastic and Reconstructive Surgery

Study Design: Article Review

Updated Evidence in Management of Cleft Lip and Palate: Simple Review Article

Sami Al Issa , Mohammed Majeed A Alwaily , Enas Mubarak Al Hadi ,Ali Abdullah A Businnah , Mohammed Ahmed Bin Hadi Alkadi , Abdulaziz Ibrahim Alshehri .

Background

The most common oro-facial congenital deformity reported in live newborns is a cleft of the lip, palate, or both. Cleft lip and palate are widespread problems that affect more than 10 million people worldwide [1]. Clefts of the face structures and/or clefts of the oral tissues, such as a hard palate, are a varied collection of malformations [2]. According to reports, as the world's population grows and life expectancy rises, the number of people living with oro-facial clefts will rise dramatically [3]. Orofacial clefts affect people of all races, genders, and socioeconomic classes, and they differ from country to country. Each of these cases necessitates many surgical operations and complicated medical treatments, and the patient, along with his or her family, frequently faces major psychological issues [4]. Cleft lip and palate can be caused by a variety of factors. The majority of instances, however, are assumed to be caused by a link between hereditary predisposition and certain environmental chemicals, and it can also be caused by chromosomal abnormalities in persons born with genetic disorders, which affect 10 million people worldwide [5], whoever, Strong family history of cleft lip and palate, exposure to specific environmental elements such as smoke, alcohol, prescription medicines, and illegal drugs, consanguinity between parents, and mother's age at the birth time are all risk factors for cleft lip and palate [6].

Methods

Study Design Article Review. **Study Duration** Information will be gathered between September 1 and September 29, 2021. **Data Collection** Because they are elevated sources, PubMed and EBSCO Information Services will be utilized as search databases for the papers used in the study. PubMed is one of the internet's biggest digital libraries, created by the National Center for Biotechnology Information (NCBI), a division of the United States National Library of Medicine. Issues covering management updates and results of lip and/or palate cases published in English throughout the world. The search terms categories were "Updated Management, Cases Results, lip and/or palate," and these would be utilized in combination. Each incorporated study's reference list will be examined for further supporting data. To confirm the veracity of the results, each member's results will be double-revised. During the article selection process, studies and their findings will be double-reviewed to ensure that we enroll research that is relevant to the goal of our study and to avoid or eliminate inaccuracies in the results. The data will be analyzed without the use of any program. The information will be gathered using a specified form that includes (Author's name, year of publication, research kind, objective, and results).

Results

Perinatal: Genetic counseling, feeding SLP treatment, lip taping, or NAM. • **0-6 months:** Ear exam and probable installation of airway tubes, nutrition, and development supervised by SLP and main physician, cleft lip repair by a cleft surgeon
9-12 months: Palate repair, ventilating tube assignment. • **1-4 years:** Close monitoring for language acquisition and oral evaluation. • **4-6 years:** Palate revision/speech operation evaluation, columellar lengthening/nasal point review. • **Ages 6 to 12:** Alveolar bone grafts and orthodontics participation. • **Over the age of 12:** definitive rhinoplasty and orthognathic surgery. **Palatoplasty Techniques** The reconstruction of the levator veli palatini muscle, which works to raise the palate during a swig, is the most important step in any of the palatoplasty treatments. **Straight-line Repair with Intravelar Veloplasty or Two-Flap Palatoplasty** This method includes lifting mucoperiosteal flaps from the vomer on each side of the cleft. From the maxillary alveolus to the soft palate, nasal mucosal and oral mucosal flaps are elevated anteriorly. **Furlow Double Z-plasty** Furlow palatoplasty consists of Z-plasty or inversion of soft palatal muscle flaps in one layer to reconstruct the levator sling and transposition of mucosal blinkers in a second layer to rebuild the uvula. **Veau-Wardill-Kilner V-Y Pushback** This procedure includes elevating bilateral mucoperiosteal flaps that link the mouth mucosa from anterior to posterior. **Additional Surgery** In certain circumstances, another surgical procedure may be required at a later date to repair the gum cleft with a piece of bone (bone grafting) - usually between the ages of 8 and 12. Enhance the looks and functionality of the lips and palate, enhance the form of the nose (rhinoplasty) and improve the appearance of the jaw .

Conclusion

Children with cleft abnormalities are best cared for by a dedicated team of professionals who are committed to them from diagnosis through adulthood. This craniofacial team collaborates to carry out a complex treatment plan. As a kid with a cleft grows and develops, certain patterns of treatment and clinical intervention emerge. The following is a synopsis of the treatment and interventions that children with cleft palates receive at our craniofacial facility.



Study Field: Emergency medicine

Study Design: A cross sectional study

Patient's expectations of Emergency department care in Saudi Arabia

Htoun F.Al-Rajeh, Reema M.AIDera,Dana S.Almuhaimeed, Sara Abdulmajeed Alharbi, Noora Juaythin.

Background

Introduction: Patients of all kinds come to the emergency room (ER) expecting the best treatment in the fastest amount of time, nowadays emergency departments (EDs) no longer deal only with emergencies. They have become the first contact point for many patients, not just for catastrophic events. Aim: This study aimed to evaluate patients' expectations of Emergency department care in Saudi Arabia. And to explore emergency department patient expectations regarding staff communication with patients, wait times, the triage process and information management.

Methods

This is a cross-sectional study conducted among patients who visited EDs between March 2021 to May 2021 in the Kingdom of Saudi Arabia. A self-administrated electronic questionnaire was distributed among the targeted patients via social media. The questionnaire includes socio-demographic characteristics (i.e. age, gender, education, etc.), and perception toward Emergency departments.

Results

1866 patients met the inclusion criteria (54.6% females vs 45.4% males). 38.7% were aged between 18 to 25 years. 48.9% and 40.1% were of the opinion that it is important or very important to have information about ER functions. In a multivariate regression model, bachelor's or higher degree, living in the Western, aware that some patients can be admitted to ER before others, and knowing that it is fair were the independent significant predictors of giving high importance to having information about ER functions.

Conclusion

There was high importance given by the patients to knowing emergency department functions indicating great expectations about the services provided by the ED. Patients with better education who are living in the Western region and have a better perception of EDs tend to give more importance to knowing ED functions as compared to other patients. More research is needed to determine the importance of having information about emergency department functions among patients who had frequent emergency events.





Study Field: Cardiology, Emergency medicine

Study Design: A cross-sectional study

The level of competency of emergency residents to interpret the electrocardiogram in Riyadh regions, Saudi Arabia

HATUN F. Al-RAJEH, Khalid F. Almutairi, Yara N. Aldosari, Sara A. Almutairi, Hadeel A. Alkahmous

Background

Introduction : An electrocardiogram (ECG) is a simple test that can be used to check your heart's rhythm and electrical activity. In addition to the standard 12-lead ECG and 24-48 hour ECG Holter, continuous 24-hour ECG monitoring can detect arrhythmias that have been missed by 12-lead ECGs and Holters. **Aim :** This study aimed to assess the level of competency of emergency residents to interpret the ECG in Riyadh region, Saudi Arabia.

Methods

This is a multicenter cross-sectional study conducted among emergency residents in Riyadh, Saudi Arabia. A self-administered questionnaire was sent to the targeted residents of the emergency department using an online survey. The questionnaire includes basic demographic data (i.e. age, gender, hospital, etc.) and a 12-item questionnaire assessing the level of competency using a different scenario. All statistical analyses were carried out using SPSS version 26.

Results

Of the 96 emergency residents involved, 63.5% were aged between 25 - 27 years old. Overall, the level of competency was average among 63.5%, 24% were considered as having high levels and only 12.5% were considered as low competency levels. The mean score of competency was 7.80 (SD 2.21) out of 12 points. Factors associated with increased competency were working in King Abdulaziz Medical City, having more than 5 years of working experience in emergency care, and attendance to electrocardiography training courses.

Conclusion

The level of competency among emergency medicine residents in reading electrocardiograms was deemed adequate. Residents who had more years of experience in emergency care and had attended courses and training related to ECG reading tend to increase competency levels more than the other emergency residents. More research is needed to establish the competency level of emergency residents in our region.





Study Field: neurology

Study Design: cross sectional study

Hyperlipidemia, and Hypertension Are Associated with Intracerebral Hemorrhage Incidence

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Background

Hemorrhagic stroke (HS) is the second most common type of stroke and the second leading cause of disability and death. Stroke places a huge burden on the socio-economic systems. The updated data on the prevalence of intracerebral hemorrhage (ICH) stroke and related physiological risk factors in Saudi Arabia were limited. The aim was to identify the prevalence of ICH stroke and the related physiological risk factors.

Methods

This is a retrospective-hospital based, and chart review study that utilize the BEST-care system at King Abdulaziz Medical City, Riyadh, Saudi Arabia. Patients ($n=1870$, 58.6 ± 13.87 y/o) who attended the neurology department (in/outpatient) between the years 2015-2020 were studied.

Results

Patients were screened for co-morbidities, hypertension (66.1%), diabetes mellitus (57.7%), hyperlipidemia (28.4%), and history of an old stroke (22.3%). Ischemic stroke (IS) was more dominant than ICH stroke with ratios of 94.5% ($n=1767$) vs. 5.5% ($n=103$), respectively. The prevalence of the ICH stroke among the patients ($n=103$) was 10.6%, 20.3%, 24.2%, and 28.1% in the age groups of < 40, 41-50, 51-60, and 61-70 years old, respectively. There was a significant gender effect on the distribution of both the IS and ICH ($p=0.003$). The prevalence was significantly common in males as compared with females. BMI has no effect on the prevalence of IS and ICH stroke ($p=0.081$). ICH stroke was significantly associated with DM ($p=0.032$), hypertension ($p=0.01$), and hyperlipidemia ($p=0.002$). Regression analyses show only hypertension (positive association) and hyperlipidemia (negative association) were significantly associated with the incidence of ICH stroke.

Conclusion

IS was more prevalent than ICH stroke. ICH strokes were more prevalent in male than females and increased progressively with patient age. Also, hypertension, hyperlipidaemia, and DM were the most common factors leading to ICH.





Study Field: Ophthalmology-Strabismus,

Study Design: Case Report and Literature Review

Conservative Management of Giant Pyogenic Granuloma Post Strabismus Surgery; Case Report and Literature Review.

Raneem Saad Alqahtani ,Ghadah Abdullah Alhussein, Leenah Tawfiq Almanea

Background

Ocular pyogenic granuloma is a benign vascular tumor that occur particularly among children. Treatment options for giant conjunctival Giant pyogenic granuloma include topical steroid, topical timolol, surgery, cryotherapy, and electrocautery. Patient with Giant pyogenic granuloma usually treated with surgical intervention. Our case showed that topical timolol 0.5 % can be the preferred option as a safe non-invasive alternative therapy

Methods

Case presentation : 13 years old Egyptian female developed giant pyogenic granuloma following a strabismus surgery. Complete resolution was observed after using timolol with no signs of recurrence.

Results

-

Conclusion

Despite the usual approach of giant pyogenic granuloma management, we believe that topical timolol can be the preferred option as a non-invasive alternative therapy as it is considering a safe in comparison to possible risk of topical steroid therapy or surgical exposure.





Study Field: emergency medical services

Study Design: cross-sectional study

competency of paramedics for prehospital deliveries

naif fuad alotaibi, alwaleed alshalawi , mohanad alfafi, omar alotaibi

Background

Prehospital deliveries episodes are elevated risk patient presentations which be able to result in massive morbidity and mortality if not managed appropriately. In order to achieve high-quality prehospital deliveries with minimal complications, paramedics with sufficient knowledge about the assessment and management for prehospital delivery along with the availability of equipment for prehospital delivery are required. This study, therefore, aimed to assess the paramedics' knowledge about the assessment and management for prehospital deliveries and the available equipment that they can use in such cases.

Methods

This is a cross-sectional study where an online survey was distributed to paramedics working in Riyadh city Saudi Arabia between 2021 and 2022. Paramedics not working in Riyadh, Emergency Medical Services (EMS) technicians, and EMS interns were excluded from the study. Incomplete surveys were also excluded. The sample size was 200 paramedics and a cluster random sampling was used. The survey assessed paramedics' knowledge with regards to techniques that could be used for prehospital delivery, APGAR score (a quick test performed on a baby after birth), and stages of labor. Frequencies and percentages were used to represent the categorical variable. Finally, all collected data was stored in Microsoft excel (2019) sheet and exported to SPSS statistical software.

Results

More than 200 paramedics was invited so far to participate, of which 28 paramedics contributed to our survey. Of those who participated, 64% had previous encounters with at least one prehospital delivery case. With regards to APGAR score, 55% of the patipating paramedic knew the normal range of the score, while 37% did not answer correctly and 7% did not what the APGAR score is. In stages of labor, 57% of the participant knew the stage when the fetus is delivered and only 28% knew when the cervical is dilated. The stage where the placenta is delivered was the most correctly answered question by the participating paramedics (61%)

Conclusion

In conclusion, although paramedics are required to respond to all emergency cases including prehospital deliveries. However, our preliminary findings showed that some paramedics lack knowledge about some of the basics about the assessment and management in delivery cases. The findings of this study highlighted the need to improve the knowledge and skills of paramedics when handling delivery cases. This could be achieved through developing a prehospital delivery course that incorporate both theory and practice about caring for the mother and newborn in prehospital care.





Study Field: Public health

Study Design: Comparative cross sectional

Physical Manifestations That Affect Individuals Who Have Recovered From COVID-19 Infection In Riyadh City, Saudi Arabia

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Background

COVID-19 (coronavirus disease 2019) was identified as a member of the genus betacoronavirus. Its global spread was rapid within one month. The post Covid-19 syndrome was defined as unexplained development of signs and symptoms during and after COVID-19, continue for more than 4 weeks. The aim is to identify the rate of developing physical manifestations among individuals with past history of Covid 19 infection compared to other population and to Estimate the factors associated with developing Post Covid Syndrome.

Methods

Comparative cross sectional study conducted on all adults of both genders with or without past history of infection with Covid 19 in Riyadh city using self-administered questionnaire. Convenience sampling technique was conducted and the sample size was 550. Categorical variables were compared using the chi-square or Fisher's exact test. Continuous data were compared using two independent samples t-test. Spearman correlation test was done for test the correlation between physical symptoms and duration of recovery after COVID-19 infection.

Results

The highest physical manifestations were headache and fatigue by (85%). There is a significant association between having past history of covid-19 and loss of smell, distortions or changes of familiar smells, loss of taste, distortions or changes of flavours, headache, dizziness, excessive hair loss, Irregular heartbeats, dyspnea and fatigue. Associated factors of having post COVID-19 symptoms among recovered patients from COVID-19 infection were duration of infection, healthcare accessibility, need of hospital admission due to the infection and time since recovery. Moreover, the longer the duration after recovery it is less likely to develop these manifestations.

Conclusion

The current research showed that there was a significant association between having past history of COVID-19 and several physical manifestations.





Study Field: Public health

Study Design: Cross sectional study

Social Isolation among Adolescents and its association with depression symptoms in Riyadh.

Haneen S Alotaibi, Amwaj I Alanazi, Leena A Almohsen, Njoud N Almarhoum, and Samira M Marey

Background

Adolescent mental health may be harmed as a result of social isolation, and they are more likely to experience high rates of depression. The absence or reduction of the level of social engagement, and connections, with people, is known as social isolation. One of the most common mental disorders in adolescents is depression. Depression, a disorder that affects a person's emotions, sleep, energy, food, and attention, is a common but deadly condition in adolescents.

Methods

A cross-sectional study was conducted among 483 adolescents who live in Riyadh, Saudi Arabia. The data were collected by online questionnaire through convince sampling technique. The confidence level of the sample was 0.95. The exclusion criteria were the adolescents with Autism and Attention deficit hyperactivity disorder.

Results

The study measured the prevalence of social isolation among adolescents at 10.14%. The sociodemographic characteristics (gender, age, educational level, income level, family members, and living with) can successfully predict social isolation with r^2 : 0.09 and p : <0.0001.

Conclusion

A high percentage of adolescents in Riyadh who were socially isolated make up 10%. The prevalence of depression among adolescents was high at 31.68%.





Study Field: Emergency Medical Services

Study Design: descriptive study

Use and Abuse of Emergency Medical Services Using the Red Crescent Reporting System in Saudi Arabia

Meshary Bin Hotan, Kharsan almakhalas

Background

Emergency medical services (EMS) is a system that delivers emergency medical care to all who need it. This research focused on the Saudi population's use and abuse of emergency medical services. Also, to assess the difference between the chief complaint given to dispatchers and the real reason upon arrival by the EMS team.

Methods

This study is a descriptive study using data from Saudi Red Crescent Authority (SRCA) in Saudi Arabia, all regions, between January 2021 to December 2021. We used a multistage sampling technique to select our sample, and it was 2600 records from all 13 areas in Saudi Arabia from 4 different months in different seasons.

Results

About (25%) of the calls were not the same complaint given to the dispatcher in 2021. And (6.3%) of those who called with different complaints were abusing the EMS service, so they called the dispatcher as a medical emergency or trauma, but when the paramedics arrived, the patient did not have any complaints or as a medical non-emergency. On the other hand, the other patients (18.8%) called the dispatcher about a medical emergency or trauma, and when they arrived, the patients prioritized an emergency or trauma, but the complaint was different from that given to the dispatcher.

Conclusion

In conclusion, Saudi Arabia has lower rates of abusing the EMS services than other countries.





Study Field: Basic Science

Study Design: Basic Science research

Repurposing of Antiviral Drugs to Treat Medullary Thyroid Carcinoma

Dr. Sahar Algahmdi , Mr.Meshari Aloumi, Mr.Abdulrahman Alamer and Mr.Ayman Alotaibi

Background

Between 2013 and 2017, only 3.4% of all reported human malignant tumors were thyroid carcinoma; It is the most common type of endocrine neoplasia and, over the past two decades, has shown the highest increase in incidence rate of all cancers. The clinical outcome and survival rates of thyroid neoplasm are prominently better than other types of neoplasia. Medullary thyroid carcinoma (MTC) is a relatively uncommon thyroid cancer; nevertheless, it accounts for most mortality cases related to thyroid cancer. MTC is described as a tumor derived from the parafollicular cells of the thyroid gland, which normally secretes calcitonin. The majority of MTC is sporadic whereas only 25% is a dominant component of the hereditary multiple endocrine neoplasia (MEN2). Specific mutations are associated with phenotype and prognosis for both hereditary and sporadic MTC. Most research and studies have shown that there are few genetic alterations involved in the pathogenesis of MTC which is The Rearranged during Transfection (RET). RET is a single pass transmembrane receptor protein-tyrosine kinase. In our present research we are trying to target RET by repurposing antiviral drugs which will diminish the tumor proliferation and induced apoptosis of MTC.

Methods

A docking study was performed utilizing antiviral library to evaluate the binding mode or the interaction between the drugs and RET receptor. The docking study was performed using the Glide tool in Maestro Schrödinger software and two scoring function were utilized.

Results

Our preliminary SP and XP docking results showed several antiviral drugs with high binding activity for the protein-tyrosine kinase receptor with glide score of -12 to -9.

Conclusion

Repurposing the antiviral medications would benefit patients by providing additional or alternative anti-tumor, with fewer side effects and less cancer resistance





Study Field: Ophthalmology

Study Design: Cross-sectional

Knowledge and attitude to eye disorders among pediatricians in Saudi Arabia

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Background

Pediatric eye disease can affect any part of the eye and potentially lead to a permanent eye injury. To preserve vision and prevent further eye complications in children, pediatricians need to be aware of common eye diseases to detect the abnormalities early and refer patients to an ophthalmologist if necessary.

Methods

A self-administrated questionnaire that was distributed both as an online and a hard copy measured the knowledge and attitude toward eye disorders among practicing pediatricians in Saudi Arabia. The Statistical Package for the Social Sciences (SPSS) software was used for data analysis.

Results

A total of 105 participants were enrolled in this study. The mean age of the participants was found to be 32 ± 9.0 years old. The mean years of practicing pediatrics were found to be 6 ± 6.8 years. About 62 (59%) of the participants were females and 43 (41%) of them were males. Most of them 59 (56.2%) were pediatric residents. The most reported causes of a red painful eye by pediatricians were glaucoma (96.5%), conjunctivitis (95.2%), corneal abrasions, trauma (93.3%), and (89.5%) uveitis. Leukocoria could be sight-threatening as reported by 94 (89.5%) of the participants, and life-threatening as mentioned by 93 (88.6%) of the participants. Regarding causes of strabismus, central cause was reported by 94 (89.5%) of the participants, and amblyopia by 93 (88.6%) of them. Large cornea was reported as a sign of congenital glaucoma by 93 (88.6%) of the respondents, hazy cornea by 91 (86.7%) of them, and 80 (76.2%) of the participants mentioned excessive tearing as a sign. About 74 (70.5%) of the participants perform eye examinations for children. The cause of not doing examinations was the absence of equipment in 20 (64.5%) of the participants. 62 (59%) of the participants will refer a premature baby for retinopathy of prematurity (ROP) screening at 4-6 weeks after birth or at 32 weeks. Concerning management of a child with painful red eye, about (82%) of the respondents mentioned immediate referral to an ophthalmologist, and (9.5%) will give eye drops. 92.4% of respondents will refer to an ophthalmologist immediately for the management of strabismus.

Conclusion

Pediatricians had a good level of knowledge regarding the causes and management of most eye disorders. However, there was a relatively lower level of knowledge about retinopathy of prematurity (ROP) and eye examination. Efforts should be made to further improve the knowledge base on eye diseases in pediatric patients through workshops and educational programs.





Study Field: Orthopedic Surgery

Study Design: Cross sectional study

Prevalence, Knowledge and Awareness of Hallux Valgus Among the General Population in Saudi Arabia

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Background

Hallux valgus (HV) is a common structural foot deformity that manifests as a medial bony expansion of the first metatarsal head and occurs when the hallux deviates more than 15° degrees toward the lesser toes with respect to the first metatarsal bone. Numerous factors including genetic predisposition, structural characteristics, sex, age, (BMI), foot pain, pes planus and footwear have been documented to be linked to HV.

Methods

A descriptive cross-sectional survey was done based on online questionnaire initiated after consultation of the field experts. The questionnaire of this study included participants demographic data, medical history, shape of foot, wearing habits, and awareness of HV.

Results

A total of 3199 eligible participants completed the study questionnaire. Participants ages ranged from 18 to 60 years with mean age of 28.3 ± 13.9 years old. Exact of 2044 (63.9%) are females. Exact of 37.2% of the study participants had HV by some degree which was unilateral among 7.9% of them and bilateral among 29.3%. A total of 1521 (47.5%) respondents had an overall good awareness level of HV while 1678 (52.5%) had an overall poor awareness level. Young age, female gender, high education, and having more severe HV were associated with higher awareness level ($P < 0.05$).

Conclusion

In conclusion, the study revealed that nearly one-third of the Saudi population complained of HV deformity which was mainly bilateral with mild degrees. Also, the study showed that about half of the participants were knowledgeable regarding HV mainly for preventive measures and clinical presentation.





Study Field: Genetics

Study Design: A cross-sectional questionnaire-based study.

Opinion of Geneticists Regarding Performing Preimplantation Genetic Testing for Monogenic Disorder (PGT-M) for Variants of Unknown Significance

Reema Alduaiji, Laila alqahtani, Reema alqadiri, Lena alotaibi, Prof. Mostafa abolfotouh, Prof. Majid alfadhel

Background

Preimplantation Genetic Testing for Monogenic disorder (PGT-M) is a technique that identifies a pathogenic variant in the early developing embryos created through in vitro fertilization before pregnancy. A “variant of uncertain significance” (VOUS) is defined as a genetic variant discovered through genetic testing but whose relevance is unknown.

Methods

Our main aim is to assess the opinion of geneticists all around Saudi Arabia, in performing PGT-M for VOUS in Saudi Arabia. This will help formulate recommendation from higher authority regarding criteria for performing PGT-M in clinical practice. A cross-sectional questionnaire based study was conducted all around Saudi Arabia hospitals with a genetics department. This questionnaire was developed after reviewing literature using survey monkey. A total of 96 participants, Saudis and non-saudis, male and female geneticists who agreed to participate in the study.

Results

Out of 96 geneticists, 56 (59.6%) were females. The majority of the participants were of Saudi ethnicity with a percentage of (76.6%). The most remarkable finding of this study indicates that 64% of geneticist were against performing PGT-M for VOUS. Another major finding was that 94.5% of geneticists agreed that there is a lack of knowledge about PGT-M.

Conclusion

This study showed that most of the geneticists were against performing PGT-M for VOUS and agreed that there is a lack of knowledge about PGT-M due to lack of guidelines and lack of researches regarding PGT-M. Therefore, future researches are needed regarding ethical considerations of PGT-M and its implication as it will help higher authorities in developing the guidelines for PGT-M regarding VOUS usage in clinical practice in Saudi Arabia.





Study Field: Health and rehabilitation sciences

Study Design: crosssectional transcultural adaptation and validation study

Cross-Cultural Adaptation and Validation of the Arabic Version of the Mini-BESTest among Community-Dwelling Older Adults in Saudi Arabia

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Background

: The Mini-BESTest is a clinical assessment of balance impairment; however, the translation and psychometric properties in the Arabic-speaking population have not yet been investigated. The purpose of this study was to translate into Arabic and evaluate the psychometric properties of the Mini-BESTest in Saudi community-dwelling older adults.

Methods

This is a crosssectional transcultural adaptation and validation study. A total of 144 community-dwelling older adults were enrolled (mean age = 66.2 ± 6.2 years). The translation and cross-cultural adaptation of the Mini-BESTest from English to Arabic was performed using standardized guidelines. Test-retest reliability was examined using the intraclass correlation coefficient (ICC) with one week between test and retest. The internal consistency was assessed using Cronbach's alpha. Construct validity of the Mini-BESTest was assessed using balance such as Berg Balance Scale (BBS) and Falls Efficacy Scale International (FES-I).

Results

The Arabic version of the Mini-BESTest showed good internal consistency (Cronbach's alpha = 0.93). The scale shows excellent test-retest reliability (ICC = 0.99, 95% CI, 0.98-0.99) and excellent inter-rater reliability (ICC = 0.93, 95% CI, 0.70-0.97), which is indicative of the measure's stability and repeatability. Mini-BESTest total scores showed an excellent inter-rater agreement. There was a significant correlation between total score of the MiniBESTest and BBS ($r = 0.72$; $p < 0.001$). Mini-BESTest had a moderate association with FES-I.

Conclusion

The Arabic version of the Mini-BESTest is a reliable and valid test for assessing balance in older adults. More research is needed to confirm the test's reliability and validity in a specific population, such as those with neurological problems.





Study Field: Clinical Pharmacy

Study Design: a two-center retrospective cross-sectional study

The prevalence of cardiorenal diseases in type 2 diabetes mellitus patients in Saudi Arabia and the implementation of new guidelines directed therapies: a two-center retrospective cross-sectional study

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Background

Atherosclerotic cardiovascular disease (ASCVD), heart failure (HF), chronic kidney disease (CKD), and obesity are associated with increased morbidity and mortality in patients with type 2 diabetes mellitus (T2DM), and their prevalence is unknown in Saudi Arabia (SA). Presence of these comorbidities require the addition of antidiabetic agents with cardiorenal benefits as recommended by guidelines, however the prescriber's adherence remains unclear.

Methods

This is a multicenter retrospective cross-sectional study including adult patients with T2DM admitted to hospital or seen at outpatient clinics between January and December 2020. Patients were classified into two groups based on the presence of ASCVD. Patients with no prior ASCVD history were further classified based on the 10-year ASCVD risk estimation. Endpoints included the prevalence of ASCVD, HF, CKD, and obesity in patients with T2DM. We also evaluated the characteristics of the utilized antidiabetic agents.

Results

For the 1,217 patients with T2DM, the majority were female (57.0%) and aged 45-64 years (53%), with 19.3% having an established ASCVD with a mean age of 65.2 ± 11.6 years. The prevalence of HF, CKD, and obesity was 5.1%, 8.7%, and 58.3%, respectively. The most common types of ASCVD were revascularization (40.9%), myocardial infarction (35.3%), and stroke (32.3%), with increased prevalence of ASCVD as the age increases (52.8% at age ≥ 65 years). For the non-ASCVD group, the 10-year ASCVD risk was high in 30.6% of the patients. Hypertension and dyslipidemia were the most prevalent comorbidities (67.6% and 69.1%, respectively). The rates of utilization of guidelines directed therapies were 83.6% with metformin, 9.4% with GLP-1 RA, 10.8% with SGLT2i, 41% with aspirin alone or in combination with clopidogrel, and 79.7% with statin therapy.

Conclusion

The prevalence of ASCVD, HF, CKD, and obesity in patients with T2DM in SA was high, with low overall utilization of the recommended guidelines-directed medical therapies.





Study Field: Critical care

Study Design: cross-sectional observational design

Long-Term Quality of Life Among Patients with Post-Intensive Care Syndrome In Saudi Arabia

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Background

Post intensive care syndrome is a wide range of cognitive, mental, and physical dysfunction that persist after critical illness. The aim of this study is to investigate the health-related quality of life among intensive care survivors in Saudi Arabia.

Methods

This is a cross-sectional study design in which the SF-36 questionnaire was administered to patients following their Intensive Care Unit (ICU) admission. The study compared physical function, emotional health and well-being, social function, pain, and general health between ICU survivors and healthy individuals.

Results

The sample consists of 200 participants, 34.5% (n=69) were ICU survivors while 65.5% were in the control group (n=131). The sample age was Median 18, IQR (22, 38) years. Males accounted for 32.5% (n=65) while females were 67.5% of the sample (n=135). ICU survivors reported significantly lower physical function (M 80, IQR (45, 90) (p=0.036), higher level of limitation due to physical health (M 75, (IQR 0, 100)) (p=0.029) and higher level of pain (M 77, (IQR 55,100)) (p=0.043) compared to healthy individuals, (M 85, (IQR 60, 100)), (M 100, (50, 100)), (M 67.5, (IQR 90, 100)) respectively. Only 23% of ICU survivors have reported receiving a rehabilitation follow up after their ICU discharge.

Conclusion

Physical dysfunction and pain are prevalent among ICU survivors. This study highlights the lack as well as the needs for rehabilitation follow up of ICU survivors to improve their health related quality of life.





Study Field: medicine

Study Design: retrospective cohort study

Prevalence and Clinical Characteristics of Lacunar Stroke: A Hospital-Based Study

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Background

Lacunar stroke (LS) is responsible for one-quarter of the overall number of ischemic strokes with long-term complications and carries health and economic issues for patients and health care systems. Therefore, we aimed to investigate lacunar versus non-lacunar strokes in a tertiary academic center

Methods

From February 2016 to July 2019, all patients admitted to the stroke unit were retrospectively reviewed. We included LS patients and compared them to other TOAST subtypes. Hemorrhagic stroke and conditions mimicking stroke were excluded. Regression analysis was done to determine LS predictors and outcomes

Results

A 35.5% rate of LS among 989 ischemic stroke patients was found. Most patients (71.9%) were males. Lower National Institutes of Health Stroke Scale (NIHSS) scores at admission and negative history for cardiac diseases were predictors for LS in our population. At discharge, LS patients had low NIHSS scores and shorter hospitalization periods compared to non-LS patients

Conclusion

LS was prevalent among ischemic stroke patients in our cohort. Future studies are highly needed with long follow-up intervals to identify the stroke recurrence, complications, and outcomes.





Study Field: Respiratory, asthma, inflammatory lung disease, compliance of medication

Study Design: Case series study

To Reassess The Need for Biologics Treatment for Asthma Patients at King Abdulaziz Medical City, Riyadh.

Mosaad Ibrahim Alshahwan, Hamad Saadi Alshammari, Faisal Muthi Abugamza, Sultan Naser Alotaibi, Omar Ahmed Saeed Abuoliat.

Background

Asthma is one of the most chronic noninfectious conditions that intermittently inflames and narrows the airways in the lungs, which affects more than 300 million individuals globally. 1,2 Asthma develops as a consequence of the inflammatory reactions involving the neutrophils, eosinophils, macrophages, lymphocytes, and mast cells. 3,4 Asthma is a large umbrella that has two types under it, and each types has further subtypes. 5 Type 1 (T2-low) asthma has been divided to non-atopic, smokers, obesity-related, and elderly, while type 2 (T2-high) asthma incorporate atopic (allergic), late-onset ,and aspirin-exacerbated respiratory disease (AERD) subtypes. 5 Allergic asthma is the most widespread subtype of asthma globally. 3,6

Methods

A questionnaire was developed to collect information from the patients. The questionnaire had a demographic section and history of asthma treatment section. Asthma patients were divided into three groups based on their SINA Score test, the first group scored 20-25 were mild, and those who scored 16-19 were termed as moderate and those who scored less than 16 points were termed severe/uncontrolled. Regarding the OSA patients were divided into three groups based on their STOP BANG score, patient who scored 0-2 is mild, 3-4 moderate and 5-8 is severe, all controlled patients should score less than three. For GERD patients were divided into two groups based their GERD Q symptoms, if the patients had two or more days of symptoms were given a score of 1 if less they were given a score zero.

Results

Case series study of N=38 asthmatic patients (all patients using biologics treatment) showed that regarding asthma patients there were 11 (35%) who were mild asthma and 9 (23%) with moderate asthma and 16 (42%) with severe/uncontrolled asthma, Regarding OSA there were 22 (59%) patients with mild OSA, and 9 (23%) with moderate OSA, and 7 (13%) with severe/uncontrolled OSA. We found 20 (52%) patients controlled GERD, and 18 (47%) were severe/uncontrolled (Table1). 40% of patients had severe/uncontrolled GERD and OSA, 37% had either severe/uncontrolled GERD or OSA, and 23% of patients had neither GERD or OSA (Table2).

Conclusion

We would like to improve the awareness of clinicians in the importance of following the step by step guidelines on how to manage severe asthmatic patients instead of skipping to more crucial steps and prescribing biologics exposing the patients to serious side effect and high cost. Awareness about the overlap of asthma with other respiratory disease and their effect on asthma control should be raised. Moreover, we would like to increase knowledge of the importance of the patients' compliance and adherence to the management plan. More research on a larger sample size should be conducted in this field. Rigid, reliable methods should be developed for acquiring the data to avoid data bias.





Study Field: Family medicine, Public health

Study Design: cross sectional

Prevalence and awareness of dietary supplements Use among Saudi adult females attending fitness centers in Riyadh, Saudi Arabia.

Shahad Aljebeli², Reem Albuhairan², Nouf Ababtain², Taima Almazroa², Winnie Philip²

Background

Dietary supplements are used for a wide variety of reasons, some of which are for medical conditions, to compensate for dietary insufficiency, to improve physical performance, and to boost immunity. Generally, individuals who attend sports facilities seek different benefits, it could be for health and well-being, to achieve the desired body shape, for enjoyment purposes, or as a way to socialize. And to help acquire some of these goals, dietary supplements can be taken. This study is designed to assess the prevalence and awareness of dietary supplements use among Saudi adult females attending fitness centers in Riyadh, Saudi Arabia.

Methods

A cross-sectional study was conducted among adult female gym-attenders in Riyadh, Saudi Arabia. The sample consisted of 355 participants, all of which were females from Saudi Arabia. Statistical Analysis Used: SPSS.

Results

The majority of the 355 female participants consume dietary supplements (68.7%). Most used supplements are vitamins (82.8%), amino acids and proteins (30.3%), minerals (22.1%), and fatty acids (3.3%). (53.3%) of those using or used supplement had previous knowledge, (13.1%) were up to date, and (33.6%) weren't. No relationship was found between the supplement use and educational level, Weight, BMI or marital status.

Conclusion

Dietary supplements use is common among female gym attendees in Saudi Arabia. Vitamins were the most used supplements which imply that users were more concerned about general health and diet deficiency than anything else. The participants use dietary supplements cautiously, the majority consume dietary supplements under a doctor's prescription and after reading the leaflets.





Study Field: National Guard Health Affairs

Study Design: Case study

Primary Tuberculous Otomastoiditis Complicated with Bezold's, Postauricular, and Subdural Abscesses

Nawaf Aljehani Abdulazeez Alzailaie

Background

Tuberculous Otitis Media is a rare extra-pulmonary manifestation of Mycobacterium Tuberculosis (MTB). Primary Tuberculous Otomastoiditis is an extremely rare condition as it comprises only 0.04 to 0.9% of all Chronic Otitis Media (COM) cases currently, as compared to the early 20th century where it was 3-5 %. Mastoiditis is an infection of the mastoid part of the temporal bone that often happens as a complication of under-treated or untreated Otitis Media. The spread of infection from the middle ear and mastoid to adjacent structures might result in rare but serious complications, among them central nervous system (CNS) infections, intra- or extra-axial, as well as deep neck abscesses (Bezold's abscess) as observed in our case. Bezold's abscess (BA) occurs when the infection erodes through the mastoid cortex medial to the attachment of sternocleidomastoid. In this report, we present a case of Primary Tuberculous Otomastoiditis complicated with Bezold's, postauricular, and subdural abscesses in an otherwise healthy paediatric patient.

Methods

An 8-year-old female patient was referred to the otolaryngology outpatient clinic for recurrent episodes of Acute Otitis Media and foul-smelling yellowish discharge from the left ear and an associated hearing loss, after she received multiple courses of systemic and topical antibiotics with only slight improvement. Otolaryngoscopic examination showed left small central perforation with minimal granulation tissue and signs of right middle ear effusion. The patient was afebrile with no other systemic constitutional symptoms. A Computerized Tomography (CT) scan of the temporal bone was done revealing signs of bilateral mastoid and middle ear opacification with left mastoid cortical erosion, and overlying soft tissue swelling, in addition to a parapharyngeal hypodense collection. Then a contrasted CT scan of the temporal bone and the neck confirmed the presence of a left parapharyngeal abscess with another smaller one on the right in addition to a left subdural abscess adjacent to a posterior mastoid wall erosion. A postauricular irregular was also noted.

Results

In view of the findings, the patient was taken to the operating room for left Tympanomastoidectomy with bilateral Tympanostomy tubes insertion and intraoral drainage of the left Bezold's abscess. Intraoperative samples were sent for histopathological staining, bacterial stain and culture, Acid-Fast Bacilli culture, MTB Polymerase Chain Reaction, and fungal stain and culture. Postoperatively, the patient was placed on IV Ceftriaxone and Clindamycin (200 mg/Kg/day) with topical antibiotic ear drops. MTB PCR from the Bezold's abscess came back positive; therefore, antibiotics were immediately stopped and was switched to anti-TB regimen. The AFB culture, MTB QuantiFERON, and chest x-ray were negative for MTB in our case. However, it has been reported previously that real-time PCR can detect MTB in 28.6% of the cases with a negative AFB smear.

Conclusion

Primary Tuberculous Otomastoiditis is rarely seen in modern medicine. A chronic and indolent presentation of Otitis Media with poor response to conventional antibiotics regimen should raise the suspicion of rare and unusual infectious aetiologies such as MTB. A high index of clinical suspicion is required to narrow down the differential diagnosis to establish an early diagnosis and initiate the appropriate treatment to prevent serious complications.





Study Field: Cardiopulmonary diseases

Study Design: cross-sectional observational design

Quality of Life and its Association with Cardiovascular Risk Factors in People with Asthma

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Background

Asthma is a chronic inflammatory disease of the airways that causes wheezing, dyspnea, chest tightness, and coughing. (1) According to a study conducted by the Saudi health ministry in 2018, 15-25 percent of the Saudi population are considered asthmatic patients. (6) The chronic nature of the disease, as well as the unpredictable character and severity of acute episodes, can significantly reduce a patient's health-related quality of life (HRQL), (1) such as sleep quality, which could increase cardiovascular risk factors.

Methods

A validated cross-sectional questionnaire was used to identify the quality of sleep among asthmatic individual in Saudi Arabia. The questionnaire was administered by online forms to collect data about demographics, sleep quality and smoking habits. The data was analyzed using descriptive analysis and independent T test.

Results

The sample consists of 495 participants. 58% (n=287) were males. The sample mean age (mean±SD) was 24.27 ± 8.64 . while 10.5% (n=52) of the participants were asthmatic individuals. There are also 21.4% (n=106) of the overall participants who were smokers. However, 72% (n=356) of the people who responded to our questionnaire were suffering from sleep difficulties (insomnia), while 28% (n=139) of them have good sleep quality. Moreover, the results show that the asthmatic individuals have significantly more sleep difficulties with (mean±SD) 8.13 ± 4.23 compared with the non-asthmatics who have (mean±SD) 6.96 ± 3.70 with a P value of 0.033. Although, out of 106 smokers only 27.3% (n=29) of them were considered to have good sleep quality with (mean±SD) 2.69 ± 1.26 , while 72.6% (n=77) of them have insomnia with (mean±SD) 8.88 ± 2.74 .

Conclusion

The incidence of insomnia and sleep difficulties is higher among asthmatic and smokers individuals compared to healthy non-smokers. Further investigation is needed to determine the causes of poor quality of sleep.





Study Field: Public health, Endocrinology

Study Design: Cross-sectional

Factors Associated with Severe Vitamin D Deficiency in Adolescents: A Population-Based Cross-Sectional Study Among Adolescents in Saudi Arabia (Jeeluna Study).

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Background

Adolescence is a stage of life that is characterized by rapid growth, development and lifestyle changes as in sleep, dietary patterns and behavior. Therefore; they are more likely to develop health related problems including severe vitamin D deficiency (SVDD). Vitamin D plays a crucial role in maintaining the function of body systems and prevention of certain malignancies. SVDD is associated with musculoskeletal, endocrine and other health problems. Objectives: To determine the factors associated with severe vitamin D deficiency among Saudi adolescents.

Methods

Jeeluna is a population based Saudi study that included 12,500 adolescents aged 11-19 years drawn for a nation-wide representative intermediate and secondary schools (2011-2012). SVDD was defined as <25 nmol/L.

Results

Data scrutinized from only 2095 who were tested for vitamin D level in this study with a prevalence of SVDD of 30.6%. Protective factors against SVDD were milk uptake (OR=0.59, 95%CI 0.41-0.81, $p < .001$) and not consuming soft drinks (OR=0.371, 95%CI 0.28-0.53, $p < .001$). Female gender (OR=1.50, 95%CI 1.10-2.10, $p = 0.01$), living in Riyadh (OR=2.30, 95%CI 1.60-3.30, $p = < .001$) and skipping breakfast (OR=1.30, 95%CI 1.01-1.55, $p = 0.035$) increased the odds of developing SVDD.

Conclusion

SVDD is highly prevalent among Saudi adolescents especially females. To reverse its serious consequences, this requires a school-based intensified health program raising the awareness among Saudi adolescents.





Study Field: Oncology

Study Design: Case Report

New-Onset Chronic Myeloid Leukemia in a JAK-2 Positive Patient: Do Persistent Mutations Predispose to Radiotherapy-Induced CML?

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Background

Chronic myeloid leukemia (CML) is a myeloproliferative neoplasm (MPN) that harbors the Philadelphia chromosomal translocation resulting in the uncontrolled production of mature granulocytes. Typically, patients with BCR-ABL1-positive MPN (CML) are JAK2-negative. Only a handful of cases described BCR-ABL1-positive CML in JAK2 mutation presence, most of which were diagnosed concurrently. Moreover, the occurrence of secondary CML years after receiving radiotherapy has been reported in the literature. However, to the best of our knowledge, this is the first case in which JAK2 mutation could be a possible predisposing factor for the rapid development of radiotherapy-induced CML. This report describes a patient with JAK2-positive MPN who progressed to acquire CML shortly after receiving radiotherapy for breast cancer.

Methods

This is a case of a 63-year-old woman who has had uncomplicated JAK2-positive MPN for 16 years, for which she was on hydroxyurea and low-dose aspirin. In 2021, unexpectedly, she was found to have a sudden increase in her white blood cell (WBC) count on a routine blood test, reaching $39.6 \times 10^9/L$ (normal $4.5-11 \times 10^9/L$). Therefore, she underwent a bone marrow biopsy, chromosomal analysis, and Fluorescence In Situ Hybridization (FISH), which showed BCR-ABL1 rearrangement, t(9;22) in 22% of cells analyzed. The quantitative BCR/ABL analysis showed that BCR-ABL1 had been detected at 35.69% (IS) and MR 0.45. Consequently, a diagnosis of CML in the chronic phase was established. During the Leukemia Board, her case raised multiple inquiries regarding its unusual presentation. Therefore, we extensively reviewed her past medical history in search of a possible explanation.

Results

Her past medical history was noteworthy in that she was diagnosed with breast cancer stage T1N0M0 in 2019. Her management plan included surgical resection, hormonal, and radiation therapy. She completed 42.GY in 16 fractions of radiotherapy to the right breast with no complications reported. Only 17 months after receiving radiotherapy, her WBCs spiked, which was the first alarming sign leading to her CML diagnosis. Two months after she was switched to imatinib to manage her CML, her BCR/ABL was detected at 0.16% (IS) and MR 2.80; therefore, she was considered in major molecular remission (MMR). She was started on hydroxyurea again to control the suspected MPN JAK2 clone, which was confirmed by a repeated JAK2 test that revealed a persistent JAK2 mutation. Currently, the patient is under frequent follow-ups with no complications reported.

Conclusion

This is a unique case of rapid-onset radiotherapy-induced BCR-ABL CML in a patient with a history of persistent JAK2 mutation. Physicians should be aware of this unusual presentation of CML, as detailed evaluation and appropriate interpretation of clinical and laboratory data are essential in establishing the diagnosis and providing appropriate management for such patients. We recommend additional consideration when providing radiotherapy to patients who demonstrate a history of persistent genetic mutations such as JAK2 in our patient. Further studies are needed to evaluate and compare this entity to other well-known CML entities in terms of the disease course, response to available treatment, and complications.





Study Field: Dentistry

Study Design: Cross sectional

Choosing a pediatric dentist in the Kingdom of Saudi Arabia: Factors influencing the parent's decision

Farah Alhamdan, Balsam Alghomlas, Bashar Ayed, Rahaf bin Salamah

Background

Choosing a pediatric dentist is an important decision for parents. In the treatment of children, physiological and psychological differences should be considered in comparison to adults. Some parents choose to change their children's dentist when no longer satisfied due to different reasons. To fulfill the expectations of the patients and the parents, it is important to know how parents become aware of the practice and choose a specific dentist for their children. Such studies could help improve the quality of the health care service.

Methods

Study subjects: Parents living in Saudi Arabia **Data collection:** A validated E-questionnaire, composed of 2 sections: (1) demographic factors of the respondents. (2) the Influencing factors which included questions that tested the importance of three main categories: (A) logistical factors, (B) dentist factors. (C) recommendations importance. All the questions were ranked using the 5-point Likert scale ranging from extremely Important to not important. **Sample size:** By considering alpha level of 0.05, confidence level of 95% assuming 50% response rate, the required sample size was 387. **Statistical analysis:** Descriptive statistics of frequency distribution and percentages were calculated for the categorical variables. Independent t-test and Analysis of variance. (A p-value of <0.05)

Results

Total number of responses = 532 Majority of participants were: • Females (58.5%) • Area of Residence: central region (42.7%) • Type of residence: urban (89.8%) • Saudi (91.9%) • Number of children: 1-3 (60.2%) • Educational degree of the parents: Bachelors (55.5%) • Married (94.7%) • Participants whose kids visited the dentist before (82.3%). Dentists' expertise in communication and managing uncooperative children was found to be of high importance. Quality of the dental unit disinfection process and general cleanness of the clinic was found to be a significant factor that aids in the parents decision making process. ~90% of participants stated that word of mouth was an important factor when choosing a dentist to treat their children. The availability of up-to-date equipment, short waiting time, dental fee, and children friendly atmosphere were the most important factors influencing the choice of the dental clinic. Formal criteria of the dentists such as the gender was rather "not important" and was perceived as information, but not explicitly desired. The sources of recommendation considered the least trustworthy by the parents were educational institutions, such as schools and Internet portals

Conclusion

A major implication of the study is that the word of mouth by close people and dentists is very decisive in drawing the attention of parents to a pediatric dental practice. The quality of service rendered as reflected by the quality of disinfection, ability to manage uncooperative behaviors, communication, friendly atmosphere and general outlook of the dental environment, are considered critical cues that aid the parent's decision-making process.





Study Field: Respiratory

Study Design: A quantitative cross-sectional study

The prospective of Saudi neonatal intensive care units in utilizing high flow nasal cannula

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Background

High flow nasal canulae (HFNC) are a non-invasive form of respiratory support and increasingly being used to support preterm infants' respiration recently. The safety and efficacy of HFNC among preterm infants in the literature is still underdeveloped. The use of HFNC in Saudi neonatal intensive care units (NICUs) is not described yet. Therefore, the presented study aims to describe the use and practice of utilizing HFNC among preterm infants in Saudi Arabia.

Methods

A quantitative cross-sectional study was conducted among Saudi NICUs during the period from September 1st, 2022 till November 30, 2022. This study is an exploratory one to explore the use of HFNC in Saudi NICU. The inclusion criteria is NICU placed in Saudi Arabia and level three. A valid and reliable electronic survey distributed to NICU head to describe the use of HFNC for preterm neonates in their unit. Descriptive statistics were used to analyze the data. Institutional review board approval was acquired.

Results

A 43 NICUs participated in the study. Majority of them (n=35, 81%) is governmental units and (n=26, 60%) are in Riyadh region. 95% of these NICUs report using HFNC for managing preterm infants. It is surprisingly to note that (n=18, 44%) of NICUs did not have a written policy or guidelines for the use of HFNC.

Conclusion

The presented study demonstrates that HFNC is becoming widely used in Saudis' NICUs. It is obviously appeared that a shortage of clear policy or guidelines to guide the use of HFNC among preterm neonates. A further investigation of HFNC practice in Saudi Arabia is under going as second phase of this study.





Study Field: Microbiology and clinical laboratory medicine.

Study Design: Comparative cross-sectional study

Diagnostic Efficacy of RealStar SARS-CoV-2 RT-PCR in Comparison to GeneXpert System for Detection of COVID-19 among patients at KAMC, Riyadh, Saudi Arabia.

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Background

The COVID-19 pandemic has become a major health concern due to the rapid transmission of SARS-CoV-2. With the growing demand on healthcare systems to control Covid-19 pandemic, more effective diagnostic methods need to be applied. In this comparative study, we aim to improve the diagnostic process and provide details for each method; we will also assess the efficacy of RealStar® SARS-CoV-2 RT-PCR and GeneXpert.

Methods

A retrospective cross-sectional study was conducted in the central lab of King Abdulaziz Medical city in Riyadh, Saudi Arabia. A probability-systematic-random sampling technique was run through the sample frame to generate 384 samples that underwent RealStar® and GeneXpert® analysis. The abovementioned samples were collected retrospectively from all nasopharyngeal swabs (P~150,000) that were submitted for SARS-COV-2 evaluation from July 2020 until July 2021. The BestCare system was utilized to review the Acute Respiratory Illness (ARI) screening forms of the selected samples. Using the statistical analysis software, the receiver operating characteristic (ROC) curve was obtained and used to compare the sensitivity, specificity, positive predictive value, and negative predictive value. The test is considered significant if the area under the curve (AUC) value is >0.5.

Results

The diagnostic performance of the RealStar® and GeneXpert® assays in detecting SARS-CoV-2 was evaluated using ROC curve analysis, which showed AUC of 0.597 and 0.637, respectively.

Conclusion

There is no significant difference. According to the AUC of ROC, there is poor discrimination between the performance of RealStar® and GeneXpert® in detecting COVID-19.





Study Field: clinical practice

Study Design: case series

Cytomegalovirus reactivation in patients with allogenic stem cell transplantation secondary to hematological and non-hematological etiologies in large academic center in Saudi Arabia

Majd Alyaqub

Background

Cytomegalovirus (CMV) reactivation in patients with allogenic- stem cell transplantation (Allo-SCT) has been associated with increased morbidity and mortality. Many risk factors have been identified to be associated with increased risk of CMV reactivation including mismatched human leukocyte antigen (HLA) transplant, cord blood transplant, myeloablative conditioning and T-cell depletion.

Methods

All patients ≥ 14 years that underwent allo-SCT from April 2014 until April 2022 with adequate medical records were included. Data collected include CMV serostatus, CMV viral load, time to CMV reactivation, conditioning regimen, use of in-vivo T-cell depletion for graft vs. host disease (GvHD) prophylaxis, and GvHD prophylaxis medications if used.

Results

Research project is ongoing for which presented data are preliminary. We included 412 patients with an average age of 29 years and 42% were of female sex. 223 underwent all-SCT for underlying non-hematological etiologies mainly sickle cell anemia and remaining patients distribute between ALL, AML, CML, Hodgkin and non- Hodgkin lymphomas. CMV seropositive recipients constitute 61; 88% of patients experienced primary CMV reactivation within a median time of 13 days post SCT and had median viral load of 50 IU during reactivation. 225 patients (62%) were to clear CMV spontaneously within median time of 50 days post reactivation. Patients required treatment for CMV viremia was 132 for which valganciclovir, ganciclovir and foscarnet were prescribed. 90 day non-relapse mortality and 2years overall survival were 2% and 82% respectively.

Conclusion

Our population are considered at high risk of CMV reactivation due to the high prevalence of CMV seropositivity. Identifying factors that could contribute to CMV reactivation would help in identifying patients at highest risk and therefore, identify the best approach to manage CMV reactivation in those patients.





Study Field: Pharmaceutical Sciences

Study Design: Experimental

In-vitro Studies on cellular toxicity of synthetic compounds using cell culture and pharmacokinetic studies

Samreen Soomro

Background

The use of cell culture is a valuable tool to study pharmacological effects and cell toxicity mechanisms of newly develop drugs. Prior to test the compounds in animal model, in vitro studies can be interesting in evaluating the therapeutic effect of compounds.

Methods

In this study, we have evaluated one selected benimidazole compound for its potential toxicity effect on liver, kidney and fibroblast cell through cell based MTT assay. Additionally, we have also investigated the effect on lung cancer cell line through flow cytometry. Cell based MTT assay. Pharmacokinetic studies was done using swissADME software and biological prediction done by PASSonline website.

Results

Our results suggested that all the cell lines remain viable in presence of highest test concentration of compound that is 25 ug/ml, whereas lung cancer cells were died 14% at 25 ug/ ml concentration. Pharmacokinetic studies suggest that It is lipophilic and can cross blood brain barrier and can be absorb in GI.

Conclusion

We conclude that compound can be of therapeutic interest if further elaborated for its biological effect, since it does not show any toxicity to normal cell.





Study Field: Dentistry

Study Design: Case Report

Surgical management of Compound odontome with two years follow up

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Background

Odontomas are considered the most common type of odontogenic tumors that occurs in individuals in the first two decades of life. The exact etiology of odontoma is still not known. Odontomas are of two types namely complex and compound odontoma. These benign tumours are composed of normal tooth structures of enamel, dentine, cementum, and pulp tissue. Odontoma is usually associated with an impacted permanent tooth. They cause disturbances in delayed eruption or deflection of the associated permanent tooth. This requires early diagnosis, surgical intervention to facilitate the eruption and avoid the effect of odontoma on adjacent structures. The present report describes the surgical management with a two-year follow-up of compound odontomes on the anterior maxilla with impacted central incisors in a 7-year-old male patient.

Methods

A 7-year-old male patient came with a chief concern of unerupted permanent anterior teeth. There was no associated history of trauma and pain. Medical and family history was non contributory. He gave a history of natural exfoliation deciduous incisors 4 months before the visit. Patient appeared to be healthy on general and physical examination. On intraoral examination, it was observed that 11 and 21 were unerupted and there was no associated pain on palpation of alveolar ridge. There was a mild expansion of palatal plate on the anterior rugae region. Orthopantomograph (OPG) showed the presence of 3 radiopaque masses incisal to 11 and 21. To analyse the position of these a Cone Beam Computed Tomography (CBCT) was taken. CBCT revealed two masses distal to 11 and one distal to 21. All were palatally placed. Routine blood investigations were done, and the reports were well within normal limits and then the patient was posted for surgery. The case was provisionally diagnosed as compound odontomes associated with impacted maxillary central incisors. Surgical removal of the compound odontomes was planned under general surgery. Surgical exposure of full-thickness palatal flap was raised from the right first primary molar to the left first primary molar. The bone was removed using a surgical round bur following which 3 odontomes were removed along with the capsule which was removed using a curette. The palatal flap was placed back, and interrupted sutures were placed using vicryl material. The histological examination confirmed the diagnosis of compound odontoma.

Results

The patient was followed up for two years with follow up periodical radiographs and the impacted maxillary anteriors erupted in place.

Conclusion

The presence of an odontoma in association with the impacted permanent teeth needs an early diagnosis and a surgical removal. A careful evaluation of radiographs are essential. The adoption of a conservative surgical approach is advisable, in order to preserve the dental tissues and obtain optimal tissue healing.





Study Field: Clinical Pharmacy/Social and Behavioral Sciences

Study Design: A cross-sectional descriptive questionnaire-based survey

Exploring experiences of adult cancer patients with the quality of cancer healthcare services during the Covid-19 pandemic

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Background

Since the outbreak of COVID-19 infections, several constraints and measurements were imposed that may disrupt the functioning of healthcare institutions. The present study aimed to investigate how adult cancer patients felt about the quality of healthcare services during the COVID-19 pandemic.

Methods

A pre-validated and reliable Arabic version of the "Hospital Consumer Assessment of Healthcare Providers and Systems" (H-CAHPS®) survey was adopted to assess the perspectives of cancer patients on the quality of healthcare services provided by the oncology clinics at King Abdulaziz Medical City in Riyadh, Saudi Arabia.

Results

A total of 73 questionnaires were completed. The mean age of participants was 49.8 ± 20.4 years. 54.8% of participants were men. The assessment tool of the H-CAHPS® survey revealed an overall prominent satisfaction rating, especially for items that assessed how well nurses and physicians were helpful, courteous, and respectful, which ranged from 83.6% up to 93.2%. The majority of participants endorsed the cleanliness and quietness of their rooms and the facilities they were using, ranging between 84.9% and 94.5%. However, a noteworthy percentage of participants (15.1%) complained about delays in obtaining the required assistance. Moreover, 13.3% of participants stated that they were never told about the side effects of the medications they were receiving. The most reported apprehension was attributed to inadequate communication with healthcare providers to relieve patients' pain. Nevertheless, more than 90% of patients had expressed unequivocal recommendations for this healthcare institution.

Conclusion

Despite, the complaints of some patients about the delay in getting the necessary help when needed, an outstanding satisfactory level was reported by the vast majority of respondents. Hence, it is pivotal to routinely conduct such a survey to explore patients' prospects and insecurities. Recognizing such impediments helps improve the quality of healthcare services that eventually reflect on patients' quality of life.





Study Field: Dermatology

Study Design: Cross sectional

The Association Between Hair Loss and COVID-19: The Impact of Hair Loss After COVID-19 Infection on the Quality of Life Among Residents in Saudi Arabia

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Background

Coronavirus disease 2019 (COVID-19) is an infectious disease that is associated with many health conditions, including, but not limited to, dermatological diseases. Some patients suffer from hair loss after becoming infected with severe acute respiratory syndrome coronavirus 2. Acute telogen effluvium (TE) is a non-scarring hair loss that usually occurs three months after a stressful event and can last up to six months, and it can be associated with post-COVID-19 infections. This study aims to explore the prevalence of hair loss among recovered COVID-19 patients in Saudi Arabia and determine the contributing factors. Furthermore, we aimed to measure the impact of hair loss after COVID-19 on their quality of life.

Methods

An observational, cross-sectional study was conducted from September to December 2021 in Saudi Arabia. A questionnaire was used to assess hair loss after being infected with COVID-19. Furthermore, quality of life was assessed using the Dermatology Life Quality Index (DLQI) questionnaire. Participants were recruited by sharing the questionnaire on social media platforms (Twitter, Telegram, and WhatsApp). The data were analyzed using SPSS version 23 (IBM Corp., Armonk, NY, USA). Frequency and percentages were used to display categorical variables, while minimum, maximum, mean, and standard deviation were used to present continuous variables. The categorical variables were compared using a chi-square test, and the statistical significance cut-off was set at $p < 0.05$.

Results

A total of 806 participants were included in the study, of whom 52.7% experienced hair loss after COVID-19 infection. Age, gender, high temperature during, and the presence of hair loss prior to infection were significantly associated with the incidence of TE. The severity of life affection based on DLQI showed that 91.4% of the participants did not have severe life affection, while 8.6% had their lives severely affected.

Conclusion

This study revealed subjective hair loss that was significantly associated with high temperature, being female, and having a history of previous hair loss. Further studies using objective assessments are suggested for reaching more precise conclusions.





Study Field: Dermatology

Study Design: Cross sectional

Perception of medical photography among patients attending dermatology clinics in Riyadh, Saudi Arabia.

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Background

Medical photography has been utilized in clinical, academic, and research settings. It inherently places patient privacy at risk, putting ethical and legal aspects of it in critical importance. Locally, no data reflect patients' viewpoints on medical photography. We set out to assess patients' opinions on medical photography and the factors influencing their acceptability and to provide insight for creating guidelines that resonate with patients' expectations of their healthcare experience.

Methods

A cross-sectional study using a self-administered paper-based questionnaire was conducted in the dermatology clinic at King Abdulaziz Medical City, Riyadh, between February 2020 and January 2021. Through convenience sampling, Saudi adults (18 years old and above) who can read the questionnaire were included, amounting to 414 participants. Data analysis was done using IBM SPSS v.28.

Results

Medical photography was highly acceptable, fairly acceptable, and poorly acceptable in 36.7%, 11.6%, and 14.3% of patients, respectively. Females were more accepting of medical photography than males ($P=0.041$). Physicians scored the highest approval rate as photographers (25.5%). Stating all possible utilization of the photographs was a must for 90.1% of the patients. Verbal consent was preferred over written consent by 72%. Using a department's owned camera was essential to 84%. Displaying the pictures at medical conferences was approved by 30%. Patients who had their pictures taken previously were more accepting of medical photography than those with no prior experience ($P=0.037$).

Conclusion

Medical photography is acceptable to the majority of Saudi patients. Meeting popular preferences, including physicians as photographers, and stating all possible uses of the pictures enhances most patients' experience. The findings offer insight for developing a standardized framework safe for both patient and physician, keeping in mind the technical aspect of photography and the training of practitioners for the best outcomes.





Study Field: Internal medicine

Study Design: Cross sectional

A Multicenter Cross-sectional Study on the Prevalence of Burnout among Health Care Workers during COVID-19 in Saudi Arabia

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Background

COVID-19 is a major challenge for Health Care Workers (HCWs), who are at risk of contact infection. This can cause psychological issues such as anxiety, fear, and most importantly, burnout. The last-mentioned can decrease effectiveness at work and jeopardize the efficacy of delivering patient care. Our aim is to measure burnout levels among HCWs directly exposed to COVID-19 and assess associated factors.

Methods

A cross-sectional online questionnaire was distributed through social media to HCWs, from June to October 2020. The questionnaire had two sections. The first section contained questions about sociodemographic data and associated factors. The second, was the Copenhagen Burnout Inventory (CBI).

Results

A total of 1050 HCWs agreed to participate in the study. 62% were female. 93.4% were Saudi. 38.3% worked with COVID-19 patients, 42.3% had increased work hours, and 58.7% practiced self-isolation. The mean (SD) for personal burnout, 3.47 (0.84), and work-related burnout, 3.41 (0.81), were high, but moderate for patient-related burnout, 3.09 (1.00). Factors associated with burnout levels were gender, age, occupation, marital status, working in isolation hospitals, working with COVID-19 patients, increased work hours, and self-isolation practices

Conclusion

HCWs are prone to many mental health problems. Many studies were conducted in Saudi Arabia concerning HCWs burnout after previous outbreaks, however there were not enough measures taken to avoid high levels of burnout during the COVID-19 pandemic. This study highlights the magnitude of burnout problems among HCWs. Efforts must be undertaken by health institutions to support the mental wellbeing of HCWs.





Study Field: Infectious Disease, Public Health.

Study Design: Cross-sectional

Willingness, beliefs, and barriers regarding the COVID-19 vaccine in Saudi Arabia: a multiregional cross-sectional study

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Background

The coronavirus disease 2019 (COVID-19) has spread worldwide, and the vaccine remains the ultimate cornerstone to overcoming its long-term impact. Vaccine hesitancy might obstruct the effort to achieve herd immunity and eradicate the virus. We assessed Saudi Arabian individuals' willingness, beliefs, and barriers regarding the COVID-19 vaccine and their adherence to preventive measures during and after the pandemic.

Methods

A self-administered electronic validated questionnaire was distributed among the five major regions in Saudi Arabia between November and December 2020. The questionnaire addressed the sociodemographic data, beliefs, potential barriers, parents' acceptance of COVID-19 vaccination for their children, and adherence to protective measures during and after the pandemic.

Results

Of 8,056 participants, 4,218 (52.4%) of a non-representative sample were willing to be vaccinated against COVID-19. Being a young adult, male, having less than a high school degree, being a smoker, having a chronic disease, and having a history of seasonal influenza vaccine uptake were positive predictors of COVID-19 vaccine acceptance. Hesitant participants reported concerns about vaccine side effects and safety as the main barriers to accepting the COVID-19 vaccine. Some refusers (26.1%) declared that they would reconsider vaccination only if the safety and effectiveness of the vaccine were reported by more studies.

Conclusion

Our study revealed a promising willingness to accept the vaccine among the population, with positive beliefs and attitudes toward COVID-19 vaccination. However, a considerable proportion of the population was reluctant to accept the vaccine. Thus, publicly providing information about vaccine safety and implementing health education programs is crucial for increasing the public's confidence in the vaccine.





Study Field: Clinical Pharmacy

Study Design: Cross-sectional study

Exploring the Incidence and Severity of Chemotherapy-Induced Peripheral Neuropathy (CIPN) among Cancer Patients

Areej Almutairi, Amirah Alghanim, Hessa Alqahtani, Amal Al-Nahdi, Afnan Ibn Khamis, Dr.Wesam Abdel-Razaq, Dr.Shmeylan Ali Alharbi

Background

Chemotherapy-induced peripheral neuropathy (CIPN) is among the common adverse effects of anticancer drugs that can compromise the quality of life of patients. CIPN is a set of sensory symptoms caused by peripheral neurotoxicity predominately manifested as excruciating pain, tingling, burning, and numbness in the hand and feet accompanied by motor weakness and autonomic change. This study aimed to explore the incidence and risk factors of CIPN in cancer patients for up to 12 months after completion of the therapy.

Methods

The study was conducted at King Abdulaziz Medical City, Riyadh, KSA. Upon their consent, adult cancer patients receiving chemotherapy or who have completed their treatment within the past three months were invited to complete the European Organization of Research and Treatment of Cancer Quality of Life Questionnaire (EORTC-QLQ-CIPN20).

Results

A total of 357 patients were included with a mean age of 51.9 ± 14.1 years (range 15-90). More than 60% of participants were females (n=222), who were more obliging to data collectors than males (n=135). Tingling and numbness in the upper and/or lower extremities were the most reported sensory symptoms, which ranged from 57.1% up to 65.5%. Moreover, shooting or burning pain in hands and feet was also reported in 36.7% and 40.1%, respectively. In addition to the female gender, several statistically significant higher intensities of CIPN were revealed, including elderly ages, low education level, allergic history, comorbidities, metastatic status, and chemotherapy medication. However, more than 70% of patients did not receive any therapy for CIPN. The commonly used treatments were analgesics and vitamin B-complex.

Conclusion

A substantial number of participants were found to have moderate to severe CIPN who were not treated for such complaints. Identifying factors associated with CIPN help to recognize high-risk patients that may eventually reduce their suffering and improve their quality of life if treated well.





Study Field: surgery

Study Design: case report

A Case of Multiple Polyps Causing Intussusception in an Adult Patient With Peutz-Jeghers Syndrome

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Background

Despite intussusception being less prevalent among adults, its effects are severe and often require emergency intervention. Peutz-Jeghers syndrome (PJS) is a rare autosomal dominant syndrome that leads to the growth of polyps in the gastrointestinal mucosa. There is a significant difference between pediatric and adult intussusception in terms of the etiology, clinical features, and treatment. Polyps in the gastrointestinal tract are a known cause of intussusception, especially when they enlarge and cause intestinal obstruction.

Methods

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Results

In this case report, we present the case of a 26-year-old man with clinically diagnosed PJS since childhood who presented to the emergency department twice within three days complaining of intermittent crampy abdominal pain, vomiting, and constipation for six days and melena for 10 days. Multiple fluid levels were observed on erect abdominal radiography. Computed tomography of the abdomen showed a target sign which indicates intestinal obstruction. The radiographs indicated that it could either be volvulus or intussusception. Therefore, he underwent an emergency laparotomy and was confirmed at surgery. The pathology report showed the presence of hemorrhagic infarction with focally thrombosed blood vessels and multiple hamartomatous polyps ranging in size from a few mm to 5 cm with marked necrosis. The margins of the specimen were congested and edematous, and the mucosa was necrotic and hemorrhagic. Lymph nodes were reactive with no dysplasia. Postoperatively, our patient was stable, had minimum pain, did not have any complications throughout the hospital stay, and passed the postoperative course smoothly. He was discharged home on day seven and advised to follow up. The course at the one-month follow-up was uneventful with no similar episodes.

Conclusion

Intussusception can be caused by PJS polyps. In adults, it is an infrequent problem and is difficult to diagnose because the symptoms are often non-specific and episodic. Thus, it might be easily misdiagnosed in the emergency department. Bowel screening is essential in patients with PJS because it aids in the early detection of polyps and helps avoid the need for urgent surgery to treat intestinal intussusception. Thus, in the case of intussusception, which is uncommon in adults, it is crucial to carefully review the patient's medical history, physical examination findings, and radiological and endoscopic results.





Study Field: Medicine

Study Design: Retrospective cross section

Clinical utility of procalcitonin laboratory measurements in SARS-CoV 2 patients

Nataleen A. Albekairy Dr. Faisal Alanazi Dr. Mohammed Shawagfeh

Background

Procalcitonin (PCT) measurements can assist clinicians in diagnosing bacterial infections and help guide antimicrobial therapy. This analysis evaluated the appropriateness of procalcitonin measurements in Severe Acute Respiratory Syndrome 2 (SARS-COV-2) patients admitted to intensive care units.

Methods

This process improvement analysis retrospectively identified adult patients with SARS-CoV-2 who were admitted to the Intensive Care Unit (ICU). After approval was granted by the Internal Review Board (IRB), data were collected from the electronic medical records (BestCare) at King AbdulAziz Medical City (KAMC), Riyadh, Saudi Arabia. PCT serum levels were adjudicated to the cut-off point of 0.25 ng/mL representing a clinically meaningful result. The range of PCT lab test cost was reported from private hospitals in Riyadh.

Results

A total of 100 patients were enrolled into two cohorts based on a PCT level of less than 0.25 ng/ml (n=78) and more than 0.25 ng/ml (n=22). Among patients with a PCT of < 0.25 ng/ml, 47% (37/78) had more than 1 repeated PCT which were deemed unnecessary by the research group. Additionally, 72% (56/78) were prescribed more than 1 antibiotic during their admission. The estimated cost of unnecessary PCT was estimated to range from 15,000 - 30,000 SAR /100 patients. The evidence of bacterial growth by blood, urine, respiratory cultures were 15% in the < 0.25ng/ml group and 18% in the > 0.25 ng/ml group whereas the in-hospital mortality as 4% and 18% respectively.

Conclusion

Although only 15% had evidence of bacterial growth, unnecessary PCT were done in around half of patients with PCT level of < 0.25 ng/ml. In this analysis, we estimate that a minimum of 15,000 - 30,000 SAR/100 patients can be minimized only by preventing unnecessary PCT measurement.





Study Field: Adult Cardiology

Study Design: Reterospective cohort

Characteristics and Predictors of Out-of-Hospital Cardiac Arrest in Young Adults Hospitalized with Acute Coronary Syndrome: A Retrospective Cohort Study of 30,000 Patients in The Gulf Region.

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Background

The characteristics of young adults with out-of-hospital cardiac arrest (OHCA) due to acute coronary syndrome (ACS) has not been well described. The mean age of gulf citizens in ACS registries is 10-15 years younger than their western counterparts, which provided us with a unique opportunity to investigate the characteristics and predictors of OHCA in young adults presenting with ACS.

Methods

This was a retrospective cohort study using data from 7 prospective ACS registries in the Gulf region. In brief, all registries included consecutive adults who were admitted with ACS. OHCA was defined as cardiac arrest upon presentation (i.e., before admission to the hospital). We described the characteristics of young adults (< 50 years) who had OHCA and performed multivariate logistic regression analysis to assess independent predictors of OHCA.

Results

A total of 31,620 ACS patients were included in the study. There were 611 (1.93%) OHCA cases in the whole cohort [188/10,848 (1.73%) in young adults vs 423/20,772 (2.04%) in older adults, $p=0.06$]. Young adults were predominantly males presenting with ST-elevation myocardial infarction (STEMI) [182/188 (96.8%) and 172/188 (91.49%), respectively]. OHCA was the sentinel event of coronary artery disease (CAD) in 70% of young adults. STEMI, male sex, and non-smoking status were found to be independent predictors of OHCA [OR=5.862 (95% CI 2.623-13.096), OR: 4.515 (95% CI 1.085-18.786), and OR= 2.27 (95% CI 1.335- 3.86), respectively].

Conclusion

We observed a lower prevalence of OHCA in our region as compared to previous literature. Moreover, OHCA was the sentinel event of CAD in the majority of young adults, who were predominantly males with STEMI. These findings should help risk-stratify patients with ACS and inform further research into the characteristics of OHCA in young adults.





Study Field: medical

Study Design: Descriptive and analytical cross-sectional study

Willingness to test for COVID-19: a cross-sectional study on the population in the Ha'il region, KSA

Areeb Farhan Alshammari, Asma Mufadhi Alrimali, Rozan Abdulaziz Alshammari

Background

COVID-19 still poses a threat around the world, and one of the key factors in controlling the disease is early detection and screening. To date no studies have been conducted to examine the attitude and perception of the general public towards testing and the degree of veracity in the results.

Methods

Participants comprised of both Saudi and non-Saudi males and females who were 18 years or older and living within the Ha'il region. Participants were recruited via convenience sampling by distributing the electronic questionnaire throughout various social media platforms.

Results

Of the 664 participants, 80.9% reported their willingness to test for COVID-19 if they had olfactory dysfunction with, 80.3% reporting their willingness to test if they had difficulty breathing. However, only 61.7% of participants said that they would be willing to be tested if they had been in contact with someone who had tested positive, whilst they themselves were asymptomatic. More than half of the participants reported that they were confident in the results (81%). Bio-demographic factors that influence the degree of public trust were as follows; females (83.8%); living with others (81.8%); history of not gathering with more than 10 people outside their household (87.9%).

Conclusion

Our finding revealed that the vast majority of the Ha'il community are willing to test for COVID-19, with a high proportion of females, participants who are living with others and participants who do not usually mix with more than 10 people at the same time showing a greater degree of trust in the results of the COVID-19 test. Furthermore, when participants had experienced olfactory dysfunction or\and breathing difficulties themselves, they tended to exhibit greater trust in the COVID-19 test results.





Study Field: Interventional Cardiology

Study Design: Cross-sectional study

Impact of the COVID-19 pandemic on interventional cardiology activity in King Abdulaziz Medical City: A retrospective study.

Nouf AlBattal, Dr. Mohammed Balgaith, Hatoon Alghuson, Malak Alshebel, Lama Alshenaifi, Reema Alghamdi

Background

The COVID-19 pandemic has led to a decrease in the number of patients undergoing coronary interventional procedures. The aim of this study was to identify the impact of the COVID-19 pandemic on the volume of patients and the types of interventional cardiology procedures performed at King Abdulaziz Cardiac Centre (KACC) in Riyadh, Saudi Arabia.

Methods

A retrospective cross-sectional study was undertaken with a sample size of 301 patients, aged over 18 years, who underwent various cardiac interventions at KACC between March 15, 2019 and February 29, 2020 (prior to the pandemic, group A), and between March 1, 2020 and March 15, 2021 (during the pandemic, group B). The BESTCare 2.0 system was used to collect data, Microsoft Office Excel was utilised for data entry, and for data analysis, the Statistical Package for Social Sciences software was employed.

Results

There was a 21.4 % decrease in the number of procedures performed during the pandemic. The largest age-group within the population was ≥ 60 years, comprising 43.5% and 52.3% of groups A and B, respectively. The majority of patients had a BMI >30 , i.e. 43.5% patients prior to the pandemic and 47.7% after the pandemic. 39.9% in group A and 60.6% in group B were smokers. The prevalence of hypertension and obesity was higher in group B, i.e. 77.3% and 42.3%, respectively. The incidence of STEMI was 39.9% in group A, and 39.4% in group B. For NSTEMI, the comparable statistics were 56.5% and 49.2%, respectively. Readmission frequencies in groups A and B were 17.9% and 20%, respectively.

Conclusion

The study indicates a decline in the number of percutaneous coronary interventions conducted in the interventional cardiology department of KACC in the period immediately following the COVID-19 outbreak.





Study Field: Department of Family and Community Medicine, Faculty of Medicine, Jazan University,

Study Design: cross-sectional design

An Assessment of the Knowledge and Practices of Adults in Jazan, Saudi Arabia, Concerning Routine Medical Checkups

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Background

Routine medical checkups: Routine medical checkups have primary, secondary, and tertiary preventive potential, aiming to promote health and detect chronic diseases early in life. **Knowledge and practice concerning routine medical checkups in Saudi Arabia:** • A study by Al-Kahil et al conducted on 414 participants in Riyadh reported that most participants (67.5%) did not perform routine medical checkups despite being aware of their importance. • A similar study conducted by Eke et al included 323 participants. Most respondents (74.9%) were aware of the importance of regular medical checkups. The use of routine medical checkups differed between genders: 39.4% of females, compared to 29.4% of males. **Know Your Numbers campaign:** The Saudi Ministry of Health (MoH) established Know Your Numbers campaign in November 2021 which encourages adults to measure their blood sugar, blood pressure, waist circumference, and body mass index (BMI) using official Ministry of Health applications such as the Sehhaty app. **Purpose:** This study aims to measure the knowledge and practices of adults in the Jazan region of Saudi Arabia concerning routine medical checkups.

Methods

Study Setting and Context: This study used a cross-sectional design that targeted adults in the Jazan region of Saudi Arabia. The data were collected via self-administered questionnaires, with participants being approached in online settings. **Data Collection Tool:** The questionnaire consists of three main components: demographics of the participants, measurement of knowledge of routine medical checkups, and practice of routine medical checkups, including the Know Your Numbers campaign. **Sample Size Calculation and Targeted Population:** Convenient, non-random snowball sampling was used to reach the required sample size. The required sample size was estimated to be 325 participants. **Data Analysis:** A chi-square test was used to detect statistically significant differences between the levels of knowledge and practice according to the measured demographic characteristics.

Results

A total of 516 people participated in this study. The mean age of the participants was 25 years; 54.7% were female. The median level of knowledge was 3 (out of 9), varying between 0 and 9. The recruited sample exhibited average knowledge of parameters used to classify levels of blood glucose, blood pressure, body mass index, and blood lipids, but low knowledge regarding the recommended age to begin screening for several chronic diseases. Factors associated with levels of knowledge were gender, age, education level, and employment (p -value < 0.05). However, the history of chronic disease was the only factor associated with the practice of routine medical checkups (p -value 0.023). Finally, less than 5% of this sample reported their participation in the Know Your Numbers campaign.

Conclusion

Attending routine medical checkups is uncommon and only motivated by the existence of a diagnosed medical condition. Furthermore, this study found low utilization of the Know Your Numbers campaign services. This suggests a need for greater emphasis on increasing awareness of routine medical checkups among adults in the Jazan region.





Study Field: Ophthalmology

Study Design: Cross-sectional study

Prevalence and Severity of Dry Eye Disease Symptoms Among Diabetics: A Nationwide Survey

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Background

Diabetes mellitus (DM) microvascular complications can impair corneal sensitivity and lacrimal gland functioning, leading to dry eye disease (DED). Hence, this study aimed to measure the prevalence and severity of DED symptoms, and the related risk factors, among the Saudi diabetic population.

Methods

This is a retrospective, cross-sectional, survey-based study which targeted Saudi adults (20 years and older) previously diagnosed with type 1 or type 2 DM. It was conducted in eight primary healthcare centers (PCHs) scattered around eight different provinces of Saudi Arabia (SA). The prevalence and severity of DED were measured by the Ocular Surface Disease Index (OSDI). The relationship between the level of DED and the socio-demographic characteristics of diabetic patients has been tested using the Chi-square test. Significant results were then placed into a multivariate regression model to determine the independent significant factor associated with DED. Two-tailed analyses with $p < 0.05$ were used as the cutoff for statistical significance. All data analyses were performed using the statistical package for social sciences, version 26 (SPSS, IBM Corp., Armonk, NY, USA).

Results

The total study population was 389 subjects, of which 182 (46.8%) were males and 207 (53.2%) were females. The overall prevalence of DED was 51.7%. Among those, 20.3% of patients had mild dryness, 11.1% had moderate dryness, and 20.3% had severe dryness. Glycosylated hemoglobin (HbA1c) levels of 6.5% or higher proved to be an independent risk factor for the development of DED symptoms, 3.6-folds higher for HbA1c levels of 6.5% to 9% (AOR=3.573; $p=0.001$), and 2.3-folds higher for HbA1c levels higher than 9% (AOR=2.293; $p=0.013$). The long duration of diabetes did not show a significant association with manifesting DED symptoms ($p=0.263$).

Conclusion

Half of the diabetic population complained of DED symptoms, compared to one-third of the previously studied general Saudi population. Patients with mild to moderate HbA1c elevation were more likely to report DED symptoms than those with severe elevation, which could be related to impaired corneal sensation. Therefore, a routine ophthalmological examination is recommended.





Study Field: Plastic and Reconstructive Surgery

Study Design: A cross sectional study

The Impact of Social-Media on Undergoing Aesthetic Surgeries: Nationwide Study

Amir Mrad, Abdullah A. Al Qurashi, Shahd Hamza Almonaie, Rasana bassim albeirouti, Sarah Salem Aldharman, Hussain Amin Alobaidi

Background

Today, the media's emphasis on physical appearance is more powerful than ever. Social media has a strong impact on societies' ideas about body image and have grown in popularity as a means of advertising for cosmetic professionals. This study aimed to evaluate the effect of social media on the decision of undergoing cosmetic procedures among the Saudi population.

Methods

A survey based- cross sectional study conducted on the general population of Saudi Arabia. Statistical Package for the Social Sciences (SPSS) Version 26.0 was used for the statistical analysis. The association between participants' characteristics and the influence of social media on participants' attitudes towards cosmetic interventions were assessed invariably using a Chi-squared test. A multivariate logistic regression analysis was conducted to explore the predictors of a positive influence of social media on participants' attitudes. A p value of < 0.05 was deemed statistically significant.

Results

A total of 1084 participants included in the study. Most participants were females (80.4%) and aged 18 to 29 years (55.2%). Almost half of the respondents (57.7%) spent 2-5 hours per day on social media platforms. 40.3% indicated that the social media might influence their decisions to undergo a cosmetic intervention. Females were more likely to be positively influenced by social media platforms than males. However, unemployed participants were less likely to be influenced by the social media. The most often stated reason for following a plastic surgeon on social media was to obtain information for future interventions (53.2%). Healthcare professionals were the most common source of information regarding cosmetic procedures followed by the social media. Snapchat was the most common platform on which the participants obtained information about plastic interventions, and the influence of the celebrities was apparent among 23.8% of the participants. 18.0% of the participants preferred a plastic surgeon who is popular on social media platforms.

Conclusion

Our findings revealed that a positive influence of social media on the decisions to undergo a cosmetic intervention was found to be associated with individuals' age, gender, occupation, hours spent on social media platforms daily, and the social media platform utilized the most.





Study Field: OB/GYN, public health

Study Design: cross sectional

Awareness of obstetric & delivery complication among Saudi pregnant women in Riyadh, Saudi Arabia

Laila salah aldokhail, Lujain Mohamed Alaradi, Joud sami Makki Mohammed Albalawi

Background

The birth of a newborn infant is celebrated with delight, excitement, and fulfillment in most cultures and societies around the world. However, at any point during pregnancy, antepartum, intrapartum, and postpartum, unexpected, or life-threatening events can occur. The issue of maternal mortality is of great concern throughout the world, and majority of these deaths (94%) could have been preventable. thereupon, This paper aims to assess the awareness of obstetric and delivery complication among Saudi pregnant women in Riyadh, Saudi Arabia and to Increase the rate of knowledge to prevent future obstetric complications.

Methods

A cross-sectional survey was conducted during the period from the third of August to the tenth of august among Saudi pregnant women in Riyadh. Participants were interviewed verbally in three governmental hospitals using a pre-tested questionnaire. Data was collected on sociodemographic variables like age and education status, and obstetric variables like the gestational age of the current pregnancy, parity, medical conditions, and ANC visits. There were also some questions that measure the awareness of BPCR and danger signs during pregnancy, labor/childbirth, and postpartum period.

Results

In this study, we were able to collect data from 385 pregnant women at Riyadh region, Saudi Arabia. Considering Birth Preparedness and Complication readiness (BPCR), 82.6 % of the women reported that they had knowledge about the BPCR. Internet was the main source of information of women considering BPCR (53.5 %). Moreover, 45.5 %, 18.4 % and 30.6 % were fully aware about danger signs of pregnancy, labor and postpartum period. There is a significant positive correlation between age and knowledge ($r=0.139$, 0.105 and 0.146). Having medical condition was significantly correlated with better awareness of complications during pregnancy and after postnatal ($r=0.150$, 0.155 , $P=0.003$, 0.002) while not associated with awareness considering complications during labor ($r=0.01$, $P=0.841$). Moreover, previous knowledge about BPCR, increase the awareness of women considering complications during pregnancy and labor significantly ($P=0.002$, 0.004)

Conclusion

Low awareness level considering danger signs during pregnancy, labor and postpartum period was reported among pregnant women in Riyadh region. Introducing programs that aim to increase the awareness of pregnant women is necessary.





Study Field: Pharmacy, Health Informatics

Study Design: A systematic literature review

Impact of telepharmacy during the COVID-19 on patients' outcome during the COVID-19: a systematic literature review

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Background

Coronavirus disease (COVID-19) continues to be a major global public health issue. COVID-19 is highly contagious, and numerous mitigation strategies have recently been implemented to prevent the spread of this disease. Pharmacists utilize telecommunication technology to provide patient care services, thus increasing patient access to pharmaceutical services. There was scarcity of evidence regarding the impact of telepharmacy on patient outcomes during the COVID-19. Therefore, the aim of this study was to summarize the available research evidence on the impact of telepharmacy on patient outcomes during the COVID-19.

Methods

A systematic literature search was conducted between January 2020 to September 2022 in Ovid MEDLINE, Ovid Embase, and Cochrane Central Register of Controlled Trials, using appropriate terms on telepharmacy, COVID-19, and patient outcomes. Only studies that investigated the impact of telepharmacy on patient outcomes during the COVID-19 were included.

Results

A total of three studies were included in the review. The telepharmacy services were offered via virtual anticoagulation clinic, retail community telepharmacy through information technology tools, and RxLive® telepharmacy program. All studies included in the review demonstrated that the provision of telepharmacy services during the COVID-19 had an overall positive impact on the patient outcomes such as reduction in the rates of hospitalisation and medication-related problems and maintaining the international normalized ratio values within the therapeutic range.

Conclusion

This review demonstrated that the provision of telepharmacy service during the COVID-19 were successful in improving patient outcomes (e.g., medicines-related problems and reduction in the incidence of hospitalisation). As the COVID-19 pandemic may continue for a longer time, this urges the need for further provision of telepharmacy service via modern telecommunication technology (e.g., televideo) particularly for patients living in remote areas. However, evidence regarding the impact of telepharmacy on patient outcomes during current pandemic is limited and there is a need to conduct more pre-post intervention studies to address this gap.





Study Field: Nephrology

Study Design: observational retrospective cohort study

Use of fix dose desmopressin as bleeding prophylaxis among patients undergoing renal biopsy in tertiary center

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Background

Desmopressin has been used to prevent bleeding post renal biopsy as it was found to raise factor VIII and von Willebrand factor (VWF) levels in the blood. It is typically administered intravenously in doses of 0.3-0.4 mcg/kg of body weight. However, in our institution, we are using a fixed dose desmopressin 20 mcg IV for patients undergoing invasive procedures instead of wight based dose, which could expose them to be under or over-dosing. The purpose of this study is to assess the effectiveness and safety of using a fixed dose desmopressin in patient undergoing renal biopsy.

Methods

This is an observational retrospective cohort study of patients undergoing native/transplant kidney biopsy. All the patients who meet inclusion criteria during the study period (01/01/2016- 30/06/2022) were included. Patients categorized to two groups based on desmopressin use prior to kidney biopsy. In addition, a sub-group analysis conducted based on desmopressin dosing (adequate, under and over-dosing). Primary outcome was the association between desmopressin use and bleeding events which defined as a composite of hemoglobin drop ≥ 1 g/dL within 48 hrs after the procedure, need for red blood cell transfusion, hematuria, or hematoma post native/transplanted kidney biopsy. Secondary outcomes were the association between desmopressin dosing and bleeding event, hyponatremia, hypotension events

Results

A total of 92 patients were collected, 55.4% received desmopressin, majority of them received underdosing desmopressin (74.5%), 23.5% received adequate dosing and 3.9% overdosing. Baseline characteristics were well-matched between groups: mean (SD) age of 40.25 (14.36) years; mean (SD) Charlson Comorbidity Score of 1.47 (1.83) and BMI 29.62 (7.5). There was no significant difference in the composite bleeding events between desmopressin and no desmopressin groups: 19 (37.2%) Vs. 15 (36.5%), $P= 1.00$. However, there was a significant higher incidence of blood transfusion in non-desmopressin arm: 7 (17.5%) Vs. 1 (2%), $P= 0.02$. No difference in composite bleeding events was observed between overdose, underdosed and adequate dose arms. However, there were a numerically higher incidence of hematuria and hematoma in underdosed patients compared with adequate and overdosed group, 11.1% Vs. adequate 0% and 20% Vs. adequate 15.38% vs. overdosed group 0%. In term of safety, neither incidence of hyponatremia nor hypotension were significantly difference between treatment groups.

Conclusion

Based on preliminary results, there is a tend to increase risk of bleeding in non-desmopressin and underdosed desmopressin arms. With no high risk of hyponatremia or hypotension in overdosed or desmopressin arms. However, further data need to be collected to assure their significance.





Study Field: neuro science

Study Design: cross-sectional study

Median and ulnar nerves conduction velocity and hand function tested with Grooved Pegboard Test in healthy young male adults

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Background

Median and ulnar nerves have been suggested in the literature to be a significant part of hand function; however, there isn't enough data to determine that relation. Our study aimed to investigate correlation between hand function using Grooved pegboard test (GPT) and nerve conduction velocity and latency of the two nerves. The topic was chosen due to its immense ramifications and relevance to specific health care approaches. Examples of pertinence to healthcare include integration of a new plan to reassess parts of physiotherapy, and other fields.

Methods

The study used a cross-sectional study design. Using convenience sampling, the sample was taken in College of Medicine, KSAU-HS, from January to September 2021. Grooved pegboard test (GPT) was used to assess hand function, and nerve conduction studies were done to assess Subjects' nerve conduction velocity (NCV) and latency for both ulnar and median nerves in both hands in the college's physiology lab. Other collected data were age and Edinburgh handedness inventory (EDI), which was used to determine the hand dominancy. Regression analysis was used to develop models to predict hand function measured by GPT. Pearson's R squared and spearman's ρ were used to represent correlation between normal and abnormal variables respectively. Analysis was done for both hands individually first then again after combining the two hands into one sample.

Results

Sample size was 28 healthy 20 to 29 year old men ; age mean was 21.46 ± 1.62 . Most were right hand (89.3%) , Edinburgh handedness inventory mean of 301.79 ± 209.71 , dominant hand GPT mean was 65.5 ± 6.35085 s, the nondominant hand was 74.9643 ± 9.58966 s. Median NCV mean in the dominant hand was 55.8857 ± 7.564 m/s, the nondominant hand was 58.418 ± 10.02 m/s. Median wrist latency mean in the dominant hand was 0.004892 ± 0.000816 s, the nondominant hand was 0.005096 ± 0.001836 s. Ulnar NCV mean in the dominant hand was 49.4464 ± 8.625 m/s, the nondominant hand was 51.007 ± 7.523 m/s. Ulnar wrist latency mean in the dominant hand was 0.003961 ± 0.00142 s, the nondominant hand was 0.003825 ± 0.001031 s. When combining the results from both hands, sample size became 56. GPT score mean was 70.232 ± 9.367 s. Median NCV was 57.1518 ± 8.89 m/s, median latency was 0.004995 ± 0.001412 s. Ulnar NCV was 50.2268 ± 8.057 m/s, ulnar latency was 0.003893 ± 0.001232 s. dominant hand ulnar NCV had correlation with GPT (R Square = 0.203 P-value=0.016 CI =95%); other variables had no correlation with GPT (P-value > 0.05, CI =95%). no correlation was found in nondominant hand with the GPT nor the combined sample

Conclusion

The Ulnar nerve was found to be correlative that it makes up an important factor in the manual dexterity tested using GPT. One of the reasons why this finding seems to be a substantial is because The Ulnar Nerve is involved in a variety of innervations to Hand Function specific muscles such as the Hypothenar muscles and interossei muscles as well.





Study Field: Critical care

Study Design: Observational cross-sectional design.

The Perceived Barriers of Mobility in the Intensive Care Units in Saudi Arabia.

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Background

There is an overwhelming evidence of improved patient outcomes as a result of early mobilization in the intensive care unit (ICU). However, several barriers of ICU mobility remain understated. Moreover, there is a scarcity in the literature that looked into the current practice of ICU mobility in Saudi Arabia. The purpose of this study is to investigate the perceived barriers of early mobility of critically ill patients in a multi-professional team.

Methods

In this cross-sectional study, we administered the Mobilization Attitudes and Beliefs Survey (PMABS-ICU) to ICU health care providers using an online survey. Levels of barriers were tested according to knowledge, attitudes, and behaviors towards ICU mobility and was compared among different ICU clinical roles.

Results

The survey yielded a total number of 214 health care providers with 41% female and 59% males across 5 geographical regions of Saudi Arabia. Behavioural barriers accounts for the highest level of barriers amongst all disciplines, Median 49% (IQR 42%, 54%). Respiratory therapists significantly perceived the highest overall level of ICU mobility barriers, Median 48% (IQR 42%, 53%) compared to physical therapists (lowest perceived barriers), occupational therapists, nurses, and physicians ($P \leq 0.001$). No significant differences were found in years of experience or experience in ICU mobilization among all groups.

Conclusion

ICU healthcare providers' behaviour towards ICU mobility such as perceived benefits and safety are ranked the greatest mobility barriers. Focused ICU mobility education and training among respiratory therapists and nurses could advance inter-disciplinary ICU mobility practice.





Study Field: community medicine, Family medicine, OB/GYN

Study Design: Observational cross-sectional study

Awareness of gestational diabetes mellitus among women in Qassim region, Saudi Arabia

Khalid Alkhilafah, Nawaf Alqhtani, Meshal Alharkan, Waleed Alshtuwi, Abdulaziz Algurafi, Meshal Alwabel, Nasser Alsharekh

Background

The prevalence of gestational diabetes (GDM) among women in Saudi Arabia is high and there are limited studies on gestational diabetes awareness in Saudi Arabia. None of these studies were conducted in the Qassim region on this aspect of the awareness of women about gestational diabetes.

Methods

This observational cross-sectional study was conducted among women living in the Qassim region of Saudi Arabia. A self-administered was distributed among women using an electronic questionnaire. The questionnaire was composed of socio-demographic data and 17 items focused on broad awareness and knowledge regarding DM and gestational diabetes mellitus risk factors, assessment, therapy, and implications to measure gestational diabetes mellitus knowledge and awareness.

Results

Of the 633 women, 48.5% were aged more than 35 years old. The prevalence of women with a previous history of GDM was 15.3%. Based on our results, the level of awareness regarding GDM was poor among 60.3% of women, 33% were moderate and only 6.6% were estimated to have good awareness levels. Factors associated with an increase in awareness were being younger, living in Buraydah, better education, being employed, having associated chronic disease, previous history of GDM, and knowing someone with GDM.

Conclusion

The awareness of women in the Qassim region regarding gestational diabetes was deficient. However, increased awareness was demonstrated more frequently by younger women who were currently working with better education along with a previous history of GDM and knowing someone with the same disease. It is necessary to improve the awareness of women regarding GDM so they can effectively manage the disease and alleviate fears of getting complications and the healthcare providers' role is imperative





Study Field: Internal medicine, ICU, ER

Study Design: Systematic Review and Meta-Analysis

Efficacy and Safety of Intravenous Insulin in Treatment of Patient With Diabetic Ketoacidosis: A Systematic Review and Meta-Analysis

Kareema S. Alshurtan , Osama Alnizari , Hadi Aldarwish , Ali A. Al-Tufaif

Background

The most common acute hyperglycemic emergency is diabetic ketoacidosis (DKA). DKA is one of the leading causes of Type 1 diabetes (T1D) related deaths in people aged 30 and under. DKA is more pronounced in young patients and uncontrolled diabetes. DKA symptoms include polyuria, polydipsia, vomiting, weight loss, stomach pain, and exhaustion. The management of DKA includes the infusion of 1 liter of 0.9% sodium chloride over one hour, ensuring a potassium level above 3.3 mEq/L, and initiating insulin therapy.

Methods

In this meta-analysis, the overall use of IV insulin in patients with mild/moderate vs. severe diabetic ketoacidosis was compared in randomized controlled trial and cohort articles from January 2011 to December 2021 using EMBASE, Medline, and CENTRAL. Only 8 of 3258 studies met the inclusion criteria.

Results

This review shows that intravenous insulin can significantly decrease plasma glucose and potassium levels in mild/moderate cases and severe cases. However, it can decrease the resolution time of acidosis more quickly in mild/moderate cases than in severe cases.

Conclusion

In the current meta-analysis, the use of IV insulin is secure and efficient. There was no discernible difference in the effectiveness of IV insulin between mild/moderate and severe DKA, except in the time of resolution of acidosis, which was faster in mild/moderate DKA than in severe DKA. However, these results should prompt further investigation and attention, as well as further longitudinal research and randomized trials.





Study Field: Urology

Study Design: cross-sectional study

Prevalence and Risk Factors of Urolithiasis Among the Population of Hail, Saudi Arabia

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Background

Urolithiasis is the formation of calculi in the urinary system. It is a public health concern worldwide that can lead to serious long-term consequences. Age, gender, dietary habits, and physical activity levels are all factors that increase the risk of urolithiasis formation. Furthermore, the presence of comorbid medical conditions such as diabetes and hypertension are other major risk factors. Among the most prominent determinants that raise the likelihood of acquiring urolithiasis is exposure to high temperatures, especially in middle-aged men. Consequently, Saudi residents are two and a half times more prone than the global average to develop urolithiasis, especially those in the Kingdom's hottest regions.

Methods

This cross-sectional study assessed the self-reported prevalence and non-nutritional risk factors of urolithiasis among the population of Hail, Saudi Arabia, through an electronic questionnaire. The questionnaire contained 16 questions divided into three categories. Participants' permission was obtained before completing the questionnaire. The Statistical Package for Social Sciences (SPSS) version 22 (IBM Corp., Armonk, NY, USA) was used to analyze the data.

Results

Of the 1150 participants with a mean age of 26.3 ± 12.8 years old, nearly half were males (50.9%). Urolithiasis was detected among 158 (13.7%) participants. The following factors showed significant relation with having urolithiasis: increased age, male gender, a low level of education, diabetes, hypertension, and hyperthyroidism. A family history of renal stones was also associated with double the risk of having urolithiasis.

Conclusion

The results showed a high prevalence of urolithiasis in the Hail region, with many risk factors associated with it. It is important to support and promote awareness campaigns that address the critical risk factors of urolithiasis. Further studies should be conducted to arrive at a better understanding of the association between non-nutritional risk factors and developing urolithiasis.





Study Field: Health education

Study Design: Cross-sectional

The influence of gender and education on awareness about Sexually Transmitted Diseases (STDs) among KSU and IMAMU students in Riyadh

Faisal Salem Alqahtani, Mohammed Faisal Althobaiti, Nawaf Talal Alhussaini, Abdulaziz Fahad Alajmy, Thiab Khalid Abuzied

Background

Sexually transmitted diseases (STDs) are global issue that is facing the world. In a conservative community like Saudi Arabia, discussing such matter is considered taboo and this might have an impact on the awareness of STDs. Therefore this study aims to determine if gender and level of education along with university have an effect on the level of awareness of STDs.

Methods

This research is a cross-sectional study that involves 389 students that are studying at King Saud University and Imam Mohammad Ibn Saud Islamic University. A 26 question was gathered from a previous study and implemented into a questionnaire and was validated after.

Results

Overall, awareness about STDs was poor. Females scored higher than male participants (7.9 ± 3.3 vs. 7.1 ± 3.2 , $p < 0.017$) respectively. Interestingly, Undergraduates scored higher than postgraduate (4.7 ± 3.7 vs. 3.7 ± 3.3 , $p < 0.029$). For the university, King Saud University students scored higher than their counterparts at Imam Mohammad Ibn Saud Islamic University (10.4 ± 5.7 vs. 8.9 ± 5.5 , $p < 0.01$).

Conclusion

Poor knowledge was found among the two university students. As a result, appropriate education and promotion efforts about STDs must be implemented based on gender and education level.





Study Field: Infection Control

Study Design: Cross-sectional

Catheter Associated Urinary Tract Infection in a Large Tertiary Hospital in Riyadh

Professor, Motasim Badri

Background

Catheter-associated urinary tract infection (CAUTI) is a common healthcare-associated infection (HAI) causing major health adverse effects for patients and challenges to healthcare providers. Objectives: The aim of the study was to determine the prevalence and factors associated with CAUTI in King Fahad Medical City (KFMC), Riyadh, Saudi Arabia.

Methods

A retrospective cross-sectional study was conducted to estimate prevalence and factors associated with CAUTI among all patients with indwelling urinary catheter admitted to KFMC between 2019 to 2021 .

Results

The study included 350 patients. Of these, 51.1% were females. Mean (SD) age was 47.1(22.9). Prevalence of CAUTI was 62.9%. Approximately 76% of CAUTI cases occur within seven days after indwelling catheter insertion. CAUTI rate was higher among males 65.5% compared to females at 60.3%. Patients developing CAUTI were significantly older [mean (SD) =51.2 (20.5)] compared to non-CAUTIs patients [mean (SD) = 40.1 (25.1) years]. In a multivariate logistic regression analysis, older age (those aged >65 years OR=7.82, 95%CI 3.57-17.13, $p<0.001$ compared with those aged 0-17 years) and hospital centre location (critical care OR= 16, 96%CI 5.56-46.03, $p<0.001$ compared with Children/Women Specialized Hospital) the factors significantly associated with the likelihood of CAUTI diagnosis.

Conclusion

The findings of the current study highlight the importance of making more efforts to reduce CAUTI rates through timely removal of an indwelling catheter.





Study Field: Medical Education

Study Design: A cross-sectional survey was performed online

Teaching faculty perceptions, attitudes, challenges, and satisfaction of online teaching during COVID-19 pandemic in Saudi Arabia: A national survey

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Background

The COVID-19 pandemic and associated preventative measures introduced a shock to the teaching paradigm in Saudi Arabia and the world. While many studies have documented the challenges and perceptions of students during the COVID-19 pandemic, less attention has been given to higher education staff. The aim of the present investigation is to evaluate the perception and experiences of online teaching as well as known barriers that face educators when developing and implementing online learning medical students and other educational sectors during the COVID-19 pandemic.

Methods

A validated survey was conducted between December 2021 and June 2022 in Saudi Arabian Universities to assess the status of online teaching during the COVID-19 pandemic among faculty members. The collected responses were exploratively and statistically analyzed. The categorical variables were provided in percentages and frequencies. The Chi-square test was employed to determine if there was a statistically significant difference between categorical variables. We did logistic regression to determine the predictors for satisfaction and barriers to online teaching during COVID-19. If the $p < 0.05$, statistical significance was considered.

Results

A total of 1117 response was received. Only 33% of the respondents think the transition was difficult and 55% of them support the move. A total of 52.5% of the respondents deliver teaching that involve practical skills. To maintain continuum during the lockdown, 69% of the respondents distributed practical teaching materials by post while 31% of the respondents requiring students to collect them from campus. Evaluation for practical skills was mainly performed via live and recorded presentation on 35% of the occasions. Most respondents received adequate training (68%) and tools (80%) and 88% of the respondents mentioned that they did not accrue additional workload in online study design. While the perception of online teaching was mostly positive (62%) with high satisfaction (71%). However, 25% of the respondents reported that a poor internet bandwidth was an obstacle and 20% was unable to track students' engagement. Respondents with more years of experience, previous training, support, or perceived online transition as easy were also more likely to be satisfied with the process. Also, older respondents, those who support the transition and those with previous training were less likely to report barriers

Conclusion

The perception and experience of transition to online teaching during the COVID-19 pandemic in Saudi Arabia were positive. Low internet bandwidth and inability to track students' limited effective online teaching. Work experience, previous training, and positive perception are the main factors that influence staff online teaching satisfaction.





Study Field: Public Health

Study Design: Cross-sectional descriptive survey

Oral and dental health comorbidity in COVID-19 era: social aspects and impacts on community dentistry in Saudi Arabia

Abdullah Faraj Alshammari, Abdulmjeed Sadoon, Ahmed Mohammed Aldakhil, Alanoud Naif Alotaibi, Rawan Turki Alturki

Background

The World Health Organization (WHO) announced COVID-19 a public health emergency of global concern. The most vulnerable populations are elderly and/or medically compromised people. It is recommended that non-emergency and elective procedures be postponed while dental clinics remain open to patients with urgent needs. Providing oral-health instruction is important to limit the needs of patients to leave their homes for treatment. The aim of this study is to evaluate the knowledge and behaviour of residents in Saudi Arabia towards their oral health during the COVID-19 outbreak.

Methods

This study was a cross-sectional descriptive survey. Data was collected through online self-administration of the questionnaire on the Google forms platform. Any relationships between the variables were analysed using Pearson's chi-squared test. A p value less than 0.05 was considered statistically significant.

Results

This study included 1000 participants. 70.7% reported that their oral-health care practices became worse during the COVID-19 pandemic. Participants' medical histories revealed that 17.8% had multiple chronic illnesses. Of all respondents, 48.2% believed that COVID-19 is a serious health problem and only 33.4% of respondents were aware that only emergency treatment is being offered at dental clinics during the COVID-19 pandemic.

Conclusion

An alarming percentage of participants do not see COVID-19 as threatening to their health. A number of people needed urgent treatment but preferred to stay home because of fear and anxiety connected to the pandemic. The lack of information can lead to the exacerbation of such fear, which in turn causes individuals to neglect their oral health.





Study Field: Dentistry , public health

Study Design: Cross-sectional study

Prevalent Temporomandibular Disorders Symptoms among Saudi Patients

Dr.Aamir Omair , Dr.Balsam Al-Eissa ,Dr.Ruba Alhudayris

Background

The prime importance of healthy temporomandibular joint (TMJ) cannot be neglected. Temporomandibular disorders (TMDs) can be defined as one of the Orofacial pain categories. Multiple factors may cause TMDs such as occlusal interferences, disharmony between condylar head and temporal fossa, neoplastic growth, destructive (non-functional) movement of the mandible like bruxism, emotional stress, mal-position or loss of teeth and tooth clenching habit. The prevalence of TMDs in Saudi Arabia was reported in the literature across various regions and cities. this study aimed to determine the prevalent temporomandibular joint symptoms among Saudi patients and their relation to age and gender.

Methods

Cross-sectional research design was selected to achieve the aim and the objectives of the study, and all TMDs patients -547 patients-whom visited the Temporomandibular Joint (TMJ) clinic in in King Abdulaziz Medical City in Riyadh city on the period 2015-2021 were included.Their medical records were retrospectively searched for Temporomandibular Disorders symptoms and their severity.

Results

A total of 547 Saudi patients were included in this study, there were (121) male and (426) female participants. The most prevalent Temporomandibular Disorders (TMDs) symptoms was frequent headache (40%), While the least prevalent was jaw locking (14%), The female TMJ patients reported the frequent headache as the most prevalent TMDs symptom (45%) and it was statically significant. (P-Value <0.001). Among age-related to TMDs , TMJ sound and jaw locking were the most diagnosed TMD symptoms in children and youth age group. It had a significant association with age groups (P-Value 0.001). Whereas, neck pain was more prevalent in the adult age group and also statically significant (P-Value 0.028).

Conclusion

TMD prevalence is relatively high among Saudi Patients , It is significantly more prevalent in females patient than in males. The frequent headache was the most prevalent Temporomandibular Disorders (TMDs) symptoms.





Study Field: Health care science

Study Design: cross sectional study

Factors Influencing Parents' Willingness to Vaccinate Their Children Against COVID-19; A KSA Cross-sectional Study

Fatimah ali Aldaiji , Fatimah abdulaziz algarzai , Farah abdulaziz almogarri , Hana abdullah almansour , Nouf abbas almutairi .

Corresponding author: Lamyia kassem , mohammed salem alshammari , abdufatah Y. alhazmi .

Background

assessing parental willingness (acceptance and hesitation) to immunize their children against COVID-19 and figuring out the determinants influencing their decisions.

Methods

Data collected using an online self-administered questionnaire that was distributed between November and December 2021. Chain-referral sampling was the basis of the convenience-based sampling strategy. Using the 5C subscales, parental decision-making factors were evaluated. Using multinomial logistic regression, the adjusted (multivariate) relationships were estimated.

Results

39 parents out of 551 were reluctant to vaccinate their children against COVID-19. Inadequate safety information (76%) and concern over side effects were the most often cited justifications for refusal (59%). In comparison to the COVID-19 vaccine, parents were more in agreement that routine childhood vaccinations are more important and effective (Cohen's D: 0.857, and 0.721, consecutively; T-test p-value 0.00). Parents who used the Ministry of Health website had a higher likelihood of intending to vaccinate their children (OR = 1.32, p-value = 0.016) than those who utilized the WHO website (OR = 0.47, -53 percent, p-value 0.001). Parents who had received the COVID-19 vaccination, older parents, having children between the ages of 5-11, and parents with lower levels of education were all related with the intention to vaccinate children in a multivariate logistic regression analysis.

Conclusion

Parents are hesitant to vaccinate their children against COVID-19 because to concerns over the vaccine's effectiveness, safety, and importance. Healthcare providers can improve COVID-19 immunization rates by reaching out to parents who are hesitant to vaccinate their children through campaigns.





Study Field: Emergency Medicine

Study Design: Quantitative cross-sectional study

Noise Pollution in Two Tertiary Care Centers: An Observational Study in Riyadh, Saudi Arabia

Ghadah Bader Alghbewi. Faten Khayat. Nejood Alsheikh.

Background

Noise pollution is the sum of all unwanted noise in the community. Noise over 70 dB is considered noise pollution, and it can lead to damages such as damage in communication, physical damage, and mental health damages. Therefore, the objective of our study is to measure the level of noise in multiple tertiary health care centers in Riyadh, Saudi Arabia, and to determine whether they are deemed noise pollution or not. Moreover, the study aims to alert medical professionals of the harmful effects of abnormal noise levels, and to hopefully implement noise pollution regulations.

Methods

This study is a quantitative cross-sectional study that was conducted at two tertiary care hospitals in Riyadh, Saudi Arabia to assess the level of noise pollution. A decibel meter device was placed in specific departments to assess the level of noise and to determine whether they are deemed as noise pollution or not.

Results

The highest noise reading was seen in hospital A's pediatric emergency department, where it reached 97.3 dB in one second. The lowest reading was seen in hospital A's surgical ward reaching 36.3 dB in one second. Hospital B had the highest average reading, reaching 67.3 dB in one second. (Figure 1). In hospital A, the department with the longest period of noise pollution was the surgical ward, reaching 123 minutes. The shortest period of noise pollution was seen in the medical ward, reaching 11 minutes only. Hospital B's emergency department had the longest overall period of noise pollution where it reached 170 minutes. (Table 1)

Conclusion

Noise pollution is a dangerous and significant problem that leads to decline in patients' health. Measures to reduce noise levels should be implemented.





Study Field: Health care devices and cardiology

Study Design: Cross sectional

Reliability of Apple's Watch Electrocardiogram

Sara Alnasser Dalal Akalthem Nareen Alanzi Muneera Alsowinea Sarah Alenazi Ahmed Alfagih

Background

Heart diseases are a major prevalent health concern, screening for these diseases to prevent and reduce further morbidity and mortality will be achievable in an intelligent way using new technologies such as Apple smart Watch, in which can detect the heart rhythm. Selected heart disease patient and collecting age, gender, weight, height, body mass index, history of diseases, and medications.

Methods

A standard 12-lead ECG will be recorded using a common ECG device. Immediately after that, Apple watch series 5 will be used to obtain I lead ECG. Each ECG paper will be evaluated by two investigators and interpreted as agreed upon between them. Any further questions regarding ECG reading will be discussed with cardiology consultant. Data analysis was performed using SPSS.

Results

The results of this study proved that the examined smartwatch (Apple Watch Series 6) can obtain 1-lead ECGs. Quantitative analysis showed a strong correlation between 12-lead ECG and Apple watch ECG in heart rate measurements. There was no significant difference in the studied ECG characters (rhythm, P-wave, P-R interval, and QRS complex).

Conclusion

Apple Watch ECG could be considered a reliable remote monitoring technology for cardiac patients especially when there is no immediate access to standard ECG facilities.





Study Field: Medical education

Study Design: Cross-sectional

Social accountability in medical education: Students' perspective

Sami Al-Nasser, Shahad Alenezi, Ohoud Alsayari, Deemah Alghaith, Rana Alshehri, Danah Albarrak

Background

Globally, there is a rising interest in the concept of social accountability (SA). The literature evaluating SA of medical schools is limited; however, some international studies have revealed a lack of understanding of SA by medical students. This study evaluated the perception of SA among medical students at a governmental university in Saudi Arabia.

Methods

A cross-sectional study with 336 currently enrolled medical students was conducted from September 2020 to May 2021. The data were collected using an electronic survey comprised of the THENet questionnaire that included 12 items to assess the perception of SA and some demographic variables. The total score was categorized into four groups and compared with the demographic profile of students.

Results

Out of the 336 participants, the mean age was 21.26 ± 0.5 years, with most students in the 19-21 age group ($n = 154$, 46%), and 189 (56.3%) were males. In addition, preclinical and clinical students had similar representation: 170 (51%) and 166 (49%), respectively. Most participants (173, 52%) scored in the 18-36 range, reflecting good perceived SA. The demographic profile of students (i.e., age, GPA, and year of study) was significantly associated with perceived SA ($p = 0.003$, 0.002 , and < 0.001 , respectively).

Conclusion

The study concludes that most medical students had a good level of perceived SA about their institution. The preclinical year students exhibited a better perception of SA. The final-year students were more critical about the SA of the institution compared to other students.





Study Field: pediatric surgery

Study Design: case report and literature review

Traumatic pseudo-aneurysm in a 5-year-old child, case report and literature review

Razan Turki Alomar , and Raghad Mansour Akmunyif

Background

Pseudoaneurysms can be formed by iatrogenic factors such as anastomotic failure, as well as non-iatrogenic factors such as infection or penetrating trauma. In the pediatric population, there have only been a few recorded examples in the literature. In our case, a five-year-old male who was medically free presented with a complaint of left foot swelling after a one-month history of glass trauma and two episodes of bleeding. The patient was treated with pressure dressing and antibiotics prior to his presentation to our hospital, however this was misdiagnosed as a hematoma case and showed no improvement. The patient then sought counsel from our facility in the Ministry of National Guard Health Affairs (NGHA). Upon presentation, an examination of the left foot's dorsum revealed a 2.0*2.0 cm non-tender swelling with no symptoms of infection and a healed scar. An X-ray of the left foot and a lower extremity arterial doppler ultrasonography revealed a 1 cm partly thrombosed pseudoaneurysm protruding from the dorsalis pedis artery (DPA). Under general anesthesia, a surgical excision was performed, the aneurysm was removed, the artery was ligated, and the incision was closed with a primary closure. The patient was examined two months after the treatment, and the foot appears normal, with no symptoms or signs of infection or ischemia.

Methods

case report and literature review

Results

Any traumatic injury that has resulted in a hematoma in the dorsum of the foot that is not healing should consider out dorsalis pedis pseudoaneurysm. Primary aneurysm excision with ligation of the dorsalis pedis artery(DPA) appears to be a safe surgery in our case, with no effect on foot perfusion or function.

Conclusion

same as result





Study Field: Social and Behavioral Sciences

Study Design: A Review Article

The Landscape of Anabolic Androgenic Steroid Abuse in the Saudi Arabia

Yara Alsaeed, Leena AlHajri

Background

Anabolic-androgenic steroids (AAS) are synthetic derivatives of the male sex hormone (testosterone) that act on androgen receptors. The use of AAS among populations is becoming a growing global health concern. Several national and international studies have revealed a high prevalence of AAS abuse in various countries including developing countries such as Saudi Arabia. Thus, the main objective of this work is to review the topic of AAS abuse and describe its prevalence in various regions of Saudi Arabia and Middle Eastern countries.

Methods

Studies were gathered from PubMed and Google Scholar. Using reference searches for key words (AAS, steroid abuse, Saudi Arabia), relevant articles were collected and analyzed. This review study focuses on a number of aspects surrounding AAS abuse in Saudi Arabia, including prevalence, attitude, awareness, source, reasons, and age. Moreover, we expanded our search to understand the landscape of AAS abuse in 16 Middle Eastern countries.

Results

Our review of the current literature indicates that Riyadh had the highest rate of AAS abuse among Saudi Arabia's regions. The majority of AAS users in all different regions are between the ages of 25 and 35. The main reasons cited for AAS abuse were body dysmorphia and the desire to increase muscle mass and strength. Of interest, AAS users' attitudes showed various behavioral patterns that are prone to substance abuse. In the Middle East, AAS use was found to be most prevalent in Iran. Furthermore, while a number of side effects were reported by users, it is apparent that there remains an inadequate knowledge of the complications surrounding AAS use.

Conclusion

There is an evident need to perform clinical studies that measure different physiological aspects following AAS use, and the adverse effects associated with its use among users. To date the only data available is derived from qualitative studies. It is apparent that measures should be taken to restrict AAS use in Saudi Arabia and the other Middle Eastern countries.





Study Field: Orthopedic Surgery

Study Design: Descriptive study design

A Decade View on The Orthopedic Surgery Workforce in Saudi Arabia

Abdullah Mohammed Alhejji, Alwaleed Abdullah Alshahir, Musaad Mohammed Bin Dukhi, Mohammed Abdulaziz Alfurayh, Amjad Muashaq AlGhamdi

Background

The workforce Orthopedic surgery is an integral component of any healthcare system, this workforce deals with various musculoskeletal disorders ranging from chronic cases to acute and life-threatening ones. Therefore, we conducted this study to identify the current orthopedic workforce demographics in Saudi Arabia (SA) and the changes in such demographics over the last 10 years to identify future workforce-related challenges.

Methods

This study was conducted among the orthopedic surgeons practicing in Saudi Arabia from 2010 to 2021. The number of practicing Orthopedic Surgeons, their gender, their nationality, and Orthopedic residency candidates and graduates were obtained from the Saudi Commission for Health Specialties (SCFHS). In addition, data about the geographic distribution of orthopedic surgeons currently practicing in the country were obtained from the ministry of health statistical yearbook of 2020.

Results

As of June 2022, there were 3489 registered orthopedic surgeons in SA, with an estimated ratio of 12.29 orthopedic surgeons per 100 000 people. A large proportion of those orthopedic surgeons were ranked as registrar (35.71%, n=1246), and 96% of them were non-Saudis. The number of male residents was 4 times higher than the female residents the ratio of orthopedic surgeons per 100 000 people was 5.42 in 2010, which grew subsequently to 12.29 in 2021. The number of Saudi orthopedic surgeons was noticeably increasing throughout the past decade in SA, on the other hand, a fluctuating pattern can be seen among the non-Saudi orthopedic surgeons.

Conclusion

The study revealed that among Saudi orthopedic surgeons the ratio per 100 000 people grew from the lowest point 0.77 in 2010 to its highest 3.73 in 2021, while among non-Saudi orthopedic surgeons the lowest ratio was 4.65 in 2010 and highest 6.89 in 2020. Moreover, in 2010, there were only 4 Saudi female orthopedic surgeons, however, this number grew to 115 in the year of 2021. During the past 10 years, the number of Saudi male orthopedic surgeons increased from 260 in 2010 to 1139 in 2021. There is also a geographic maldistribution of Orthopedic surgeons, with urban areas having a higher number of dermatologists than rural areas. We encourage further studies to be done that can elucidate the factors influencing the workforce, such as the competition over local programs, Orthopedic surgeons' working hours, and the geographic maldistribution of Orthopedic surgery in the country.





Study Field: applied medical science

Study Design: observational retrospective study

Evaluating the prevalence of hypertension among hypothyroid patients in Saudi Arabia. in Qassim Region, Saudi Arabia

Khaled Allmeailem , Asmaa Elkady, Amal Hussain Mohammed , Eid Mohammad Aleid , Hamad Alhamed

Background

Thyroid dysfunction, both hypo- and hyperthyroidism, may increase the risk of hypertension. Hypothyroidism has been recognized as a cause of secondary hypertension. Previous studies on the prevalence of hypertension in subjects with hypothyroidism have demonstrated elevated blood pressure values. Increased peripheral vascular resistance and low cardiac output has been suggested to be the possible link between hypothyroidism and diastolic hypertension. The hypothyroid population is characterized by significant volume changes, initiating a volume-dependent, low plasma renin activity mechanism of blood pressure elevation. In the present study, we aimed to evaluate the prevalence of hypertension among hypothyroid patients in Saudi Arabia.

Methods

The present study is an observational retrospective study. It is included 104 hypothyroid patients attended the endocrinology clinic in King Fahd Specialist Hospital, Buraydah, Qassim, Saudi Arabia, from November to December 2021. Hypothyroidism was confirmed by high levels of thyroid stimulating hormone (TSH) ($> 4.0 \text{ uIU/mL}$). Demographic data including age, gender, hypertension and laboratory investigations including TSH were retrieved from electronic patient records.

Results

The present work included 104 hypothyroid patients. The majority of them were females (50 %). Patients ages ranged from 12 to 96 hypertension was diagnosed in 48 out of 104 cases representing (46.2%). Our findings showed that, the hypertensive group in comparison to the normotensive group had a higher prevalence among females (29 Versus 15), mean age(65 Versus 40). It was surprising that hypertensive patients had higher mean TSH than normotensive ones (9.4 Versus 8.0).

Conclusion

Based on the current study, our findings demonstrated higher prevalence of hypertension among hypothyroid patients. Additionally, High serum TSH levels were associated with hypertension. Results of the present study is supported by previous research from different localities confirming the association of overt hypothyroidism with hypertension.





Study Field: Primary care, infectious disease

Study Design: observational cross sectional study

Knowledge, Attitude, and Practice of COVID-19 Vaccine Among Saudi Mothers

Hadeel Ashour, Sara Alhinti, Samira Hawsaoi, Arwa Alsuwaillem, Ali Alfarhan, Imad Abdulmajeed, Majid Alshamrani

Background

The COVID-19 vaccine is a novel vaccine that was created during the midst of the COVID-19 pandemic in 2020 to combat the highly contagious COVID-19 infection. Since the initiation of vaccine administration campaigns globally, many research was simultaneously being done to study the vaccine's side effects and possible complications especially in vulnerable groups such as pregnant women and children. Saudi Arabia is one of the leading countries in administering the COVID-19 vaccine to its population. However, due to the exchange of a lot of incorrect information through social media platforms about the vaccine's safety, people particularly women expecting a child, breastfeeding, or have younger children started to display some vaccine hesitancy. This study aims to assess the knowledge, attitude and practice (KAP) of the COVID-19 vaccine among Saudi mothers and to recognize how certain individual characteristics affects it.

Methods

This is an observational cross-sectional study that was carried among 293 Saudi mothers attending primary healthcare clinics at King Abdulaziz Medical City, Riyadh from April to July 2022. The participants completed a self-administered questionnaire that was composed of 4 parts including participant characteristics, knowledge, attitude, and practice towards the COVID-19 vaccine. The association between the 4 sections of the questionnaire was assessed using Chi-square test of proportion.

Results

The study found (64%) of the participants were below the age of 40. The majority (56%) have earned a bachelor's or a higher degree. Ministry of Health official channels was the most important source of COVID-19 vaccine related information reported by (41%) of the participants. In the 'knowledge' section, (45 %) of the respondents had excellent knowledge of the COVID-19 vaccine. In the 'attitude' part, (62%) showed to have a positive attitude towards the vaccine. In the 'practice' section, (78%) of mothers who have children aged between 12 and 18 years, have given their children the COVID-19 vaccine.

Conclusion

Younger age, higher educational level, uptake of the Flu vaccine in the previous 3 years, and adherence to child immunization schedules were all factors that had a significant impact on the KAP of the COVID-19 vaccine. Since higher knowledge had significantly improved the practice, correcting misunderstandings about vaccine safety through educational campaigns and providing timely information through the Ministry of Health channels can all contribute to achieving better practice of up taking the vaccine in this group.





Study Field: Cellular Biology

Study Design: Experimental

Morphological Evaluation of Dermal Fibroblasts Grown on Ultra-Short Self-Assembling Peptide Matrices of Varying Stiffnesses

Ibrahim Omer, Zaina Alabandi, Dana Alhattab, Charlotte Hauser

Background

While firmly affixing the upper epidermis and lower dermis of the skin by providing homeostatic means of ECM formation, dermal fibroblasts (DFs) have been extensively researched for their promising premise in mitigating health concerns on the rise, primarily within areas of tissue integrity. These cells are especially being focused on for their role in the personalized treatment of wound injuries by propagating the proliferation of dermal cells. Meanwhile, self-assembling peptide hydrogels, newly discovered materials that are sought after to provide hydrophilic environments that allow for cellular proliferation and interaction while preventing the dehydration of cells, have emerged.

Methods

Herein, we morphologically assessed the growth and behavior of dermal fibroblasts on naturally-occurring ultra-short self-assembling peptide matrices of varying stiffnesses. Peptides IVZK, LK6, and IK6 were utilized as scaffolds for the accelerated growth of DFs. DFs on top of the hydrogels were assessed based on their ECM structures after actin-f staining was carried out using EMD Millipore Corporation Cytoskeletal Staining Kit. The nuclei of the cells were stained to allow for the selection of individual cells for morphological evaluation.

Results

Images of the cytoskeleton were acquired using fluorescent and confocal microscopes, respectively. The results have shown varied morphological structures exhibited by dermal fibroblast cells in response to the peptide matrices they were seeded upon.

Conclusion

This research has optimized several ultra-short biocompatible, biodegradable, and non-immunogenic peptide matrices based on the morphological assessment of dermal fibroblast cells on the said matrices, further optimizing specific matrices of unprecedented premise for various in vivo applications.





Study Field: Medical Education

Study Design: Mixed-methods

Cultural and Academic Barriers Toward Physician-Scientist (MD-PhD) Careers: A Mixed-Methods Study

Ibrahim Omer, Noorah Abuthiyab, Abdulrahman Bahlq, Ghadeer Khan, Alaa Althubaiti

Background

Research plays a major role in the advancement of society. In Saudi Arabia, there is yet to be a single MD-PhD program established despite calls for its implementation. Herein, we assess student and stakeholder attitudes towards the implementation of such a program.

Methods

A mixed-method design was used. For the quantitative part, a sample of 190 medical students attending 5th and 6th years in medical school completed a pre-validated survey that had addressed procedural, bureaucratic, and environmental challenges to the implementation of an MD-PhD program. In addition, three semi-structured interviews with stakeholders had been carried out to assess responses toward six questions that had also addressed the implementation of an MD-PhD program track.

Results

While the semi-structured interviews resulted in a wide array of responses, most students indicated that limited funding (55.7%) and/or predicted high workload (63.2%) were amongst the most significant hurdles to enrolling in an MD-PhD if offered to do so. In addition, first-generation students (P-value <.001) and female (P-value 0.013) students were less likely to encourage the establishment of such a program.

Conclusion

This study had reported multiple significant barriers to pursuing an MD-PhD track in the Kingdom of Saudi Arabia. The findings of this study reflect the complexity of implementing an MD-PhD program in the country. The findings reported in-here can be useful for concerning bodies to holistically take into account predicted barriers that students may face when establishing an MD-PhD program in Saudi Arabia.





Study Field: Public Health

Study Design: Systematic review

Patient Satisfaction of Primary Healthcare Centers in Saudi Arabia (2010-2022): Insights Based on the Penchansky and Thomas' Theory of Access

Ibrahim Omer, Najla Nassar, Abdulrahman Alharbi, Zahra Alsayed, Reema Abualnaja, Areej Alowfi

Background

The concept of accessibility, despite its wide use within the medical community, has not always been easy to define, and Penchansky and Thomas were the first to define it among a set standard of qualities including availability, accessibility, accommodation, affordability, and acceptability. The main objective of this study was to evaluate the satisfaction of the general public in Saudi Arabia of primary healthcare services according to the Penchansky and Thomas model of access to healthcare

Methods

Eligibility criteria included research focusing on primary health centers in Saudi Arabia that is published between January 2010 and January 2022 and had included Saudi population, whether Saudi or non-Saudi in addition to incorporating any of the Penchansky and Thomas Model of Access' elements. We searched Medline, SCOPUS, and Google Scholar from April, 2022 until May, 2022 for related articles. No restrictions on language were utilized whatsoever. Two independent reviewers carried out the screening process. The Joanna Briggs Institute (JBI) checklist for analytical cross-sectional studies was utilized in this study to assess risk of bias. Two independent reviewers calculated the risk of bias. Results from all included studies were presented in a table after stratifying all questions of the study into the Penchansky and Thomas' elements of Access.

Results

Seven articles met the inclusion criteria. We reported findings in this study according to the Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines. All seven articles had some elements that related to the overall Penchansky and Thomas Model of Access, yet affordability was severely under-reported. While high satisfaction was reported in most of the included articles, it is of note that shortcomings related to Penchansky and Thomas Model of Access to care need to be addressed.

Conclusion

Overall satisfaction rate of primary health care centers reported in most of the literature was high (>80%). Three studies reported dissatisfaction, due to reasons like lack of communication, inconvenient working hours, and incompetence of staff, which represents areas of improvement.





Study Field: Emergency medicine, Cardiology

Study Design: retrospective cohort study

A 3 years retrospective study assessing the quality of the course of management of infective endocarditis in a tertiary hospital in Riyadh, Saudi Arabia

Nejood AlSheikh Ghadah Alghbewi Noof Hakami Soad Aljadaie Fatmah alsohaibani Dr.Mohammed Alsaif Dr Majid Alsalamah

Background

Background Infective endocarditis is one of the most misdiagnosed diseases in Saudi Arabia because of the variable treatment regimen. This study aims to assess the quality of the management of infective endocarditis in a tertiary care teaching hospital.

Methods

A single-center retrospective cohort study, based on electronic medical records extracted from the BestCare electronic medical record system, of all patients presented with infective endocarditis as a final diagnosis from 2016-2019.

Results

Out of a total of 99 patients diagnosed with infective endocarditis, 75% of our patients had blood culture ordered before initiating empirical antibiotic therapy. A positive blood culture was reported in 60% of patients. *Staphylococcus aureus* was the most common organism, identified in 18% of our patients, followed by *Streptococcus viridans* 5%. Empirical antibiotics were initiated in 81% of patients. Proper antibiotic coverage was initiated within a week in 53% of the patients, and another 14% within two weeks. On Echocardiography, 62% of the patients had vegetations that presented in a single valve. The mitral valve had the highest incidence of vegetations (24%) followed by the aortic valve (21%). Follow-up echocardiography was done in 52% of patients. It showed regressed vegetations in 43% of patients, while 9% of patients had no vegetation regression. Valve repair was done in 25% of patients. Out of 99 patients, 47 patients required ICU admission. The mortality rate was 18%.

Conclusion

Overall managements of Infective Endocarditis in the study hospital were appropriate and highly compliant with guidelines with few areas to be improved further. **Keywords:** Infective endocarditis; Management; Antibiotic therapy.





Study Field: Public Health

Study Design: Descriptive cross-sectional study

Healthcare Professionals' Awareness of the Patient Educator's Role in Saudi Arabia.

Asma.H.Almalki, Reema.A.Alsudayri, Shahad.A.Alruwaili

Background

Objectives: 1/ Assess healthcare professionals' awareness of the patient education role in Saudi Arabia. 2/ Identify the association between their level of awareness and different sociodemographic variables in Saudi Arabia. Working in a healthcare setting does not support complete independence. Each speciality depends on the others, and there is no speciality that can work alone; they form one big team. Achieving effective teamwork requires understanding different roles within the team. A health educator's role goes beyond delivering health information to individuals and the public, empowering individuals, shifting society perspectives on health, and improving community health. Health educator's role includes the creation and implementation of programmes that focus on behavioural change and social improvement. A patient educator faces several challenges, such as role ambiguity, role recognition, and role clarification. This study suggests that all these challenges and their consequences stem from a lack of awareness of the role of a patient educator. In general, no previous study has been conducted to assess the awareness of the health educator's role and the magnitude of this problem.

Methods

Methods: The study design was cross-sectional; 387 healthcare professionals in Saudi Arabia were recruited by the researchers through convenience sampling. The researchers collected the data using an online questionnaire, and the analysis was done with the JMP software. The study duration was from January to April 2022.

Results

Results: Approximately 51.59% of the sample demonstrated a satisfactory level of awareness regarding the patient education role, and the other 48.41% showed a fair level. Misconceptions among the participants were common: 53.44% believed patient educators performed wound care, 52.91% that they checked patient vital signs, and 50.26% that they performed physical exams. Awareness levels were associated with gender, profession, job classification, bachelor's degree university, level of education, knowing about patient education and receiving courses on patient education.

Conclusion

There is a need to better inform fellow healthcare professionals about the role of patient educators.





Study Field: Health science

Study Design: Cross sectional

Exploring applied health students' perceptions of volunteering: Cross-sectional study

Shahd Alshehri, Rand Alfaleh, Nouf Alnafisi, Lina Alshehri

Background

Volunteering empowers young adults to contribute to the welfare of their society and reach the renaissance of the nation. Health-related undergraduate students represent a powerful workforce and a huge potential for skilled volunteers. There is a gap in the literature that explored the willingness and perceived perception of volunteering among students from applied medical science specialties, as most of the literature examined this issue among medical students. The aim of this study was, therefore, to determine the frequency of volunteer participation among students from the college of applied medical students and to estimate the impact and perceptions of volunteering.

Methods

A cross-sectional study were carried out among undergraduate students and interns of the College of Applied Medical Sciences at King Saud bin Abdulaziz University in Riyadh from October -November 2022. A validated online questionnaire was distributed among the students from different programs within the college. The survey consists of three main parts. The first one related to the willingness of the students to participate in volunteering activity, the second part was related to the personal perceptions of volunteering, and the last part was related to social gained experience in terms of Social Capital (creation of relationships, building strong bonds, and networking). Appropriate statistical analysis was applied to the data.

Results

Total of 49 respondents were included in this analysis. The majority of respondents were female (n=45,91%) and (41%) were fourth years students. 18 (36%) students volunteered at least twice during the last two years. The majority of the students reported that they volunteered at a healthcare facility or educational institution, in which 18% reported that they volunteered on average from 2-4 days per week. The primary reasons for volunteering was reported as gain experience, followed by a sense of duty and responsibility (16%,11%, respectively). The total mean score of personal perceptions of volunteering was 3.0 (SD =0.51), indicating a good perception after volunteering, while the total mean social capital score was 2 (SD = 0.43), indicating a perceived increase in social-related activity after volunteering by the study participants. There was no statistical difference in the overall mean score with the year of study of the participants (p-value=0.742)

Conclusion

Although the study finding indicated a good perceived personal and social perception of volunteering, still, there is a need to enhance the willingness of undergraduate applied medical students to volunteer. This can be achieved through training and integration of volunteering with the education curriculum.





Study Field: clinical field

Study Design: A Multicenter, Cohort Study

The Use of Tocilizumab in COVID-19 Critically ill Patients with Renal Impairment: A Multicenter, Cohort Study

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Background

Tocilizumab (TCZ) is recommended by the Covid-19 guideline to be used in hospitalized patients who require oxygen therapy or ventilatory support. Despite the wide use of TCZ little is known about its safety and effectiveness in patients with renal impairment. Therefore, this study aims to identify the safety and efficacy of tocilizumab in critically ill COVID-19 patients with renal impairment and renal replacement therapy.

Methods

A multicenter retrospective cohort study that included all adult COVID-19 patients with CKD eGFR<60 and admitted to the ICUs between March 2020 and July 2021. Patients were categorized into two sub-cohorts based on Tocilizumab use (Tocilizumab versus Control). The primary endpoint was to assess the development of AKI during ICU stay. Secondary outcomes were hospital LOS, ventilator-free days (VFDs), 30-day/in-hospital mortality and ICU-acquired complications. Propensity score (PS) matching (1:1) was used based on the predefined criteria. Multivariable logistic, Cox proportional hazards, and negative binomial regression analysis were employed.

Results

A total of 1592 patients were screened and 524 were included based on the eligibility criteria; 274 patients were included after propensity score matching based on the selected criteria. The rate of acute kidney injury was higher in the TCZ group compared to control group (74.2% vs 57.6%) beta coefficient ((95%CI): 2.03 (1.102 ,3.725), p-value=0.02). In addition, ICU length of stay was significantly longer in TCZ vs control group (16 vs 12) days beta coefficient ((95%CI):0.22 (0.02 ,0.42), p-value=0.028). However, the ventilator-free days, 30-day mortality, in-hospital mortality, hospital LOS, ICU complications respiratory failure requiring MV, new onset A fib and liver injury were similar between the two groups.

Conclusion

In critically ill COVID-19 patients with CKD the use of TCZ is associated with a higher incidence of AKI and increased ICU length of stay. Further studies are needed to confirm these findings.





Study Field: Cardiology

Study Design: Case Report

Refractory Salmonella Prosthetic Valve Endocarditis Complicated by Splenic Infarction and Aortic Pseudoaneurysm in a Patient with Double Prosthetic Valves: A Case Report

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Background

Endocarditis is an extremely rare complication of Salmonellosis with an incidence of 0.2-0.4%. It is a destructive and invasive infection that follows a highly complicated course and carries a high mortality rate that exceeds 45%. Multiple predisposing factors for Salmonella endocarditis have been described in the literature, including human immunodeficiency virus infection, congenital heart diseases, and the presence of a prosthetic valve. Herein, we report a case of Salmonella prosthetic valve endocarditis complicated by splenic infarction and aortic pseudoaneurysm presenting as a month-long history of fluctuating fever, chills, and rigors, accompanied by occasional cough and shortness of breath in a 55-year-old female with aortic and mitral valves replacement and multiple comorbidities. She was diagnosed by multiple radiographic studies and successfully treated with the Commando procedure and a long course of IV antibiotics.

Methods

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Results

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Conclusion

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Study Field: dermatology, occupational health

Study Design: a cross-sectional study

Occupational-Related Contact Dermatitis: Prevalence and Risk Factors Among Healthcare Workers in the Al'Qassim Region, Saudi Arabia During the COVID-19 Pandemic.

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Background

Coronavirus disease 2019 was detected in December 2019 in Wuhan, China. Appropriate use of personal protective equipment, personal hygiene, and social distancing reduce the transmission rate. Frequent handwashing and prolonged use of personal protective equipment were observed among the healthcare workers. Consequently, many skin diseases have emerged. Also, many patients have complained about the worsening of their pre-existing skin conditions. Being a healthcare worker poses a high risk of developing occupational-related skin diseases. Studies have shown that prolonged wearing of face mask, Latex gloves, and excessive handwashing by detergents can cause contact dermatitis. Scientists believe that the dermatologic manifestations in the COVID-19 infection are due to the hyperhydration effect of PPE, skin friction, epidermal barrier disruption, and contact reactions. Occupational skin disease is considered the second most common occupational disease. international studies reported the prevalence of occupational skin disease in healthcare workers between 17 and 55%. Consequently, we conducted a cross-sectional study to estimate the prevalence and investigate the risk factors for occupational-related contact dermatitis among the healthcare providers in Al'Qassim region, Saudi Arabia, during the COVID-19 pandemic.

Methods

We conducted a cross-sectional survey among health care workers at hospitals in the Al'Qassim region. Data was collected using a standardized, validated Nordic Occupational Skin Questionnaire version 2002. We included 408 participants in the analysis.

Results

The majority of the respondents 66.7% were female. The mean age was 34 (SD±9) years. Most of participants who reported contact dermatitis were nurses 58.6%. Direct patient care roles represent 78%. Forty to fifty hours per week represent 61.5%. The highest symptoms indicated were dryness 92.9%, itchiness 50%, and redness 46.4%. The most affected site were hands 93.5%. Hand cleanser was the commonest workplace thing that worsen the skin changes 59.2%. Protective gloves material that worsen contact dermatitis natural rubber/latex represent 76%. Significant association was seen in the occurrence of contact dermatitis in those with allergic eye symptoms history 33.3%, and those without 58% (p .001). Participants in the mean age 26.47 years were more likely to develop contact dermatitis (1.19-7.06), (p 0.067). Pharmacists, and interns had 3.69, and 4.90 times higher odds to have contact dermatitis (0.95-7.33), (22.1), (p 0.027; p 0.038), respectively. Those with patient education, and research activity roles at work were 6.48 (p 0.017), and 20.51 (p 0.024) times likely to develop contact dermatitis (1.38-30.31), (1.49-382.15), respectively.

Conclusion

we explored the prevalence and risk factors for occupational contact dermatitis among healthcare workers in Saudi Arabia. The prevalence of reported skin changes during the pandemic was 46.4%.





Study Field: Respiratory therapy and public health

Study Design: Qualitative Study

Perspectives of Smoking Among Saudi Female Smokers: A Qualitative Study

Abdullah M.M. Alanazi, Arena S. Aladdad, Rimas M. Alotaibi, Hana A. Alshibel

Background

The national prevalence of smoking among Saudi females is increasing in the last decade from 1% in 2013 to 1.6% in 2018 and 2.5% in 2019. Indeed, the prevalence of smoking among females is perceived as under-representative due to the lack of smoking behavior disclosure, cultural pressure, and feeling ashamed. Despite of the previous factors, the government of Saudi Arabia has allocated several policies and treatment services to help smokers quit. However, females remain disadvantageous population with respect to smoking behavior and it is not clear how Saudi female smokers perceive the policies and treatment services related to smoking cessation and what cultural factors predispose Saudi female smokers to initiate and quit smoking.

Methods

In a qualitative study, we conducted in-depth interviews with 15 Saudi females who smoke cigarettes and/or hookah. The interview was done through a phone call with audiotaping. The interview was constructed around three sections related to tobacco policy, treatment services related to smoking cessation, and cultural factors related to smoking behavior among Saudi females.

Results

Most of the participants revealed that the policies related to tobacco control were vague and perceived as not effective. Moreover, they suggested other policies such as banning smoking from public places as they believe it will be beneficial and effective. Self-motivation was the main drive to quit smoking without any aided treatment from healthcare facilities. Peer influence is recorded to be the main reason behind starting smoking. However, the reasons behind continuing smoking varied across participants; one of them was the societal change and acceptance of female smoking behavior. Lastly, vaping e-cigarettes was reported as an alternative method among females to avoid the negative consequences of smoking and to quit tobacco cigarettes and hookah.

Conclusion

This study is one of the first to investigate the perspectives of smoking among Saudi females from tobacco control policies, treatment services related to smoking cessation, and cultural factors that influenced smoking behavior. The study findings emphasized on engaging females into policy legislation and implementation, promote smoking cessation services among females, optimize awareness related to women health and smoking that are tailored to females.





Study Field: Dermatology

Study Design: Descriptive, observational, retrospective, cross-sectional study.

The pH value of different hand-wash products offered to consumers in Riyadh, Saudi Arabia and the effect of various environmental factors on these products: A cross-sectional study

Lama Alzamil, Abdulaziz Alsalhi, Khalid Alekrish, Hamad Alsalhi, Renad Alhaqbani, Renad AlKanaan, Amal Al-Mohaimeed, Nada Almohawis, Hadeel Mitwalli

Background

The human skin serves as the immune system's first line of defense and forms a barrier against external pathogens. It is well established in the medical literature that the normal potential of Hydrogen (pH) of the skin ranges from 4 to 6.1,2 This physiologically acidic pH carries a pivotal role in maintaining the epidermal barrier. The epidermal barrier can be compromised by alkaline hand-wash products (HWP), which are used daily by many individuals, especially following the coronavirus disease 2019 pandemic. Consequently, the findings of this study might benefit a large portion of the population in terms of characteristics of skin-friendly HWP.

Methods

This is a descriptive, observational, retrospective cross-sectional study. A sample of HWPs of different brands were collected from the local shops across Riyadh, Saudi Arabia. A total of 33 samples of liquid soaps, soap bars, and synthetic detergents (Syndets) were included for testing. The soap and syndet bar samples were grated into one gram powder. Each sample was then mixed with 100 ml of distilled water, and the outcome was a mixture at 1% concentration. Liquid soap samples of one milliliter were also mixed with 100 ml of distilled water to reach a 1% concentration. The samples' pH was measured using STARTER 2100, OHAUS® pH-meter (OHAUS® Corporation, USA). The pH meter was calibrated with buffer solutions at pH=4, pH=7, and pH=9. Furthermore, a new set of samples were used to test HWP pH changes when exposed to direct sunlight for two weeks, hot water of 60 °C, and tap water of varying pH values.

Results

Most HWPs 16 (48.5%) had a highly alkaline pH value of ≥ 10 . On the other hand, 14 (42.4%) HWPs had an acidic pH ranging from 4.0-6.9. Most liquid soaps were acidic (84.6%), with a mean pH of 5.9. In contrast, the mean pH of soap bars was 10.3. Syndets can be either neutral or acidic, with a mean pH of 6.0. Heating the sample in a plate at 60 °C resulted in an average pH drop of .46 in most of the samples. Exposure to direct sunlight and tap water of different pH values resulted in no significant change in the pH of HWPs.

Conclusion

Most of the HWPs sold in the market are of an alkaline nature; therefore, consumers should read the label carefully before making a purchase, particularly those with dermatoses affected by harsh soaps. In most instances, consumers should opt for liquid soaps or syndets rather than soap bars since the pH values of the former were closer to the skin's pH. Environmental factors such as heat and the pH of tap water may not alter HWPs' pH to a significant level.





Study Field: Dermatology

Study Design: Case report

Granulomatous slack skin of the thigh developing since childhood: A case report

Hadeel Mitwalli, Abdulaziz Alsalhi, Lama Alzamil, Khalid Alekrish

Background

Granulomatous Slack Skin (GSS) is an exceedingly uncommon variant of Mycosis Fungoides (MF), that manifests as an indurated pendulous plaque commonly affecting the skin folds. The mean age of those afflicted is 37 years. The association between GSS and Classic Hodgkin Lymphoma (CHL) is well-established in the literature. Herein, we describe a case of a 33-year-old female with GSS developing over the thigh since the age of seven.

Methods

This is a case of a 33-year-old female who was admitted to our hospital for the treatment of CHL. She had an incidental finding of a neglected chronic disfiguring thigh lesion that was first noted at the age of seven. Over time, this lesion grew larger and never subsided. Physical examination revealed a solitary, well-demarcated, atrophic, and pendulous-like, brown plaque associated with marked tissue laxity over the medial aspect of the right thigh (Fig 1). Histopathological analysis revealed a dense atypical lymphocytic infiltration in the epidermis and papillary dermis with multinucleated giant cells engulfing atypical lymphocytes (Fig. 2A). Elastic Verhoeff-Van Gieson stain showed elastophagocytosis (Fig. 2B). Based on the clinical manifestations, and the histopathological findings, the diagnosis of granulomatous slack skin subtype of mycosis fungoides was made.

Results

GSS patients usually have no symptoms other than the disfiguring nature of the lesion. The lesion arises as an infiltrating, dark-brown plaque with an atrophic, violet core. The skin sags and becomes pendular years after the plaque first appears.

Conclusion

GSS is an exceptionally uncommon disorder. Elastophagocytosis is a histological abnormality that manifests clinically as loose skin, resulting in the skin's typical pendulous-like appearance. Early detection of GSS may prompt screening for an underlying, associated CHL.





Study Field: oral medicine , forensic odontology

Study Design: cross-sectional

A Questionnaire-Based Study to Assess Knowledge and Awareness Regarding Cheiloscopy as a Forensic Odontology Diagnostic Tool Among Dental Professionals

Sahar Zabin Alotaibi,Maha Dafer Alamri,Reem Ali Alshahrani,and Abdulrahman Ibrahim Almujailli

Background

The lips are covered with grooves and wrinkles, which form a characteristic pattern called a "lip print. The study of lip prints is called cheiloscopy. Searching for lip prints in the crime scene investigation helps in personnel identification and establishment of the true nature of the crime

Methods

This cross-sectional observational, descriptive, survey-based study was conducted among 320 dental professionals, which included undergraduates, graduates, postgraduate dental students, and general dental practitioners aged between 18 and 32 years. A self-administered structured questionnaire written in English and Arabic was distributed to all willing participants. The questionnaire included knowledge and awareness-based questions along with demographic details of the participants. The Chi-square and Fisher's exact tests were applied to find out the association between the characteristics of the study participants and their knowledge and awareness of forensic odontology. A p-value of 0.05 was considered significant for all the statistical tests using IBM Corp. Released 2017. IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.

Results

A total of 320 dental professionals completed the survey. The majority of participants (55.3%) were males (and 14.4% were females) between the ages of 23 and 27. Most of the participants were general dental practitioners (36.9%), followed by undergraduates (26.3%), graduates (8.8%), and postgraduates (18.1%). Cheiloscopy, the study of lip prints, was known to 36.6% of the participants. Whereas the majority of the participants (63.4%) were not aware of it. Postgraduate (46.7%) students had more knowledge as compared to undergraduates, graduates, and general dental practitioners. About 81.6% of the participants were not aware of the classification of lip prints by Tsuchihashi and Suzuki.

Conclusion

Overall, there was a lack of knowledge and awareness of cheiloscopy among all study participants, although they had good knowledge of forensic odontology. Compared to undergraduates and graduates, postgraduate dentistry students showed a greater level of cheiloscopy knowledge and awareness. Comparatively to students, general dentists, however, lacked understanding and awareness of cheiloscopy. This condition, however, can be improved if necessary steps are taken to make forensic odontology a part of the dental curriculum in Saudi Arabia.





Study Field: Pediatric Urology

Study Design: Case Report

Laparoscopic management of ventriculoperitoneal shunt extrusion through urethra in an infant: Case report and review of literature

Tala Alalula, Abdullah Alaqeel, Fayez Almodhen, and Wael Moneir

Background

Ventriculoperitoneal (VP) shunting is a well-established procedure for the management of hydrocephalus. Its complications might include distal migration of the shunt and organ perforation. However, bladder perforation and subsequent extrusion of the shunt per the urethra is a rare complication.

Methods

A 7-months-old preterm girl presented to our Emergency Department when her mother noted a tip of a plastic tube protruding through her urethra. The patient was a known case of obstructive hydrocephalus secondary to intraventricular hemorrhage managed previously by insertion of two VP shunts. Upon examination, the patient was hemodynamically stable, but she became hypoactive with a depressed anterior fontanel soon after her presentation. Her laboratory investigations revealed a normal renal profile, complete blood, and differential counts. Furthermore, a shunt survey X-ray, and brain CT were obtained. These studies have demonstrated that the peritoneal end of the right VP shunt was traversing through the abdomen, and outside the pelvis, likely through the urethra. Moreover, the brain CT confirmed the presence of a large subdural collection. The culture obtained from the tip of the catheter showed <15 colony-forming units of gram-positive bacteria. Based on the sudden deterioration of her clinical status and the presence of the large subdural collection on the CT brain, VP shunt malfunction due to obstructed shunt was suggested. Thus, the neurosurgery team decided to remove the malfunctioning VP shunt and to place a temporary external ventricular drain. Considering the urological intervention, we utilized a laparoscopic approach that revealed the right VP shunt penetrating the bladder's dome. The decision was made to cut the shunt tube, the proximal end was removed by the neurosurgical team, while the distal end was pulled-out through the urethral meatus. The bladder dome's small perforation was primarily repaired using absorbable sutures. Finally, an 8-French Foley's catheter was inserted. The patient had a new VP shunt inserted 5-days after the first procedure. The urethral catheter was removed 8-days after the first procedure, and she was discharged home in a good condition.

Results

Discussion: The bladder being the site of perforation is rare. This has multiple reasons, including the location of the bladder, which is extraperitoneal, while the VP shunt's distal catheter is placed intraperitoneally. In literature, only 13 cases were reported with VP shunts perforating the bladder, 4 of which occurred in pediatric females. The surgical approaches previously used included endourological procedure and major open surgery. In one report, the approach was to explore the site of migration endoscopically per the urethra, this revealed the shunt penetrating above the trigonal area and the patient was treated conservatively by placing a urethral catheter and allowing the bladder to heal. In another case, the selected approach involved an emergent extraperitoneal exploration through a minimal open surgery which displayed the VP shunt penetrating the dome of the bladder. In our case, which is the utmost minimally invasive method, we used a laparoscopic approach. The laparoscopic method allowed the primary closure of the bladder defect, shorter hospital stay, less postoperative pain, and smaller scars that heal faster.

Conclusion

Ventriculoperitoneal shunt extrusion through the urethra is an extremely rare complication, high level of suspicion and increased family awareness are needed. In such events, laparoscopic management provides an excellent modality for management, it allows definitive management of the bladder and suits the patient's perspectives.

