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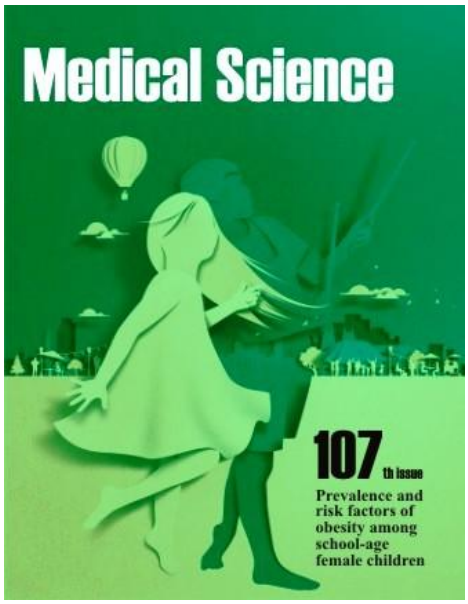
Medical Science

# About the Cover




*Objectives*: To assess the prevalence and associated risk factors of obesity among school-aged female children in the Ha'il region, Saudi Arabia. *Methods*: A total of 549 female students (age 8.9 ± 1.9) participated in this study. The sample was recruited from different primary schools. Students were required to answer questions about their feeding habits and activity level. Anthropometric measures of obesity were measured using a stadiometer, plastic measuring tape, and plastic skinfold caliper. *Results*: 155 out of the 549 female students aged 7-12 years were classified as obese based on their BMI values with an overall prevalence of obesity was 27%. Using the BMI as an indicator, the results revealed a significant ($p$=0.03) correlation ($\varphi_c$=0.1) between the consumption of chocolate and sweets and obesity. Consuming fast food and soft drinks exhibited high odds ratio despite having an insignificant correlation (OR= 1.53, 1.04) respectively. There was a significant correlation between watching TV while eating, fast-food consumption ($r_{pb}$ = .11, .20, p <.05), and waist girth. There was a significant negative correlations between soft drink consumption and waist-hip ratio ($r_{pb}$ = -.10, $p$ = .03); both sweets consumption and activity level were correlated ($r_{pb}$ = -.12, -.16 & p <.00) with the thickness of the abdominal skinfold. *Conclusion*: One out of each three female children attending primary school was obese. Unhealthy dietary habits were associated with obesity among school-age female students. (Ref: Hisham M Hussein, Ali A Almishaal, Saud M Alrawaili, Ahmed A Ahmed, Ehab M Kamel. Prevalence and risk factors of obesity among school-age female children in Ha'il, Saudi Arabia. *Medical Science*, 2021, 25(107), 7-15); (*Image source*: i.pinimg.com).

ANALYSIS

**Factors associated with long bone fracture healing complications (delayed union, nonunion and malunions) in Arar, Saudi Arabia: A case control study**

Basem M M Salama, Awwad Alenezy, Majed Alrowaili

*Background:* Bone fractures are the commonest cause of hospitalized trauma. Fracture healing complications (FHC) is frequently associated pain, restricts the patient's activities, increases dependency and financial burden. This study aimed to identify factors which can affect fracture healing. *Subject and methods*: A nested case-cohort hospital-based study conducted patients (above the age 20 years) who were treated for acute fractures of long bones. 31 patients diagnosed with FHC (delayed union fracture) were chosen as cases and 124 Patients with normal fracture healing were included as controls. *Results*: By logistic regression analysis, smoking, age of the patient, gender, open fracture and diabetes were found to be independently associated with FHC. *Conclusion:* Smoking, age of the patient, gender; open fracture and diabetes were found to be the important risk factors of FHC.

*Medical Science,* 2021, 25(107), 1-6

RESEARCH

**Prevalence and risk factors of obesity among school-age female children in Ha'il, Saudi Arabia**

Hisham M Hussein, Ali A Almishaal, Saud M Alrawaili, Ahmed A Ahmed, Ehab M Kamel

*Objectives*: To assess the prevalence and associated risk factors of obesity among school-aged female children in the Ha'il region, Saudi Arabia. *Methods*: A total of 549 female students (age 8.9 ± 1.9) participated in this study. The sample was recruited from different primary schools. Students were required to answer questions about their feeding habits and activity level. Anthropometric measures of obesity were measured using a stadiometer, plastic measuring tape, and plastic skinfold caliper. *Results*: 155 out of the 549 female students aged 7-12 years were classified as obese based on their BMI values with an overall prevalence of obesity was 27%. Using the BMI as an indicator, the results revealed a significant ($p$=0.03) correlation ($\varphi_c$=0.1) between the consumption of chocolate and sweets and obesity. Consuming fast food and soft drinks exhibited high odds ratio despite having an insignificant correlation (OR= 1.53, 1.04) respectively. There was a significant correlation between watching TV while eating, fast-food consumption ($r_{pb}$ = .11, .20, p <.05), and waist girth. There was a significant negative correlations between soft drink consumption and waist-hip ratio ($r_{pb}$ = -.10, $p$ = .03); both sweets consumption and activity level were correlated ($r_{pb}$ = -.12, -.16 & p <.00) with the thickness of the abdominal skinfold. *Conclusion*: One out of each three female children attending primary school was obese. Unhealthy dietary habits were associated with obesity among school-age female students.

*Medical Science,* 2021, 25(107), 7-15

ANALYSIS

**Lack of correlation between vitamin D and alkaline phosphatase levels among Saudi population**

Mohammed H Karrar Alsharif, Mohammed A. Noureddin, Mohammed N M Alharbi, Faisal S F Alharbi, Abdullah T Alhaddad, Salman S Bin Ofisan, Nasser I Alshumaymiri, Rasheed A Alhajri, Abdulmajeed A Alhussain

*Objective:* The present study evaluated the correlation between Vitamin D and Alkaline phosphatase levels among the Saudi population. *Methods:* Blood samples of patients with a complaint of pain in various body parts and other clinical symptoms of Vitamin D deficiency were tested for the levels of Vitamin D and ALP. The analyzes were carried out using SPSS version 20.0 software. *Results:* Vitamin D and ALP levels of 460 patients were analyzed. The mean levels of Vitamin-D and ALP were found to be 22.03±13.5 and 89.02±44.9. About 356 patients (77.4%) out of 460 had Vit-D deficiency, whereas 421 patients (91.5%) out of 460 had ALP at normal ranges. From the analysis based on the nationality, Saudi 223 patients out of 280 showed vitamin D deficiency and 257 patients out of 280 had normal ALP levels. No correlation between serum ALP and vitamin D levels was observed (r = 0.05, p = 0.2). *Conclusion:* serum alkaline phosphatase cannot be considered as a useful marker to represent the Vitamin D deficiency among the population.

*Medical Science,* 2021, 25(107), 16-25

**Adenocarcinoma of the cervix uteri; does it really carry a worse prognosis? A single institutional review from Egypt**

Hala Aziz Shokralla, Ahmed Elsayed Fathalla

*Background:* Cervical uteri carcinoma is 4$^{th}$ commonest cancer affecting women worldwide. Its incidence is increasing in developing countries being 2$^{nd}$ commonest cancer & 3$^{rd}$ cause of cancer mortality. Although incidence of squamous cell carcinoma (SCC) is declining in developed areas, adenocarcinoma (AC) is proportionally rising despite effective screening. AC cases are younger, usually whites, diagnosed early with frequent nodal disease. Prognostic parameters for AC include; stage, age, depth of invasion, treatment given, DNA ploidy, S-phase fraction, architectural & nuclear grading, involved LNs and repeated HPV infection especially 16, 18 & 45. Early disease is frequently asymptomatic with nonspecific presentations usually mistaken for simple cervicitis. With disease progression; pelvic or lower back pain, GIT or urinary symptoms appears. Treatment is tailored according to stage, age & PS. Early cases are treated either with surgery or concurrent chemo-radiation (CCRT). *Aims:* to study clinicopathological features of all cases of

AC of the cervical uteri, diagnostic tools, management protocols & outcome. *Materials & Methods*: A single institution prospective analysis of all cases presented to NCI-Cairo University with AC of the cervix uteri candidate for surgery over a period of 4 years from October 2015 to October 2019. 37 cases were included. Data collected from patients archives then analyzed. *Results:* Mean age was 54 years ranging (15-80 year). 36 cases were married (~97%). Vaginal bleeding encountered in (33 cases, ~89%). 22 cases (~59%) were post-menopausal. Three cases had positive family history in three cases (~8%). Punch biopsy was done for (26 cases, ~70%). 17 cases (~46%) performed CT only as diagnostic tool. Mucinous subtype occurred in (21 cases, ~ 57%). Grade II found in (14 cases, ~38%). Stage II-b predominated (11cases, ~30%). Preoperative treatment was given to (28 cases, ~ 76%). Surgery was done for (23 cases, ~62%) via open approach (18 cases, ~49%), robotic radical hysterectomy for (2 cases, ~5%) only while (3 cases, ~8%) underwent anterior pelvic exenteration. Postoperative stay ranged (5-32 days) with median 11 days. Commonest complication was surgical site infection (SSI) (13 cases, ~35%). 5 cases (13.5%) showed positive surgical margins. Positive pathological LNs after resection was found in (6 cases, ~16%) while no residual pathology was found in only 2 cases. Adjuvant treatment was needed in (14 cases, ~38%). *Conclusion*: AC patients experienced worse overall survival & disease-free survival than their counterpart SCC regardless treatment with RT or CCRT. Surgery is the primary treatment only for very early stages (I-a). In advanced tumors neoadjuvant or definitive CCRT is the role saving surgery for salvage. Fast recovery with early discharge & less complication are noticed with minimally invasive techniques. Novel protocols should be introduced to improve outcomes of locally advanced & metastatic patients.

*Medical Science,* 2021, 25(107), 26-35

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**Healthcare workers knowledge and perception of the preventive measures amid current Covid-19 pandemic: An experience from central Saudi Arabian district**

Ashraf E Saad, Al Wasila T Al Natig, Hassan M Aldossary, Hani M Alkhalaf, Bashir Ighile, Majed Kh Al Harthi, Raouf M Afifi

*Aim*: Study knowledge and perception of COVID-19 prevention and control (IPC) measures of healthcare workers (HCWs) of Armed Forced Hospital, Wadi Al Dawasir (AFHWD), Saudi Arabia. *Methods*: All HCWs were invited June, 2020; a pre-validated questionnaire used. *Results*: Out of 103 participants, 40 (38.9%) were physicians, 33 (32.0%) nurses, 30 (29.1%) other HCWs; mean age 39.4±9.5y. The mean score for COVID-19 knowledge surpassed the cutoff (25.1 vs. 22.4, p<0.001); contrary to COVID-19 IPC measures' (33.4 vs. 36.4; p=0.01). COVID-19 "all-knowledge" mean score (58.5) equated the cutoff (58.8) (p=0.89); same as IPC measures perception mean score's (80.8 vs. 81.2, p = 0.8). An overall mean score (139.5) achieved equated the cutoff (140), (p = 0.83). Physicians and nurses achieved mean COVID-19 IPC knowledge scores (35.8, 34.9) higher than other professions' (p<0.001). Physicians referred to reliable COVID-19 sources more frequently (aOR 4.1, 95%CI 2.1 – 11.7). *Conclusion*: The HCW levels of knowledge and perception toward COVID-19 measures were satisfactory. Awareness of some specific COVID-19 IPC measures needs to be enhanced. Findings help update COVID-19 preventive policy; raising the HCWs' COVID-19 nosocomial transmission preventive skills.

*Medical Science,* 2021, 25(107), 36-45

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**Prevalence of psychological stress and adopted coping strategies among healthcare workers in King Saud medical city (KSMC)**

Mohammed S. Binnwejim, Atheer S. Alhumade

*Aim*: The present study aims at investigating the level of stress among Saudi healthcare workers during COVID-19 pandemic. In addition, the present study sought to identify the coping strategies adopted by Saudi healthcare workers to alleviate the stress related to COVID-19 pandemic. *Method*: A descriptive cross-sectional study was performed in the period between September and November/2020. A sample of 381 healthcare workers (Physicians, nurses, and technicians) were recruited from King Saud Medical City (KSMC). Both Perceived Stress Scale-4 (PSS-4) and BRIEF-COPE scale were used to assess the levels of stress and the stress coping strategies, respectively. Descriptive statistics were used to analyze the healthcare workers' responses about the COVID-19 related stress and their adopted coping strategies. *Results*: The results of the study showed that there was a moderate to high level of COVID-19 related stress (11.64±0.73) among the Saudi healthcare workers. In addition, it was found that planning (3.89±0.61), positive reframing (3.69±0.77), venting (3.39±1.01), and emotional support (3.27± 0.63) were the most adopted coping strategies by the healthcare workers to overcome and reduce the stress levels. *Conclusion*: The study concluded that both problem-focused and emotion-focused stress coping strategies were the most commonly adopted coping strategies among Saudi healthcare workers in KSMC. The study recommends increasing the number of the healthcare workers in the KSMC, in addition to increasing the healthcare workers' knowledge, awareness and practice of the stress coping strategies, especially in crisis events, such as COVID-19 pandemic.

*Medical Science,* 2021, 25(107), 46-56

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**Borderline forms of mental retardation in pre-pubertal children living in an iodine-deficient region**

Tamila Sorokman, Marina Bachu, Iryna Sokolnyk, Nataliya Popelyuk, Leonid Shvygar

*Introduction*: Almost a third of the world's population lives in conditions of chronic iodine deficiency, which causes the development of iodine deficiency diseases. The degree of iodine deficiency determines not only the severity of the goiter endemic, but also the increase in various disorders of somatic, mental and reproductive health. Iodine deficiency is the most common cause of mental retardation in children. This problem is especially acute for Ukraine, as almost its entire territory is considered iodine deficient. The purpose of the study is to determine the level of formation of intellectual functions of children from iodine deficiency regions.

*Methods*: During 2010-2019 years, studies were conducted (questionnaires, ultrasound and hormonal examination of the thyroid gland, assessment of mental development) of 1973 children aged 7-18 during expeditions to various geographical areas of Chernivtsi region. *Results*: According to WHO criteria, Chernivtsi region meets the average (mountain zone) and mild (plain zone and Chernivtsi) degree of iodine deficiency. The concentration of iodine in the urine ranged from 17.7 μg/l to 156 μg/l. Signs of laboratory hypothyroidism were found in 11.27% of children. According to the results of the study, a decrease in the level of formation of intellectual functions (memory impairment, fine motor skills, reading speed, accuracy and productivity, instability of attention, decreased ability to concentrate) with increasing iodine deficiency. *Conclusion*: With a decrease in mental abilities in children, there is even a mild and moderate iodine deficiency, which is manifested by borderline forms of intellectual retardation. The most pronounced deviations are registered in children with subclinical hypothyroidism, which reduces their mental capacity.

*Medical Science,* 2021, 25(107), 57-66

**Prevalence of nocturnal enuresis among children in eastern region in Saudi Arabia**

Elham Alhifthy, Hussain Alghadeer, Tawfiq Aljubran, Hassan Alsahaf, Maryam Aljumah, Sawsan Alherz, Mohammed Ali Al Hewishel

*Background*: Nocturnal enuresis can be defined as the inability to control urination and involuntary urination during sleep. Enuresis is a very common medical problem among young children. Enuresis is classified into different categories depending on the onset of the problem. It is not a condition that families should be afraid of, but we have to be aware of the impact that it can cause to the family and the child. We have also to be aware of the co-morbidities that can be associated with NE. *Purpose*: This study aims to estimate the prevalence and associated risk factors of nocturnal enuresis among children in eastern region in Saudi Arabia. *Material and methods*: This is a cross sectional study targeting parents and caregivers of children between 5-18 years old in the eastern region of Saudi Arabia. An online questionnaire which contains an informed consent has been used to collect the data. And the analysis was done using the SPSS program (statistical package for the social sciences) version. *Results:* The prevalence of NE was found to be around 48% in children between the age of 5-18 years old in the eastern region of Saudi Arabia. Prevalence of NE was reduced with increasing age but it was not significant statistically, also there was no significant difference between genders. The number of episodes was found to be 2-4 times weekly in Forty six percent of children, and (33.6%) had daily bed wetting. Most the children with NE had it only at nighttime (69.7%) and (30.3%) reported NE anytime during sleep. The majority of respondents who have a child with NE didn't make the choice to treat their child (59%). *Conclusion*: The study showed that almost half of the participants complaining of NE. with no significant association between NE and gender or sociodemographic status. Medical intervention was not the choice of most families participating in the study. Still there is no enough information about the causes and risk factors of NE so further researches needs to be done.

*Medical Science,* 2021, 25(107), 67-75

RESEARCH

**Incidental findings during degenerative intervertebral disc disease evaluation at magnetic resonance imaging of the lumbar spine**

Ziyad A Almushayti, Fahad M Alshehri, Hassan A Alwadaani, Bayan S Alsaqaby, Waad F Almutairi, Anas W Shuwail, Nouf S Almutairi

*Objective*: To assess the incidence and kinds of incidental findings of the lumbar spine during Magnetic Resonance Imaging (MRI) evaluation for degenerative intervertebral disc disease in Qassim region, Saudi Arabia. *Methods*: This cross sectional study included a total of 2646 patients (male-to-female ratio, 1836:810; age range, 21–73 years) with clinically suspected intervertebral disc degeneration who underwent MRI of the lumbar spine and evaluated by the consultant radiologists for the presence of any incidental findings such as hemangioma, Tarlov, lumbosacral transitional vertebrae, and spina bifida occulta. The analysis was carried out using the chi-square test. *Results*: A total of 1134 patients (42.8 %) had incidental findings. Hemangioma was the most common finding accounting for 20.4% of cases, followed by Tarlov cyst and lumbosacral transitional vertebra were about 8.16%. Lastly, 6.1% of cases gave an incident for spina bifida occulta. Hemangioma, Tarlov cyst, and spina bifida occulta were more common among females. At the same time, the lumbosacral transitional vertebrae were more in males. The current study demonstrated that the incidental findings became more frequent within middle age (36–50 years). *Conclusion*: incidental findings are mostly benign lesions found at lumbar spine MRI during degenerative intervertebral disc disease evaluation. Some of them have association with gender. The majority of the incidental findings in our study were observed in the 3rd, 4th and 5th decades of life. Discovery of the incidental findings at lumbar spine MRI helps diagnose lesions not related to the presumed disease.

*Medical Science,* 2021, 25(107), 76-81

ANALYSIS

**Planned domiciliary versus hospital care for women with Preterm Prelabour Rupture of the Membranes (PPROM)**

Ahmed M Selim, Ahmed S Farag, Shereif Mohammed Abd El Hameed, Mohamed Hamed Abd El-Aziz Salama

*Background*: PPROM is encountered in 2.0% to 3.5% of pregnancies. Domiciliary care management is developing more and more in obstetrics for the psychological and financial burden of hospital care management to the patient but unfortunately, there were

insufficient studies for reliable discharge criteria for the patient with PPROM. *Objective*: To compare efficacy & safety of planned domiciliary versus hospital care for women with PPROM on the fetal, neonatal, and maternal outcome. *Design*: The current study was conducted at Ain Shams University Maternity Hospital. A total of 4700 pregnant women were recruited from the outpatient clinic & emergency room and 3662 women were included in the study. *Patient and methods*: They were divided into two groups according to their preference; group (D) was counseled for domiciliary care, while group (H) was hospitalized. Take-home baby was assessed as a primary outcome and other maternal, fetal, and neonatal complications were recorded, moreover, latency period and mode of delivery were assessed. *Results:* When the two groups were compared, the number of take-home babies among the domiciliary group was 1726 (94.3%) while the number of take-home babies among the hospital group was 1681 (91.8%) representing that the number of take-home babies was significantly more frequent among the domiciliary group and there were also significant differences between the two groups as regard maternal and fetal outcomes in favor of the domiciliary management. *Conclusions*: We concluded that both types of care; domiciliary and hospital care can be applied safely after PPROM. The results of our study are assumed to have profound cost-saving effects in favor of domiciliary care, an important aspect regarding the ever-increasing health care costs and workloads.

*Medical Science,* 2021, 25(107), 82-96

CASE REPORT

**A rare urological condition: Cystitis Cystica and Ureteritis Cystica - presentation with bilateral ureteric obstruction**

Bander M Alamrai, Waleed M Alamrai, Ali H Akmalki, Ahmed A Alzahrani, Rami M Hasan

Cystitis cystica associated with Ureterits cystica is rare condition although it's benign; can be misdiagnosed with malignant tumor. In this report, we present this case of a patient who presented with right flank pain. CT scan showed bilateral hydroureteronephrosis. During the cystoscopy and bilateral ureteroscopy, multiple polypoidal like lesion in the bladder and along both ureters was found. The pathology report described a cystic structure lined by cuboidal epithelial cells layer consist with cystitis cystica and ureteritis cystica. In this condition no active treatment is required.

*Medical Science,* 2021, 25(107), 97-100

**A rare case of triple vessel disease of abdomen**

Raju Shinde, Sajika Dighe, Sangeeta Shinde

*Introduction*: Mesentric ischemia is caused by decrease in intestinal blood-flow and classified as Acute or Chronic. Chronic mesenteric ischemia is an exigent trouble in surgical field with significant financial footprint and disastrous outcomes if left untreated. *Case Presentation*: 48 year male, non-alcoholic, non-smoker with no co-morbidities presented to emergency-room with complains of pain all-over the abdomen associated with loose stools without per-rectal bleeding. *Discussion*: Symptoms of CMI refers to episodic or constant hypo-perfusion of small intestine that typically occurs in patients with multi-vessel mesentric occlusion. It occurs commonly through atherosclerotic stenosis in 90% cases involving the celiac, superior mesenteric and inferior mesenteric. Less common factors include Vasculitis, Takayasu disease, Radiation therapy, fibromuscular dysplasia, thromboangitis obliterans, polyarteritisnodosum, median arcuate syndrome and cocaine abuse. *Conclusion*: Ischemic conditions of abdomen can have varied manifestations which can be easily mis-diagnosed.

*Medical Science,* 2021, 25(107), 101-105

ANALYSIS

**Perinatal mortality rate, fetal causes and associated maternal factors in Hail Maternity and Children Hospital**

Abdelrahim Awadelkarim Abdelrahman Mohamed, Hussam Salem Sunhat Alshammari, Noura Hamad Rasheed Alshurtan, Mohammad Abdulkarim Abdullah Alduheim, Alhanouf Mutlaq Salem Alazaima, Shumoukh Saleh Fuhaid AlAfnan, Nouf Majed Abdulaziz Alghris

*Background:* According to the WHO, three million babies are estimated to die in the early neonatal period, while 2.6 million are still born annually worldwide. Due to the lack of such information regarding the perinatal mortality rate in Saudi hospitals, we aimed in our study to identify the perinatal mortality rate in Hail Maternity and Children Hospital and to find the underlying causes and risk factors. *Methods*: We conducted a hospital-based retrospective analytic study which includes the whole perinatal deaths in Hail Maternity and Children Hospital, from 1$^{st}$ of January to 31$^{st}$ of December 2019. *Results*: Perinatal deaths were 164 (64 still births and 100 early neonatal deaths). Perinatal mortality rate was 24.9/1000 (SBR: 9.72/1000, END rate: 15.18/1000). The most identifiable cause of perinatal mortality in our study was IUGR (26.83%) followed by unexplained death. *Conclusion*: The perinatal mortality rate at Hail Maternity and Children Hospital was 24.9/1000 by 2019 in which IUGR was the most distinguishable cause, followed by unexplained death. Due to the lack of such a study in this hospital, we couldn't find if our results considered as an improvement or deterioration of PMR comparing with past years.

*Medical Science,* 2021, 25(107), 106-111

**The immediate effect of hemodialysis on thyroid function**

Hanin A Alamoudi, Reem M Alzahrani, Asya A Hawsa, Sara O Lary, Alaa M Awlia, Haneen H Alothmani, Nada A Zaher, Rana H Mosli, Hanadi M Alhozali, Hala H Mosli, Mazin A Merdad

The prevalence of chronic kidney disease (CKD) is rapidly increasing globally. There has been an established association between CKD and thyroid dysfunction. Hemodialysis appears to alter thyroid hormone levels. The purpose of this research was to determine the immediate impact of hemodialysis sessions on thyroid hormone levels. This prospective research was conducted in the Hemodialysis Unit at King Abdul-Aziz University Hospital (KAUH), Jeddah, Saudi Arabia. We reviewed 40 consecutive patients undergoing hemodialysis from November 2018 to January 2019, excluding those aged ≤ 18 years, cancer patients, and pregnant women. We analyzed thyroid-stimulating hormone (TSH), free triiodothyronine (T3), and free thyroxine (T4) levels before and after a single hemodialysis session, considering the presence of any previous thyroid dysfunction. The study population was divided according to their thyroid function markers into low, normal, and high levels. Of the study patients, 27.5% and 30% had low free T3 levels pre-dialysis and post-dialysis, respectively. Low free T4 levels were observed in 27.5% of pre-dialysis patients compared to 25% of post-dialysis patients. High TSH levels were found in 15% of pre-dialysis patients and 17.5% of post-dialysis patients. The mean free T3 and free T4 levels were significantly higher post-dialysis ($p \leq 0.01$). Longer dialysis duration was significantly associated with higher TSH levels post-dialysis. In conclusion, thyroid function markers were disturbed after a single dialysis session. Longer dialysis duration was associated with changes in TSH levels, supporting the development of hypothyroidism.

*Medical Science,* 2021, 25(107), 112-119

**Topical corticosteroid misuse among females in Riyadh city**

Amar Fathi Mohamed Khalifa, Adel Mehmas Hamdi Alragas, Ashwaq Sari Abohamad, Amer Abdulaziz Alharbi, Hamdah Saud Alruwaili, Mohammed Mousa Alghamdi, Sarah Mohammed Almuashi

Topical corticosteroids are considered of the most used drugs by dermatologist to treat many of dermatological conditions. The key explanation for abuse and the production of side effects is the availability of potent topical corticosteroids at a low cost over the counter. To our knowledge, there is no study conducted in Riyadh looking for commonest adverse effect of topical corticosteroids misuse. Across sectional study was done on 459 females from Riyadh city, KSA, where data were collected using a pre-designed self-administered questionnaire. The questionnaire included items about participants' characters, reasons of using topical corticosteroids, types, duration and frequency of application of topical corticosteroids used, and the presence of side effects. Consent obtained prior to the collection of data stressing privacy and the right of participants to withdraw from the study at any time. More than 46.1% of the participants were 21 to 30 years of age. Skin whitening was the key justification for using topical corticosteroids. A rise in hair pressure (22%) accompanied by skin thinning (21.3%) was the most common adverse effect. There was a significant statistical relationship between age and justification for usage and a significant statistical relationship was found between marital status and motives of using topical corticosteroids. Misuse of topical corticosteroids is prevalent among females in Riyadh for several reasons, the most important of which is skin whitening and lightening and the most common side effect was increase in hair intensity.

*Medical Science,* 2021, 25(107), 120-125

**Adenoidal tissue regrowth post-adenoidectomy using suction cautery *versus* conventional curette among pediatric patients in a tertiary care center**

Hani Zohair Marzouki, Talal Ahmed Alkhatib, Faisal Zawawi, Mazin Adnan Merdad, Hossam Alamoudi, Rahaf Hamza Baharoon, Arwa Hisham Abulnaja, Khadija Mohammed Alaidarous, Malak Fuad Alshaebi, Murooj Eidah Alotaibi, Sanaa Hussein Sulimani

Adenoidectomy is one of the most common surgical techniques performed in Otorhinolaryngology. Several approaches have been described for adenoidectomy. This paper aims to compare between the Conventional Curette Adenoidectomy (CCA) and the Suction Cautery Adenoidectomy (SCA) in terms of the operation duration, intraoperative bleeding, and postoperative reoccurrence of the symptoms. A retrospective, randomized case-control study was designed to assess these objectives. Data of 241 patients were collected from King Abdul-Aziz University hospitals' medical records between January 1$^{st}$, 2013 and December 31$^{st}$, 2019, and statistical analysis was performed. Two hundred forty-one patients were enrolled in the study, with ages ranging from 1 to 14 years. Most of the patients were males (60.2%). Most of the patients who required a second operation belonged to the CCA group (9 out of 10). The regrowth of adenoidal tissue was faster among the CCA group compared to SCA. There was a statistically significant difference between the techniques regarding the reoccurrence of snoring. The rest of the symptoms as well as post-operative bleeding were not statistically significant. In conclusion, while revision adenoidectomy was more in those who underwent CCA, further investigations need to be conducted to ensure the statistically significant difference between the two approaches regarding the duration of operation, tissue regrowth, and the amount of bleeding.

*Medical Science,* 2021, 25(107), 126-134

**Level of parents' knowledge and practice in management of their children's febrile illness, in Al Baha City, Saudi Arabia**

Omer M Aburaida, Ahmed A Alzaidi, Khaled A Alzahrani, Tareq M Alzahrani, Abdulelah M Alghamdi

Studies found that most of the parents were uncertain about the use of antibiotics for children's fever. This study aimed to evaluate knowledge and practice of parents in child fever management in Al Baha City, Saudi Arabia. A cross-sectional study was done on 431 participants using an electronic questionnaire including items about participants' knowledge of fever and its health effects, practice in fever management, how to measure temperature, fever treatment given without prescription, when to decide to visit the health providers, difficulty faced when giving medication, parents' concerns about fever. 9% of parents had history of child febrile, 92.8%

and 93.3% knew normal temperature and truly defined fever respectively, 96% thought fever is harmful, 39.4% thought that they had enough information about fever, and 91.4%, 82.6%, 86.3%, and 87.9%, thought that febrile convulsion, loss of consciousness, dehydration, brain damage were the most common concerns respectively. About 88% of parents use a thermometer for fever, 89.6% apply cold compressions and 93.5% decide to take the child to hospital due to high fever. The most common difficulty faced in giving fever medicine was deciding the amount and frequency of dosing. Mothers and parents with 36-45 years had a significantly higher percentage of those thought fever may be useful and mothers with a university education were significantly afraid of febrile convulsions and brain damage. There is a need to raise awareness of parents about the right management of children as wrong concerns can make them fail to act properly.

*Medical Science,* 2021, 25(107), 135-145

**Burnout prevalence and associated risk factors among KFU students, Alhasa, Saudi Arabia**

Ali Alsaad, Abdulhameed B Alkhalaf, Khadijah M Alali, Jumanah H Alibrahim, Intesar S Almahdi

*Introduction*: Burnout has mental health outcomes and physical health outcomes including multiple aches and pains, digestive upset and cardiovascular risks. Burnout affects work satisfaction, job performance, disease susceptibility and interpersonal interactions. It is important to have a better explanation and understanding of the factors associated with burnout. Besides, there is little known about burnout among college students in Saudi Arabia. There are no studies that focus on the difference between burnout in students in different colleges at the same university in Alhasa city. *Objectives*: To determine the prevalence of burnout levels among students at King Faisal University in Alhasa city. Also, to have better clarification and understanding of the risk factors associated with burnout. *Methods*: This is a cross-sectional study that will be conducted at King Faisal University in Alhasa city. Data will be collected from the students using questionnaires filled out by survey. *Results*: The study included 439 students whose ages ranged from 18 to 32 years. Burnout was detected in total among 30.5% of the students while it was moderate among 50.8%, and the remaining percentages had a low level of burnout. High burnout was detected among those who live alone, with a low GPA, and the highest burnout was reported among intern and 1st-grade students. Additionally, high burnout was observed among previously failed students and those who had a low-income level with a highly significant difference. While, there is no association between age, gender, and marital status of our participants and burnout prevalence. Burnout scores among learners were correlated with personal achievement and depersonalization. *Conclusion*: Almost one-third of the students had a high burnout score, half of them had a moderate score of burnout, burnout distribution among university students was associated with most personal data.

*Medical Science,* 2021, 25(107), 146-156

CASE REPORT

**Vital pulp therapy (apexogenesis) of irreversible inflamed pulp (with pulp polyp) in immature permanent molar using calcium hydroxide and iodoform paste (Metapex): A rare Case report**

Ahmed O Shami, Malak O Alsuhaymi, Mohammed A Faqeeh, Ibrahim Y Fageeh, Mohammed S Alamoudi, Ahmad R Alzaylaei

*Introduction:* This case report describe the use of calcium hydroxide and iodoform paste in inducing the apex development in Vital Pulp Therapy (apexogenesis) in permanent lower molar having pulp polyp. *Methods*: Pulpotomy of coronal pulp of immature permanent molar was done and the remaining pulp was capped with calcium hydroxide and iodoform paste (metapex) after achieving the stop of bleeding. Tooth was restored with conventional GIC. *Results:* Ten months clinical and radiographic follow-up revealed successful preservation of pulpal re-vitality after re-examination of vitality sign of the pulp with continued root development in the treated tooth. *Conclusion:* Depending on the result of this case report, metapex may be an alternative option for pulpotomy treatment of immature irreversible inflamed permanent molars.

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ANALYSIS

**Nephroprotective mechanisms, therapeutic potential and perspective on melatonin use for drug-induced nephropathy**

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The research aimed to review the effects and mechanisms of action of the pineal hormone melatonin, to study the nephroprotective effect of exogenous melatonin in conditions of drug-induced nephropathy, and to assess the prospects of its use for prevention and treatment of kidney diseases based on the literature data and results of own studies. According to literature and results of our previous research, the nephroprotective effect of melatonin has been shown in various experimental models of acute renal injury (AKI). Numerous studies established the antioxidant, anti-inflammatory, anti-apoptotic, immunomodulatory, and cytoprotective effects of melatonin, and showed its ability to restore the function and structure of the kidneys. The objective of the current study was to evaluate the effects of melatonin (5 mg/kg) on the animal model of acetaminophen-induced AKI. The obtained results show the ability of melatonin to reduce the severity of damage and prevent kidney dysfunction associated with acetaminophen over dose. Treatment with melatonin was suppressed the progression of oxidative stress in kidney tissue through the limitation of lipid and protein peroxidation and activation of the key antioxidant enzymes. Results of research complement to existing data on the

nephroprotective activity of melatonin and substantiate the high therapeutic potential and prospects of melatonin use as adjunctive therapy of drug-induced nephropathy.

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**Ophthalmologist perceived effect of COVID-19 related lockdown on ophthalmic practice and patient care in Saudi Arabia**

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*Purpose*: To review the ophthalmologist-perceived impact of the COVID-19 pandemic on eye care and its determinants in Saudi Arabia. *Methods*: A web-based survey of ophthalmologists working in Saudi Arabia was conducted in September 2020 using the Google platform. The ophthalmologists' demography, perceptions about the risk for COVID-19 contraction, and practice patterns during lockdown were collected. Both consultation- and surgery-related details were analyzed and associated with the demography. *Results*: Of the 106 surveyed ophthalmologists, 72 (67.9%) were male, 68 (64.2%) were consultants, and 54 (50.9%) were from the western region. During the pandemic and lockdown, 92 [86.8% (95% CI 79.9; 93.7)] were offering consultancy services, while 82 (77.3%) were attending ophthalmic surgeries. The risk of contracting COVID-19 while practicing ophthalmology was perceived as high, equal, and low compared to other health workers by 34 [32.1% (95% CI 16.4; 47.8)], 65 [61.3% (95% CI 49.5; 73.2)] and 5 (4.7%) participants, respectively. Although 54 (52.8%) ophthalmologists were unsure about resuming surgical work, 42 (42.5%) recommended the resumption of elective surgeries immediately but with the utmost preventive measures in place. The regional variation in risk perception for contracting COVID-19 was significant ($\chi 2$ = 15, Df = 6, P = 0.02). The risk among those who were not practicing was less than that of those who were both operating and consulting ($\chi 2$ = 97, Df = 4, P < 0.001). *Conclusions*: The pandemic seems to have negatively impacted both clinical and surgical eye services in the Kingdom of Saudi Arabia. The ophthalmologists perceived that the starting of eye surgeries should be gradual and with care to reduce the risk of COVID-19.

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RESEARCH

**Serum vitamin D, sun exposure and clinical attributes of local patients with respiratory allergies**

Farhan Khashim Alswailmi, Syed Imran Ali Shah, Mirza Zeeshan Sikandar, Mujeeb Ur Rehman Parrey, Seemal Jelani

*Background:* Involvement of vitamin D deficiency has been suggested in respiratory allergies which are common all over the world. Inadequate sun exposure has been associated with vitamin D deficiency as cutaneous synthesis of vitamin D occurs in sunlight. The present study examined serum vitamin D status and sun exposure in patients having respiratory allergies. *Materials and Methods:* Adult patients having respiratory allergies (n=35) were compared with age-matched controls without any respiratory allergy (n=35). Sun exposure and serum vitamin D levels were determined. Subjects were further segregated on the basis of their duration of sun exposure and vitamin D status. *Results:* Serum vitamin D levels were not different between the groups (controls 37.06 $\pm$ 20.91 ng/ml v/s patients 40.07 $\pm$ 10.97 ng/ml, p=0.380). Sun exposure-based analysis also did not reveal any difference in serum vitamin D levels.74.28% of the controls and 48.57% of patients had less than 1-hour daily sun exposure. *Conclusion:* Vitamin D levels in patients having respiratory allergies are comparable to non-allergic healthy individuals. Longer sun exposure seems to have adverse influence on respiratory allergies.

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**Comparative assessment of vitamin D and parathyroid hormone as risk factors of myocardial infarction and their correlation with lipid profile**

Syed Imran Ali Shah, Mirza Zeeshan Sikandar, Umair Yaqub Qazi, Inamul Haq

*Background:* Vitamin D (VitD) inadequacy has recently been implicated in the development of myocardial infarction (MI). Parathyroid hormone (PTH), which works closely with VitD in regulating calcium balance, has also been shown to exert cardiovascular effects. Clinical data on serum VitD and PTH in MI and their association with lipid profile are wanting, particularly in the local context. The present study assessed serum vitamin D and PTH in MI and determined their correlation with lipid profile parameters. *Materials and Methods:* The cross-sectional comparative study assessed serum vitamin D, PTH and lipid profile in patients (n=30) with recent MI (< 1-month history). Comparisons were made with healthy age-matched controls (n=30) using independent sample t-test while correlations were determined using Pearson's correlation. *Results:* MI patients had lower VitD (27.52 $\pm$ 12.99 ng/mL vs. 51.10 $\pm$ 6.48 ng/mL; p=0.001) and higher PTH levels (45.51 $\pm$ 25.72 pg/mL vs. 19.90 $\pm$ 8.50 pg/mL; p-0.001). Low VitD and high PTH correlated with deranged lipid profile overall. *Conclusion:* Low VitD and high PTH potentially increase the risk of MI through disturbance of lipid balance. Future studies employing supplementation with VitD and control of PTH may help find their role in mitigating the risk of MI.

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ANALYSIS

**Comparison of Triple plane dissection with conventional rhinoplasty surgery in patients with thick sebaceous skin**

Abdollah Neisi, Abdolreza Khorshidifar, Nader Saki

*Background:* Comparison of Triple plane dissection with conventional rhinoplasty surgery in patients with thick sebaceous skin. *Materials and Methods:* This cross-sectional study was performed. All surgeries were performed by a surgeon. Variables such as surgeon and patient satisfaction, side effects were evaluated and the results were analyzed by SPSS software. *Results:* In this study, no difference was found between the two sexes in terms of the distribution of nasal skin thickness type in all patients (P = 0.213). The sex of the patients had an effect on the time of edema and ecchymosis, where women were more affected by edema and ecchymosis in terms of time (P = 0.014 and P = 0.042). Although no significant difference was observed between age groups regarding the type of nasal skin thickness (P = 0.076), but a scattered difference was observed between age and nasal skin type (P = 0.002). In terms of time of edema and ecchymosis, there was a significant difference between the age and age groups of patients, where younger people had less duration of edema and ecchymosis (P = 0.003 and P = 0.009). *Conclusion:* Due to the difference in thickness of different parts of the nasal skin, especially in the Middle East population, it is time for surgeons to use smart measures in each specific part of the nose for incision to minimize damage to the soft tissue structure of the region.

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**Evaluation of practice guidance for infertility patients self-inject ovarian stimulation medicine at home**

Tuan Vo, My Ai, Giang Bui, Nhat Ho, Linh Hoang, Bao Vo

*Objectives:* Determine the effective of implementation of the patient education regarding the self-inject of ovarian stimulation medication at home. *Methods:* The quasi-experimental study evaluating the program before and after the education intervention was carried out on 139 patients with assisted reproductive treatment at the Infertility Department, Tu Du Hospital from November 1, 2019 to May 31, 2020. *Results:* The proportion of patients who agree to self-inject at home is 92.05%. After being instructed by nurses, 79.1% of patients practice the correct injection in front of nurses. Patients with education upper high school level were able to inject the right technique 8.38 times higher than patients with education level ≤ high school (OR = 8.38; p <0.05; 95% CI: 2.61-34.86). If the patients injected the right technique in front of nurses after training, they would be reduced the difficulty when they performed at home by 82% (OR = 0.18; p <0.05; CI: 0.03-0.93). Patients who have the help of relatives feel more favourable than those without support of relatives when injected at home is 90% (OR = 0.10; p <0.05; 95% CI: 0.01-0.53). *Conclusion:* Patients believe that self-injection at home is easy and acceptable. However, it is necessary to train slowly and more carefully in patients with low education. At the same time, nurses should persuade relatives to help patients to self-inject at home.

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**Impact of broccoli antioxidant activity on liver fibrosis induced by carbon tetrachloride in rats**

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The excessive extracellular matrix proteins (ECM) caused liver fibrosis. The research was designed to evaluate the impact of antioxidants in broccoli to improve the liver of rats injured by carbon tetrachloride (CCl4). The study included 32 healthy albino rats (Reference Na 83-18), weighing about (170-200gm) were divided into four experimental groups: Group1 (n=7): as normal control, the rats fed a basal diet. Groups from 2 to 4 (n=23): 1ml/kg of $CCl_4$ used to inject the rats intraperitoneally mixed by corn oil at 1:1 twice weekly for three weeks to induced fibrosis. Group 2 (n=8): rats administrated with CCl4 at dose 1ml/kg as a CCl4-treated group. Group 3 (n=7) Group 4 (n=8): used the broccoli extract to feed rats for 15days at dose 100mg/kg.b.w and 200mg/kg.b.w. The results reported that group 2 significantly increases in the liver enzymes (ALT, AST) and in the Malondialdehyde (MDA), a decrease in body weight (B.W) Glutathione-S-Transferase (GST) and vitamin D levels compared to the normal group. Broccoli antioxidants improved and increased B.W and decrease the ALT, AST, and MDA. Also, the GST and VitD levels were increase compared to group 2. Histopathological investigation of group 2, it showed damage and necrosis in hepatocytes, after the treatment, this damage became less and tend to normal liver cell. The study concluded that the protective effects of broccoli antioxidants may improve against liver fibrosis. Therefore, we recommended consuming the broccoli within daily meals to enhance antioxidant capacity.

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**A cognitive behavioral perspective about attitude, perception and acceptability of vaccination against human papilloma virus**

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*Background*: Cervical cancer is one of the most common malignancies among young sexually active females worldwide. The most common cause of cervical cancer is human papillomavirus infection which is sexually transmitted. It can be prevented by human papillomavirus vaccines. The uptake of the vaccine is still low despite the promising results of the vaccine. *Aim*: The aim of our study is to assess the level of awareness regarding Human papillomavirus vaccination and to determine the barriers that limit the vaccination among females in Saudi Arabia. *Methods*: A descriptive cross-sectional study conducted on 18 September 2018 until 7 May 2019, at King Khalid University Hospital, Riyadh, Saudi Arabia. A sample size of 382 adult Saudi females collected from three clinics which are gynaecology, family medicine and paediatrics clinic by electronic questionnaire through an email invitation, which was validated by a pilot study. Descriptive statistic was performed using SPSS version 22. Ethical approval number KSUMC/IRB-02/875123. *Results*: Among 382 respondents, 319 (83.5%) are aware of cervical cancer, however, a low percentage of them knew the cause. The rate of HPV awareness is (18.6%). More than half of the respondents are not sure whether the HPV vaccine can prevent cervical cancer or not. The main barriers for no vaccination were lack of awareness (73%) and concerns about the side effects (56%).

*Conclusion*: Most of the respondents lack knowledge about HPV and its vaccination. It's recommended to increase awareness by conducting public awareness programs and applying policies regarding the vaccine.

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**The effects of Hydroxychloroquine on COVID-19 in Tabuk, Saudi Arabia**

Hyder Mirghani, Mubarak Mohammed Theeb Alsaeed, Wejdan Abdullah Hamdan Alshehri

*Background*: Hydroxychloroquine (HCQ) has anti-inflammatory and immunomodulatory effects. Its use among patients with COVID-19 is a matter of controversy. Also, previous studies mostly assessed hospitalized patients who were more likely severely infected. Literature in the Kingdom of Saudi Arabia lack, thus, the current study investigated the role of HCQ in patients affected with COVID-19 visiting an outpatient specialized COVID-19 in Tabuk City, Saudi Arabia. *Subjects and Methods*: This is a case-control study conducted among 399 patients with COVID-19 at Tatamman Clinic, Tabuk City, Saudi Arabia during the period from August 2020 to December 2020. One hundred ninety-nine were given HCQ and those who refused the treatment were considered as controls). Demographic data, vital signs, and baseline symptoms including fever, sore throat, cough, loss of smell, difficulty in breathing, and other gastrointestinal symptoms were recorded. The patients were followed and for the reported symptoms. All the participants signed a written informed consent and the Statistical Package for Social Sciences (SPSS) was used for a comparison between intervention and control groups. *Results*: They were 399 patients with COVID-19 matched for age and sex. No significant differences between the intervention and control group regarding COVID-19 symptoms. *Conclusion*: Covid-19 symptomatology was no affected by HCQ treatment and its use in mild-moderate disease and chemoprophylaxis is not recommended.

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**Pomegranate and Blueberry Extracts Ameliorate Gentamicin-induced Nephrotoxicity in Rats**

Arwa M Turkistani, Eman A H Tounsi

Gentamicin (GM), an aminoglycoside antibiotic, is routinely prescribed in most bacterial infections. It generates free radicals that are mediators of nephrotoxicity. This work designed to assess the potential protective action of pomegranate (PG), blueberry (BB), and their mixture (PG + BB) extracts against GM-induced nephrotoxicity in rats. Rats (n=30) were classified into 5 groups (n = 6) 1-Control, 2- GM; rats intraperitoneal (i.p.) injected with GM (100 mg/kg) for ten days. Groups 3-5; rats were ingested (500 mg/kg b.wt) PG, BB, or PG + BB, respectively for 28 d before GM injection, and 10 days thereafter. Kidney functions, protein metabolism parameters, and ionic electrolyte (sodium and potassium) levels were estimation in serum. GM injection induced nephrotoxicity marked by significant elevate in kidney functions, total protein, and albumin levels, with significant decline in ionic electrolyte levels compared with the control group. Histopathological examination of renal tissues showed severe interstitial nephritis, cystic dilatation of renal tubules, thickening and dilatation of Bowman's space. Oral administration of PG, BB and PG+BB protected kidney from damage induced by GM as evidenced from histopathological and biochemical parameters improvements. The most effective treatment was PG+BB compared with the other pretreated groups. In conclusion, a combination of PG + BB has potent nephroprotective effects; therefore it may be useful for patients with kidney diseases or who receiving GM therapy.

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**Prevalence of electronic cigarettes users among University of Ha'il health science students**

Abdulilah Aldhmadi, Abdulaziz Alhumaid, Abdullah Alrasheed, Hamoud Almatrood, Mohammad Altraifi, Fayez Alreshidi

*Background*: In recent years, Electronic cigarettes became popular worldwide, especially in the Kingdom of Saudi Arabia. With the lack of data regarding this subject, this study aims to assess the prevalence of electronic cigarette users among health science students. *Materials and Methods*: Random cross-sectional study, including six different health science colleges and their students at the University of Ha'il. *Results*: A total of 335 students completed the questionnaire, with only 22.98% smoking conventional cigarettes, and 29.9% using electronic cigarettes. 31% of the electronic cigarette users are using it for entertainment purposes only. More than three-fourths (77.7%) of the participants who used electronic cigarettes to quit smoking conventional cigarettes were partially successful. When asked about addictiveness, almost half (46.2%) of those aged between 19 and 22 believed that both conventional cigarettes and electronic cigarettes are equally addictive. *Conclusion*: Electronic cigarettes use is common among health science students, mostly for entertainment purposes. Electronic cigarettes are more prevalent than conventional cigarettes among health science students and have not been proven as a successful method to stop conventional cigarettes.

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SURVEY

**Difference in awareness about glaucoma and cataract among students of health sciences and its determinants in western Saudi Arabia – A survey**

Abdullah Al-Ghamdi, Ashjan Bamahfouz, Saad Albagami, Salah Bakry, Amr Almousa, Sultan AL-Zahrani, Mohammed Al Harby, Waleed Alnemari

*Purpose*: To assess the magnitude and determinants of awareness about common eye diseases among citizens of Makkah. *Methods*: This cross-sectional survey of adult citizen of Makkah city was held from April to May 2020 in the city of Makkah. The participants' demography, social determinants and eye diseases status in the family were collected. The questionnaire had 24 questions. The sum

of the responses on awareness was graded as positive or negative and correlated to determinants. *Results*: We surveyed 471 citizens. Of them, 287 (61%) were female. Their mean age was 28 ±10 years. The median score of awareness was 1.0 (inter quartile range was 0.0; 3.0) (minimum -6.0 and maximum 9.0). The awareness of participants was positive in 298(63.1%; (95% Confidence Interval 58.9; 67.6)) and negative in 173 (36.9% (95% CI 32.4; 41.1)) participants. C*onclusions*: Awareness among citizens of the city of Makkah was positive in half of the participants. Further improvement in knowledge of adult citizens of Makkah through health education, by using modern tools as favored by adult citizen of Makkah is recommended.

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