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Medical Science

About the Cover

Background: Helicobacter pylori (*H. Pylori*) is a gram-negative bacterium that causes stomach infections. Peptic ulcers commonly occurring in more than half the world population are caused by *H. pylori*. In addition, it acts as a triggering source in gastric malignancies, chronic gastritis, and gastroesophageal reflux disease (GERD). The current study is focused to raise the awareness of the general population in Al Ahsa city toward *H. pylori* infection. The awareness objectives are met by describing pathogen, diagnosis, risk factors, treatment, complications, and prevention. *Methods*: A cross-sectional study was developed through systematic random sampling, and a sample size of 930 people was selected for the survey questionnaire. The data were collected through an online platform, and the Richard Geiger equation was implemented to find the population. SPSS version 22 was implemented for descriptive analysis. Further categorical data were analyzed through chi-square to find the link between different variables. *Results*: The awareness level was 54.9% about *H. pylori* among the Al Ahsa population, including its risk factors, diagnosis, treatment, and complications. Participants above 40 years had a good awareness level about the disease. The results show that more awareness is needed in the population to cure the infection. *Conclusion*: The awareness level results were insignificantly higher among the male and female populations in Al Ahsa population Saudi Arabia. Other factors were also insignificantly related to the awareness level of the population. (Ref: Al-Ghadeer HA, Al-Sahlawi M, Al-Shaikh SB, Al-Sultan SM, Al-Ghannam ZM, Buawadh HS, Al-Rabia ZH, Al-Ghanim ME. Public awareness and attitude towards *Helicobacter pylori* infection in Alahsa, Saudi Arabia. Medical Science, 2021, 25(116), 2469-2476).

Evaluation of the effect of different erosive drinks on teeth - Saudi Arabia, 2020

Haya Al Kanhal, Mohammed Al Daij, Norah Al Kanhal, Meteab Al Moither, May Albusair, Baseer MA

Aim: The purpose of this in-vitro study was to investigate the effect of different erosive drinks on the microhardness of tooth enamel. *Materials and methods*: This in-vitro investigation utilized 48 extracted premolar teeth collected from the orthodontic clinics. Teeth crowns were ground 2mm on vestibular surfaces by ISOMET 2000 precision saw and cleaned in an ultrasonic bath. Teeth were divided into four groups based on immersion in different erosive drinks (Pepsi, Red Bull, Lemon, and Artificial Saliva), containing 12 teeth. Teeth were immediately kept in artificial saliva incubated at 37° for one day to simulate the oral environment. Later, pH values and surface micro-hardness were recorded using Buehler Micromet II and Vickers hardness methods. Descriptive statistics and ANOVA tests were applied to the data. *Results*: The pH values of Lemon drink (4.44±0.87), Red Bull (5.18±0.88), Pepsi (4.50±0.88), and Artificial saliva (7.50±0.87) were found, respectively. Comparison of mean pH values showed a statistically significant difference by ANOVA test ($F=32.62$, $p<0.001$). Further analysis indicated that the artificial saliva had a significantly higher pH value than all other drinks. The micro hardness values of enamel immersed in Lemon drink (281.00±89.73), Red Bull (230.83±73.76), Pepsi (311.50±106.23), and Artificial saliva (277.17±92.11) were observed, respectively. Comparison of micro hardness did not show any significant difference ($F=1.599$, $p=0.203$). *Conclusion*: Acidic drinks tested in this study had pH values sufficiently low to cause erosion and softening of the dental enamel surface. The microhardness value of enamel immersed in Red Bull was lowest, suggesting higher enamel loss.

Medical Science, 2021, 25(116), 2452-2458

Anxiety among medical and non-medical students in Al Majmaah University, Saudi Arabia

Khaled El Tohami Medani, Anas Mohammed Ali Alothaim, Abdulrahman Jaser Faris Almutairi, Mohammed Ghanem Faleh Alotaibi, Nasser Jamal Aljasir, Abdulkhaliq Qaed Salem Almutairi

Background / Introduction: Definition of anxiety according to American Psychological Association: is an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure. *Objectives:* The objective is to evaluate and compare anxiety among medical and non-medical in Al Majmaah University. *Methodology:* The design was cross-sectional to evaluate and compare anxiety between medical and non-medical among 310 students in Al Majmaah University, Saudi Arabia. Beck anxiety inventory questioner is administrate to (SPSS) was used to analysis. *Results:* Show that most of the students were healthy 80%, while the moderate anxiety 10.3% and concerning level of anxiety show 9.7%. *Conclusion:* There is nearly similar complain of anxiety in both medical and non-medical in al Majmaah university but the deference in moderate and concerning level we see increase number in of moderate in non-medical while increase in concerning level in medical students.

Medical Science, 2021, 25(116), 2459-2468

Public awareness and attitude towards *Helicobacter pylori* infection in Alahsa, Saudi Arabia

Hussain A Al Ghadeer, Muthana Al Sahlawi, Salwa B Al Shaikh, Salsabeel M Al Sultan, Zahra M Al Ghannam, Hassan S Buawadh, Zainab H Al Rabia, Mukhtar E Al Ghanim

Background: Helicobacter pylori (*H. Pylori*) is a gram-negative bacterium that causes stomach infections. Peptic ulcers commonly occurring in more than half the world population are caused by *H. pylori*. In addition, it acts as a triggering source in gastric malignancies, chronic gastritis, and gastroesophageal reflux disease (GERD). The current study is focused to raise the awareness of the general population in Al Ahsa city toward *H. pylori* infection. The awareness objectives are met by describing pathogen, diagnosis, risk factors, treatment, complications, and prevention. *Methods*: A cross-sectional study was developed through systematic random sampling, and a sample size of 930 people was selected for the survey questionnaire. The data were collected through an online platform, and the Richard Geiger equation was implemented to find the population. SPSS version 22 was implemented for descriptive analysis. Further categorical data were analyzed through chi-square to find the link between different variables. *Results*: The awareness level was 54.9% about *H. pylori* among the Al Ahsa population, including its risk factors, diagnosis, treatment, and complications. Participants above 40 years had a good awareness level about the disease. The results show that more awareness is needed in the population to cure the infection. *Conclusion*: The awareness level results were insignificantly higher among the male and female populations in Al Ahsa population Saudi Arabia. Other factors were also insignificantly related to the awareness level of the population.

Medical Science, 2021, 25(116), 2469-2476

Surgical and survival outcomes of advanced epithelial ovarian cancer

Tamer Mostafa Manie, Hala Aziz Shokralla, Sayed Shaker Sheier, Ahmed El-Sayed Fathalla

Background: Ovarian cancer is the 8th commonest cancer affecting females. It is usually discovered late due to lack of specific symptoms & effective screening. Prognosis is poor with advanced stages (III/IV) estimated 5-years overall survival of 15-25%. Age, stage, residual disease & histological type are the main factors affecting survival. *Aim*: To identify the surgical and survival outcomes in advanced epithelial ovarian cancer in our patient population. *Materials & methods*: Single institution prospective analysis of all cases of advanced epithelial ovarian cancer treated at our institute from September 2018 till September 2020. 56 cases were included. *Results:* 19 (33.9%) underwent primary debulking surgery whereas 37 (66.1%) had interval debulking surgery.

Median age was 55.5 years (range 20-86 years). Median preoperative CA-125 level was 570 U/ml (range 145-28000 U/ml). Commonest histological subtype was serous. Complete cytoreductive surgery was fulfilled in 37 cases (66.1%). Median follow-up was 22 months (range 1-34 months). Overall survival at 1 & 2 years was 90.8% & 80% respectively while progression free survival at 1 & 2 years was 89% & 69.7% respectively. Overall survival significant factors on univariate level were CA-125 level, liver metastasis & late complications. On multivariate analysis for overall survival; only CA125 & late complications showed independent prognostic effects. For progression free survival, peritoneal invasion & late complications were significant variables on univariate level. By multivariate analysis for progression free survival, late complications only showed independent prognostic effects. *Conclusion*: CA125 level and late complications are prognostic factors for survival in advanced stage epithelial ovarian cancers.

Medical Science, 2021, 25(116), 2477-2490

Knowledge and awareness of orthodontists to the effect of different medications that influence tooth movement: A cross-sectional study in Saudi Arabia

Eman Jameel Fatani, Arwa Abdulaziz Mustafa Qawas, Bayan Sulaiman Nasser Al Shehri, Nada Abdulaziz Altuwaijri, Razan Musaad Al Salamah, Baseer MA

Background: Orthodontists should be aware of the potential ramifications of certain medications that may affect the cellular and molecular biology of orthodontic tooth movement (OTM). *Aim*: The purpose of this study was to examine orthodontists' knowledge and understanding of the effects of numerous popular medications on OTM in Saudi Arabia. *Materials and method*: In this cross-sectional study, a structured, close-ended, and self-administered online questionnaire was sent to the orthodontists registered with the Saudi Commission for Health Specialties and were practicing in Saudi Arabia. The questionnaire consisted of 24 items under the sections of Demographic and practice characteristics, medical history and medication awareness, and knowledge of the effect of medication on orthodontic tooth movement. A total of 138 orthodontists responded to the questionnaire. The data obtained from the participants were analyzed by applying descriptive statistics, Mann-Whitney and Kruskal-Wallis tests. *Results*: The total mean knowledge of medication in the study sample was 2.99±1.32. A large percentage of study participants were knowledgeable about the effect of Paracetamol (90%), NSAIDs (81.9%), and Bisphosphonate (71.0%) medication on OTM. On the contrary, the effects of prednisolone, losartan, propranolol, and statins family were known only for less than 20% of the sample. Comparison of mean medication knowledge of OTM across studied demographic variables did not yield any statistically significant difference ($p>0.05$). *Conclusion:* The Saudi orthodontists who participated in this study lacked knowledge regarding the effects of common medications on OTM.

Medical Science, 2021, 25(116), 2491-2499

Knowledge and attitude towards hemoglobinopathies among Saudi population: A Cross sectional study in Riyadh, Saudi Arabia

Naif Mohammed Alotaibi, Waleed Abdulelah Alluhidan, Mohammad Sultan Aldayel, Malek Ibrahim Almatroudi, Mohammad Fareed

Background: Hemoglobinopathies are caused by genetic variations resulting in either a qualitative or quantitative abnormality in Hemoglobin. These diseases are prevalent in Kingdom of Saudi Arabia due to consanguineous marriages, which happens to be traditional practice in Saudi Arabia, as a result, faulty genes associated with hemoglobinopathies if present, get transmitted from parents to their offsprings. *Methodology:* In this study, we have measured the level of knowledge and attitude of Riyadh population towards hemoglobinopathies specifically thalassemia and sickle cell anemia. This is a cross-sectional study which was conducted between December 2020 and May 2021 in Riyadh city of Saudi Arabia with the help of self-administered questionnaire. The sample of the study consisted of 486 individuals from Riyadh city, most of whom were Saudi nationals. *Results:* Among all study participants, 42.4% had consanguineous marriages between their parents; 67.1% had some knowledge about hemoglobinopathies; 43.6% had some knowledge of thalassemia; 74.5% had some knowledge of sickle cell anemia; 34.4% had awareness about the importance of premarital screening. Regression analysis showed the association of different demographic variables with the awareness of hemoglobinopathies and premarital screening to be statistically significant ($p<0.05$). *Conclusion:* It is concluded from this study that, awareness for importance of premarital screening was very less among study participants, so more awareness is required to minimize the prevalence of haemoglobinopathies among general population of Saudi Arabia.

Medical Science, 2021, 25(116), 2500-2511

Patients' attitude towards deprescribing among elderly inpatients with polypharmacy at tertiary academic hospital: A cross-sectional study

Sulaiman A Alshammari, Rema A Albarrak, Anwar N Alajmi, Nada A Alsomali, Alaa B Alaqil, Njoud M Alenezy

Objectives: To identify elderly inpatients' attitudes toward deprescribing at King Khalid University Hospital and determine the most commonly used polypharmacy drugs. *Methods:* A cross-sectional study on deprescribing in elderly patients was conducted at Riyadh's King Saud university medical city during January-February/2019. We used the validated Arabic version of the Patient Attitude toward Deprescribing (rPATD) questionnaire. *Results:* One hundred fourteen patients completed the questionnaire with a response rate of 83%. The participants' mean age was 68.9±7.4. Most were females (54.4%), married (86.8%), and illiterate

(42.1%). Despite 63% of the patients feeling that they were taking many medicines, 58.8% of the participants did not perceive a financial burden of medications. The median (range) of comorbidities was 3(6). The cardiovascular and metabolic diseases account for (86.0%) and (79.8%). Patients took a median (range) of 8(12) medications. The most were statins (48.2%), proton pump inhibitor (46.4%), beta-blocker (41.8%), insulin (38.2%), biguanides (35.5%) and Anticoagulants (22.7). Overall, 87.7% would like to some of their drugs if their physicians allow it, although 80.7% reported satisfication with their drugs. The positive attitude towards deprescribing) accounted for 48.2%. It was higher among those younger 80, $p<0.05$. Also, the illiterate scored higher median than other educational groups on the burden factor subscale, $p<0.01$. *Conclusion:* The majority of elderly patients are willing to deprescribe when it is appropriate. We recommend the utilization of clinical pharmacists' expertise to simplify the polypharmacy for patients. Further studies should be held to obtain more evidence to initiate the deprescribing process

Medical Science, 2021, 25(116), 2512-2523

CASE REPORT

Covid19 with fatal spontaneous subdural bleed and status epilepticus in a primigravida: A lethal encounter

Sparsh Madaan, Dhruv Talwar, Arpita Jaiswal, Sunil Kumar, Neema Acharya, Vidyashree Hulkoti, Dhruva Halani

Since 2019, The Coronavirus Disease (COVID19) has emerged as a global health concern. Various kinds of disorders like the vascular involvement along with neurological complications continue to be reported worldwide. In this case report we describe the case of a 28 year old Female who was antenatal (6.5 months) presented with Genereliazed Tonic Clonic Convulsions of duration more than 30 minutes which upon investigations turned out to be a case of subdural bleed and upon Nasopharyngeal swab testing revealed to be COVID19 positive case. Though the patient underwent urgent craniotomy and evacuation of hematoma was done, the patient ultimately succumbed leading to maternal mortality. Thus, this case report is an attempt to draw attention towards the maternal mortality caused due to COVID19 which we tend to overlook.

Medical Science, 2021, 25(116), 2524-2528

ANALYSIS

Knowledge of medication-related osteonecrosis of the jaw among dental and medical students in Riyadh, Saudi Arabia: A comparative study

Paramjit Kaur Khinda, Safa Saeed, Salem Alshanbari, Adeeb Alshareef, Mohammed Matrood, Khalid Alothman, Abdulrahman Alqarni, Khalid Alshehri

Objectives: To assess and compare the knowledge of dental and medical students about medication-related osteonecrosis of the jaw (MRONJ). *Materials and Methods:* This cross-sectional study consisting of a questionnaire was conducted among dental and medical students in their fifth and sixth year of study in various colleges in Riyadh, Saudi Arabia. Data was collected online by a self-reported questionnaire consisting of close ended and multiple-choice questions. Chi-square test was performed; the significant level was found to be $p < 0.05$. *Results:* A total of 352 dental and medical students participated in the survey. 65.4% of the respondents stated that they were familiar with the term MRONJ, yet less than 45% were aware of the risk factors, clinical appearance, and features of the disease. During the time that three-fourths of the respondents acknowledged the importance of recording BPs history, a greater number did not know the accurate treatment approach. Students in the sixth year had better knowledge than fifth-year students and dental students fared better than medical students. *Conclusion:* If it is initiatives such as workshops and lectures need to be started to broaden the knowledge of medical as well as dental students which will contribute to the prevention of MRONJ.

Medical Science, 2021, 25(116), 2529-2538

The effect of Iranian and foreign mouthwashes on discoloration of Fuji II LC glass ionomer (in vitro)

Shapoor Naziri, Parisa Sarikhani, Negin Nasoohi, Fateme Zarouni

Introduction & Objective: GIC was first introduced in 1972 by Willson and Kent. It consists of a water-soluble polyacrylic acid and fluoroaluminosilicate glass. When the silicate powder and polymeric liquid are mixed, an acid-base reaction takes place. They had an ion-leachable micro fluoroaluminosilicate glass filler context. To avoid dissolution, phosphoric acid along with carboxylic acid polymer were substituted for polycarboxylate zinc materials Discoloration of cosmetic restorative materials following application of chlorhexidine mouthwash is one of the most important factors influencing the success of restoration. Discoloration of glass ionomer restorations can cause patient dissatisfaction and lead to treatment failure. This study tended to investigate the effect of two types of chlorhexidine mouthwash on discoloration of glass ionomer by spectrophotometry. *Materials & Methods:* In this experimental study, 15 disc-shaped specimens with a diameter of 10 mm and a thickness of 2 mm were taken from Fuji II LC glass ionomer. The specimens were divided into three groups of 5 for storage in Iranian chlorhexidine mouthwashes 0.12% and foreign Kin gingival and distilled water. The specimens were immersed in the solutions for 12 h. Colorimetry of the specimens was performed by spectrophotometer before and after placing in the solutions. The results were evaluated by ANOVA, Repeated measured, Kruskal-Wallis, Smirnov-Kolmogrov tests. *Results:* Discoloration rate of glass ionomeric specimens after placement in both types of

mouthwash was significant (P>0.05) and was not clinically acceptable (ΔE≥3.3). There was also no significant difference in discoloration between Iranian and foreign chlorhexidine groups (P = 0.0001). *Conclusion:* Application of both Iranian and foreign chlorhexidine mouthwashes is not clinically acceptable.

Medical Science, 2021, 25(116), 2539-2545

Assessment of psychological impact of covid-19 pandemic on dental professionals of West-Central Maharashtra State, India

Preeti Kale, Anuraga Sekharamantri, Asawari Lawande, Shraddha Bhandari, Pranay Thakkur, Mrunal Deshmukh, Ameet Mani, Raju Anarthe, Gowri Pendyala, Rachita Mustilwar

Bakground: Currently whole world is under the constant threat of COVID-19 pandemic. Dentists are at the high risk as they are directly exposed to aerosol produced and salivary droplets. Isolation and its financial impact have created physical and psychological pressure, depression, anxiety and other mental health concerns. *Materials and methods*: An online structured cross-sectional survey was conducted during September and October 2020. 25 item surveys were developed and was randomly circulated and distributed among the 620 Dental professionals of Ahmednagar district through link using email and messages. Psychological impact of COVID-19 was assesses using GAD -7 scale (Generalised Anxiety Disorder), which measures the presence and severity of anxiety symptoms. Descriptive statistics was applied to represent participants characteristics and Chi-Square test was applied to evaluate the level of association among variables with a significance level of p<0.01. *Results*: Among 600 participants from the study 37% (222) displayed mild signs of anxiety, about 40% (240) displayed moderate anxiety while 23% (138) displayed severe signs of anxiety as assessed using GAD -7 scale (Generalised Anxiety Disorder). *Conclusion*: Dental professionals all over the world felt a moral duty to reduce routine care for fear of spreading COVID-19 among their patients and beyond, but they are understandably concerned about the financial consequences. The findings of present study are useful in highlighting the psychological effect of COVID-19 pandemic on dental professionals of west-central Maharashtra state, India.

Medical Science, 2021, 25(116), 2546-2551

Attitudes towards patient-centered care among final-year undergraduates from four health care disciplines in a Malaysian private university

Davasooria Selvamani, Anis Ahmed Khan, Khadheeja Abdulla, Hui Min Lee, Ee Heng Loh, Ching Ying Ng

Background: Patient-centeredness models upon a multi-aspect treatment with the aim of providing patients with the best outcome of treatment. However, there are limited numbers of studies which compare patient-centeredness between different health care disciplines. This study aims to identify and compare the level of patient-centeredness among students in a local private healthcare university. *Method*: The study used a cross-sectional design using the Patient-Practitioner Orientation Scale (PPOS). The study population comprised 125 final year undergraduates across the disciplines of Medicine, Pharmacy, Dentistry, and Dietetics and Nutrition. *Results*: Overall, no significant difference was noted in the 'sharing' and 'caring' scores between students across the four health care disciplines. The only significant difference noted was of the 'caring' scores between medical and pharmacy students. *Conclusion*: Final year undergraduates in International Medical University (IMU) are moderately patient-centered, regardless of whether they are in any of the four disciplines. Further studies should be carried out to compare these findings with undergraduates at various points of their education.

Medical Science, 2021, 25(116), 2552-2558

Prevalence of different types of healthcare-associated infections in a military hospital in Al Saih

Nehad J Ahmed, Abdul Haseeb, Amer H Khan

Aim: The objective of the current study was to explore prevalence of different types of healthcare-associated infections (HAIs) in a military hospital in Al-Saih city. *Methodology:* Infection control unit in the hospital helped us in collecting the required data about healthcare-associated infections. *Results:* The average rate of healthcare associated infections in 2020 was 0.11%. The rate of device-associated infection was low. For example, the rate of central line associated bloodstream infections was 0.84 per 1000 central line days, and the rate of catheter associated urinary tract infections was 0.50 per urinary catheter days. Moreover, the rate of other healthcare associated infections was also low. For example, the rate of surgical site infection was 0.04%. *Conclusion:* In order to understand the trends of HAIs, more studies are required. Moreover, more efforts are required by health care workers and other stakeholders to reduce the occurrence of HAIs.

Medical Science, 2021, 25(116), 2559-2564

Assessing the knowledge on the management of dental avulsion among parents in Riyadh (2020)

Asma Al Shahrani, Adel Alajlan, Abdulmalik Aldayhani, Salah Alshehri, Mohammed Almutairi, Omar Alshamrani, Meshal Alshehri, Abdullarhman Obaidi, Khalid Alajlan

Objective: This study aims to evaluate the parents' awareness and attitude toward managing dental avulsion in Riyadh city. *Materials and Methods*: An electronic questionnaire survey form was designed. It contains three parts; the first part consists of demographic data, the second aims to assess the level of knowledge regarding dental avulsion, and the third part consists of simulated case scenarios that have been sent to parents using social media (WhatsApp, Twitter, and Snapchat) randomly in Riyadh city. One thousand nine hundred forty-nine questionnaires were collected and analyzed using the JMP program. *Results*: Majority

of the participants are females. Most of the participants are aware of the difference in the type of knocked-out teeth, whether it is primary or permanent. 58% of participants knows how to manage a knocked-out tooth correctly. More than 50 per cent of the participants appreciate that it is urgent to seek a dentist immediately. *Conclusion*: This study shows that most parents who have participated have an intermediate level of knowledge in dental trauma. According to the results of this study, having previous knowledge in dental trauma management and the source of that information plays a significant role in improving parental knowledge. The level of knowledge of the parents affects the prognosis of avulsed teeth. Management of the knocked-out teeth immediately will affect the prognosis positively.

Medical Science, 2021, 25(116), 2565-2573

Social determinants and diabetes mellitus type two morbidity in Saudi Arabia

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Aim: The present study aimed at exploring the social inequalities among type II Diabetes Miletus patients in Saudi Arabia, in addition to identifying the association of these factors. *Methods*: Cross-sectional studies over a sample of 574 male and female DM patients were recruited in this study. To collect data, the researchers adopted a valid and reliable translated version of a questionnaire that investigated the demographic characteristics of the DM patients and the comorbidities prevalent among them. Data were collected through planned phone calls with the patients. Descriptive statistics and multivariate linear regression were used to analyze the data collected from the participating DM patients. *Result*: The findings showed that the odds of having nephropathy was greater among females (OR 1.64, CI 95% 1.04-4.09), or divorced or widowed patients (OR 2.77, CI 95% 2.37-3.33), or patients with secondary school education or less (OR 1.84, CI 95% 1.45-3.16), In addition, the odds of having retinopathy was greater among females (OR 2.54, CI 95% 2.01-3.16), or married patients (OR 2.48, CI 95% 1.16-3.25), or patients with secondary school education or less (OR 3.12, CI 95% 1.63-7.19). Finally, it was found that the odds of having peripheral neuropathy was greater among females (OR 2.70, CI 95% 2.09-5.27), or married patients (OR 2.94, CI 95% 1.50-3.61. *Conclusion*: The study concluded that females, lower socioeconomic determinants such as lower educational level, unemployment, poor glycemic control, higher duration of DM were significantly associated with a higher prevalence of T2DM complications.

Medical Science, 2021, 25(116), 2574-2587

Epidemiological analysis of coronavirus disease 2019 in Saudi Arabia

Mohammed Garout, Reda Goweda, Magda Abdelwadood, Nagham Abdul Rahman, Mariah Alahmadi, Reema Abuyabis, Raha Bogari, Kawlah Samarin, Sarah Filimban, Ahmed Faisal

Introduction: Coronavirus disease 2019 (COVID-19) was recognized as the reason of a group of respiratory infections in Wuhan, China. It spread quickly, leading to an epidemic followed by a worldwide pandemic. *Materials and methods*: This is a descriptive observational study depends on the daily report released by ministry of health (MOH) in Saudi Arabia regarding COVID-19 including: total number of new cases, new cases in each city, recovery cases and mortalities. This study analyzed the situation of COVID-19 from March 2nd, 2020, to May 7th, 2020. *Results*: First case was reported on 2nd of March 2020; the curve of new cases had an abrupt marked increase in the middle of April due to mass testing. As of 7th of May 2020, Saudi Arabia reported 33731 cases with incidence rate of (96.88/100000) and most of the new cases were reported in Makkah 7261 (21.5%). *Conclusions*: COVID-19 is a rapidly spreading virus. Saudi Arabia recorded the largest number of cases reported in a single Arab country. Mass testing has a significant increase of reporting new, recovery and death cases.

Medical Science, 2021, 25(116), 2588-2594

Cytogenetic prognostication of acute myeloid leukemia from a tertiary care hospital in Chennai

Suguna Elumalai, Chitralekha Saikumar, Florida Tilton

Introduction: Acute myelogenous leukemia (AML) comes under the class of haematological malignant disorders. Karyotypic aberrations at diagnosis are crucial for the assessment of the response to medication and the recognition of an initial recurrence of the disease. *Materials and Methods*: Thirty-five de novo subjects of myelogenous leukemia were enrolled in the study. Examination of AML was based on morphology on bone marrow (BM) aspirates; cytochemistry and chromosomal analysis were executed by unstimulated cultures using the regular cytogenetic technique. *Results:* There were 21 females and 14 males with an age group ≥ of 16 years. Cytogenetic investigation of these subjects showed normal karyotype in 7 (20%) patients and aberrant karyotype in 28 (80%) patients. Cytogenetic data in AML was grouped into three types: favourable risk, intermediate-risk, and unfavourable risk. Cases in the standard-risk group react well to the chemotherapy while cases with intermediate and unfavourable karyotype had relapsed. *Conclusion*: We endorsed that cytogenetics will be achieved frequently in all subjects of AML. During the investigation, molecular markers should be combined with cytogenetic studies for risk stratification to enhance the therapeutic scenarios.

Medical Science, 2021, 25(116), 2595-2601

RESEARCH

The modifiable and non-modifiable risk factors of hypertension in the adult population of Kelantan: Structural equation modeling approach

Mohamad Arif Awang Nawi, Nor Farid Mohd Noor, Wan Mohd Nazlee Wan Zainon, Muhamamd Amirul Mat Lazin

Introduction: Hypertension is a silent disease that can lead to serious complications such as heart failure, acute coronary syndrome, renal failure, and stroke if not treated early. This study is to elucidate a model of modifiable and non-modifiable risk factors for hypertension and this model could give a clearer picture regarding the relation of each risk factor towards hypertension based on the adult population in Kelantan, Malaysia. *Methodology:* Statistical analysis was performed by using AMOS software through Structural Equation Modelling (SEM). Unlike current methods that focus only on identifying direct associations between hypertension diseases but our method introduces the effects of multiple risk factors simultaneously in a single model involving modifiable and non-modifiable risk factors. *Results:* The risk factors listed below are considered to have a direct statistically significant effect on hypertension: age (0.122, p = 0.001), fibrinogen (0.091, p = 0.003), Body mass index (0.138, p = 0.001), Triglycerides (0.069, p = 0.028) and Diabetes status (0.133, p = 0.001). Family history of heart attack had no significant effect on hypertension in this study (0.016, p = 0.608). The final model demonstrated good model fit where GFI, AGFI, NFI, CFI and TLI value are 0.9 and above. *Conclusion:* The SEM analysis aids in a better understanding of hypertension risk factors and a higher level of confidence in controlling hypertensive patients' risk factors.

Medical Science, 2021, 25(116), 2602-2609

ANALYSIS

Relationship between the electrical activities of abdominal and back muscles in chronic low back pain

Hisham Mohamed Hussein

Background: Abdominal and back muscles are integral components in low back mechanics and control. Disturbances in their activities could result in chronic low back pain (LBP). *Objectives:* To assess the relationship between the electromyographic (EMG) activities of abdominal and back muscles and to establish a ratio between the EMG of both groups of muscles. *Methods*: Thirty patients diagnosed with chronic LBP participated in this study. EMG activities, measured as mean root squared, were recorded using surface EMG device during maximum voluntary isometric contraction. Tested muscles were rectus abdominus, external oblique, erectrospinae, and lumbar multifidus. *Results*: A strong positive relationship, ipsilaterally, was reported between the EMG of the rectus abdominus and both back muscles ($p< 0.05$). External oblique muscles showed insignificant relationship to the erectrospinae and lumbar multifidus muscles on the ipsilateral side ($p > 0.05$). *Conclusion*: Rectus abdominus EMG activities, during maximum voluntary isometric contraction, are positively proportional to the EMG of ipsilateral erectrospinae and lumbar multifidus under similar conditions. Patient with LBP induced back muscle weakness could also demonstrate abdominal muscle weakness.

Medical Science, 2021, 25(116), 2610-2616

Endoscopic retroperitoneal lumbar sympathectomy in treatment for chronic lower limb non-atherosclerotic ischemia

Tran Vinh Hung, Nguyen Van Viet Thanh

From January 2018 to December 2020, we performed a retrospective study on 32 cases of chronic lower limb non-atherosclerotic ischemia, included: 24 Buerger patients and 8 Raynauld patients. Patients' average age was 36.9 years. Male was 4 times more than female. Chief complaints were pallor and leg pain. History of disease was 12.7 months. 93.75% of the lesions happened on one leg. Smoking (81.25%) was prominent risk factor. All cases were successfully performed by endoscopic retroperitoneal lumbar sympathectomy with accurate histopathological result of sympathetic nervous tissue. Operation time: 70.5 ± 11.5 minutes, post-op days: 4.2 ± 2.1 days, hospital days: 10 ± 7.7 days, blood loss volume: 10.3 ± 4.9 ml. There were not operative accidents or complications. In post-op period, 43.75% of the patients had mild pain, others were without pain. 100% of the wounds healed well, no infection was recorded. Short-term results showed a statistic significance of 6 improved symptoms against preoperation. The improved symptoms include: numbness, intermittent claudication, rest pain, pulselessness, coldness, pallor. The mid-term results showed a statistic significance of 6 improved symptoms against preoperation: numbness, intermittent claudication, rest pain, pulselessness, coldness, pallor. But, compared with short-term results, there were 8 progressive symptoms: numbness, intermittent claudication, rest pain, coldness, pallor, gangrene, paralysis. After endoscopic retroperitoneal lumbar sympathectomy, time of amputation was 39.6 months. The common amputation ratio in our study was 25% but the amputation ratio of Buerger group was 33%. Absolute effect on Raynauld group (1 year post-op) showed no case of leg ischemia, no case of amputation.

Medical Science, 2021, 25(116), 2617-2623

Breast feeding and its association with childhood leukemia: A retrospective case-control study among children attending King Abdulaziz University Hospital in Jeddah, Saudi Arabia

Ola Abudaowd, Ghaida Aljahdali, Siham Subki, Raghad Alsaaedi, Alya Alsiyoufi, Basool Al Khotany, Rozan Altaifi, Hanan Al Kadi

Objectives: Breastfeeding has a protective impact upon many diseases. However, limited evidence exists on the association between breastfeeding and childhood leukemia. Therefore we investigated this relationship among children attending King Abdulaziz University Hospital (KAUH), Jeddah, Saudi Arabia. *Methods*: This retrospective case-control study included children attending KAUH from 2008 to 2019. We compared 74 children diagnosed with leukemia with 148 age- and sex-matched controls. *Results*: Significantly longer breastfeeding duration occurred in cases (15 months) than in controls (12 months). Breastfeeding

duration and pattern were not associated with reduced childhood leukemia risk. Antenatal exposure to pesticides and amphetamine consumption, intrapartum pain killer use, and child exposure to pesticides increased childhood leukemia prevalence. Higher socioeconomic status and higher level of parental education, preconception oral contraceptive pill use, supplemental folate use during pregnancy, and mothers' exposure to general anesthesia during delivery were associated with decreased childhood leukemia risks. *Conclusion*: Breastfeeding duration and practice were not associated with childhood leukemia, possibly because breastfeeding is widely practiced in Saudi Arabia. Future studies are needed to further explore the effects of breastfeeding on childhood leukemia.

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Comparison of analgesic and hemodynamic effects of intravenous ketorolac and morphine sulfate with morphine sulfate alone in patients undergoing simple abdominal surgery

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Introduction: Postoperative pain can cause short-term and even long-term complications. Therefore, the present study is aimed to compare the hemodynamic and analgesic effects of intravenous ketorolac and morphine sulfate with morphine sulfate alone in patients who were candidates for simple abdominal surgery. *Materials and Methods*: This clinical trial was performed on patients who were volunteers for a simple elective abdominal surgical procedure. Patients were separated to 2 main groups receiving ketorolac plus morphine sulfate, and morphine sulfate group alone. Hemodynamic variables and pain scores and influencing factors in both groups were examined during follow-up periods. *Results*: Mann-Whitney test revealed that there was not any significant difference between the two studied groups in terms of age, gender, marital status, economic status, employment status, medical history, and weight, systolic and diastolic pressure ($P > 0.05$). The mean pain score in the intravenous ketorolac group plus morphine sulfate was 28.12, while the median for the morphine sulfate group was significantly lower compared to the other studied groups 41.78. Also, the comparison of the mean pain intensity straightly, 2, 6, 12, and 24 hours after surgery in the patients of the two groups showed significant differences where the amount of pain in both groups was significantly reduced over time. *Conclusion:* Our findings revealed that intravenous ketorolac/morphine sulfate had a more preventive effect in reducing pain compared to morphine sulfate. The results of this study can be a guide to reduce complications and pain in patients undergoing simple abdominal surgery.

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Assessment of effectiveness of platelet rich fibrin in comparison to open flap debridement in the treatment of three walled intrabony defects in stage II and stage III periodontitis: A clinical study

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Background: Platelet Rich Fibrin, (PRF) a new generation Platelet concentrate, provisioned with simplified preparation and agglomeration of various growth factors has been used for regeneration of periodontal intrabony defects. The goal of this study was to evaluate and compare the effectiveness of Platelet Rich Fibrin with Open Flap Debridement (OFD) in the treatment of three walled bony defects in stage II and stage III Periodontitis. *Method*: In a split-mouth study design, fifty interproximal intrabony defects in 25 healthy patients diagnosed with Stage II and Stage III Periodontitis were randomly assigned to Open Flap Debridement group (Group I) or Platelet Rich Fibrin group along with Open Flap Debridement (Group II). Clinical pocket depth (PD), clinical attachment level (CAL) and radiographic (bone fill) measurements were made at baseline and at a 9 -month evaluation. *Results*: At 9 months postoperatively, upon comparing the PD reduction, defect depth reduction, and clinical attachment level gains, it was noted that group II showed statistically-significant improvements compared with group I in PD (3.62 ± 0.52 vs 5.30 ± 0.86 mm) CAL Gain (4.30 ± 0.87 vs 3.12 ± 0.29 mm), bone fill (5.12 ± 0.54 vs 8.96 ± 0.99mm). *Conclusion*: The results of this study indicate that PRF in comparison to OFD improve clinical and Radiographic Parameters associated with treatment of 3 walled intrabony Periodontal Defects.

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Anatomical and radiological study of the brachial plexus using ultrasonography

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The ultrasonography is able to reveal in-depth anatomical components of brachial plexus and to locate any lesions have been demonstrated. This study aimed to evaluate the normal cross-sectional area (CSA) of the brachial plexus nerves in the interscalene groove. Also, to correlate the anatomical specimen's with image the brachial plexus nerves. Lateral photographs of twenty plastinated sections of head and neck specimen to study the brachial plexus roots in the groove between middle and anterior scalene muscles. On the same time, fifty-five healthy volunteers of different age groups were included in our study. Ultrasound of roots of the cervical nerves was performed on both sides. The average cross-sectional area of the roots was estimated. There was a positive statistical association between the CSA of cervical nerves. These data may be beneficial in future studies designed to assess the brachial plexus injures.

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RESEARCH

Assessment of eating disorder and obesity among youth in Saudi Arabia

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Objectives of the present study were; to compare the eating disorders among different classes of obesity; to study the association of eating disorder with sleep, smoking, meal and physical activity; and to investigate the relationship of obesity with eating disorders. We divided 55 selected participants into three different groups of obesity; Obese Class I (30 < 35 kg/m^2), Obese Class II (35 < 40 kg/m^2) and Obese Class III (≥40.00 kg/m^2). We administered Eating Disorder Examination Questionnaire (EDE-Q) to all participants. Demographic data was collected through online questionnaire. To compare EDE-Q scores, one-way anova was employed. To examine association of EDE-Q with sleep, meal habits, smoking and physical activity, Chi Square was used. To investigate relationship between relationship obesity and eating disorders, Pearson product moment correlation was used. There was no significant difference in EDE-Q obese groups, F (2.52) = 0.247, p = 0.782. Our analysis could not establish any significant relationship between Obesity and EDE-Q (r= -0.11, n=55, p= 0.938). No significant association was seen between eating disorder and physical activity X (1) = .582, p=0.748; smoking X (1) = .004, p=0.947; sleep X (1) = .845, p=0.362; and meal status X (1) = 1.331, p=0.514. It can be concluded that although no significant difference was seen in EDE-Q but in all three obese classes EDE-Q scores were on higher sides. No correlation seen between obesity and EDE-Q.

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ANALYSIS

Awareness of life style related diseases and their risk factors among diabetes mellitus and hypertension patient visiting secondary hospitals in Saudi Arabia

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Background and introduction: Hypertension and diabetes are silent killers globally, and they're a big risk factor for other diseases including cardiovascular disease and kidney diseases. Based upon statistics by the World Health Organization, approximately 80% of the 17 million CV deaths worldwide in 2003 occurred in developing countries. As a result of that we aimed to determine the level of awareness of life style related diseases and their risk factors among diabetes mellitus and hypertension patients. *Objective:* to assess the level of awareness of lifestyle-related diseases and their risk factors among diabetes and hypertension patients visiting secondary hospitals in the Qassim region. *Methodology*: A cross-sectional, questionnaire based survey conducted in 320 diabetes and hypertension patients in Qassim region, Saudi Arabia. *Results:* Majority of the participants fell in the age group of 61-70 years (27.5% in hypertensive group and 39.4% in diabetic group). (138) of the hypertensive participants correctly answered that HTN is a disease, (142) knew that high blood pressure affects the heart, (136) knew that diet rich in salt is a major cause of HTN. In diabetic group, (112) correctly answered that DM is a condition in which body contains, (118) knew that diabetes can be cured by diet and exercise, (143) knew the accurate method of monitoring diabetes. *Conclusion:* both groups have acceptable understanding and awareness on HTN, DM and comorbidities. Education was found to have a great role in awareness.

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CASE REPORT

Stenosis of large lower limb arteries in a teenager after COVID-19 infection

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The aim of the present study is to report a COVID-19 infection sequel in large lower limb arteries in adolescent. An 18-year-old female adolescent those two weeks after COVID- 19 she had severe pain in her right leg that limited her walking and was admitted to hospital. Upon admission, a clinical history and physical examination were performed and the absence of pulses in the femoral was detected. An angiotomography was requested, which revealed thrombosis in a portion of the external iliac artery, femoral, popliteal and tibial. She underwent an embolectomy that progressed well and is discharged from the hospital with anticoagulation using sodium warfarin. In outpatient follow-up, she underwent a control examination with arterial duplex of the right lower limb, eight months after the event, with a finding of stenosis greater than 50% of the diameter, suggesting an inflammatory process in the iliac femoral artery and a significant reduction in the diameter of the artery posterior tibial artery. The clinical evolution of post COVID-19 patients who had arterial thrombotic events should be monitored for possible sequelae that may occur.

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ANALYSIS

Prevalence and association of self-medication on patient health in Medina

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Background and Objectives: Self-medication is defined as using drugs without doctor prescription, whether it is modern or traditional treatment through different sources that allowed them to take these medications individually. The World Health Organization (WHO) considers self-medication as a serious problem. This study aimed to explore the prevalence and the association of self-medication among the population in Medina. The study also aimed to know the resources, reasons, knowledge, and other aspects of self-medication. Methods: This is a community-based cross-sectional study has been conducted in Medina, Saudi Arabia. The duration of study was one year. The sample includes 281participants. An online questionnaire has been designed to reach the research goals. Statistical Package for the Social Sciences (SPSS) 22.0 has been used to analyze the collected data. The research used texts, tables, and graphs to present the statistical data. *Results:* The study showed that (58%) of the participants practiced self-medication. The most common reasons for using self-medications are having an old recipe (33.1%), or to save time (33.1%). The most common symptom for using self-medication is headache (70.6%). The most used medicine in self-medication is analgesics (42.9%). Most of the participants received information about the medicines from the drug leaflet (45.4%). *Conclusion*: Self-medication is a serious problem. The prevalence of self-medication is less in this study comparing to other studies around the world. More attention and protocols may help to reduce the prevalence.

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Prevalence of burnout syndrome and its associated factors among undergraduate, graduate and postgraduate dental students in a private University, Riyadh, Saudi Arabia

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Background/Introduction: Assessment of burnout and its relationship to sociodemographic characteristics among undergraduate, graduate, and postgraduate dental students is essential to study students' academic performance. *Objectives:* This research aimedto assess the frequency of Burnout Syndrome among undergraduates, graduates, and postgraduate dental students of a private university. *Materials and method*: The present study is a descriptive cross-sectional survey conducted among conveniently selected 406 dental students from a private university. The study subjects included preclinical (120), clinical (174), intern (71), and postgraduates (41) dental students of Riyadh Elm University, Riyadh, Saudi Arabia. *Result*: The interested participants were given a self-administered, structured questionnaire with ten sociodemographic characteristics and 15 Maslach Burnout Inventory Student Survey (MBI-SS) questions in Arabic and English. Statistical analysis included frequency distribution, mean and standard deviation values. In addition, an independent t-test, one-way analysis of Variance (ANOVA) followed by Turkey's multiple comparison tests, were applied to the data. The level of significance was set at a p-value < 0.05. *Conclusion:* The increased academic burden and the cumulative stress of clinical requirements may have resulted in a higher level of burnout among clinical level students than preclinical dental students.

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Covid-19 and its impact on education, social life, and mental health among medical students in Saudi Arabia

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Background: As COVID-19 pandemic reached Saudi Arabia, emergency disaster protocols were implemented to control the spread of the virus, which resulted in limitations on all public movements, including the closure of educational institutes. This study aimed to evaluate the impact of COVID-19 on education, social life, and mental health among medical students during COVID-19 restrictions. *Methods:* A cross-sectional study with a sample size of 1253 medical students from various universities in different regions in Saudi Arabia was conducted. Survey data were obtained from social media platforms using web-based self-administered questionnaires. *Results*: This study revealed large acceptance of online classes (64.1% of students), however, students reported less opportunities to both collaborate with colleagues, and ask questions during online classes. Improved student's education skills including time management, self-monitoring for academic progress, access and using different types of information sources, and multitasking was demonstrated. Regarding effect of COVID-19 on students' social and habitual life, 52.9% reported satisfaction with utilization of their time, however, 52% stated socially not well connected, 36.3% never engage in physical activity, 42.4% reported increased body weight, and only 25% were able to sleep as usual. Social media platforms were at the fore front in using to overcome loneliness feeling and communicate with others. *Conclusions:* Positive impact of COVID-19 on education was demonstrated in terms of the large acceptance of online classes and improvement of education skills. However, negative impact on social life was established including poor social communication, disturbed sleep habits and poor engagement in physical activity.

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Knowledge, attitude and practices of Saudi population in Arar regarding epilepsy and seizures

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Background: Persons with epilepsy remain to agonize from stigma expressed or professed based on myths, fallacies, and confusions that have persevered for countless years. *Objectives*: To study awareness and knowledge of the population about epilepsy and

seizures and to study the attitude and practice of population towards treatment of epilepsy and seizures in KSA. *Methods*: A cross sectional Hospital based study design was adopted. The study was carried out in Arar, KSA, during the period from April 1st to July 31st, 2021. *Results:* In our study, 47.1% of participants think temporary confusion is a symptom of epilepsy, 59.2% staring spell, 72.3% jerking and jerking movements, and 85.8% loss of consciousness. Regarding cause of epilepsy, only 68.1% of participants in our study think that genetics and family history have role in developing epilepsy, 75.3% head trauma, 76.9% brain diseases, 21.4% infectious diseases, 39.6% prenatal injuries, and 49% developmental disorders. In the current study, 8% believed there is treatment for epilepsy but only 33.6% knew there was a surgical treatment. In response to first aid measures for epileptic fits; 73.4% reported removing all objects that may be harmful from around the victim, and call 911. *Conclusion*: Epilepsy is still poorly understood in the Arar community. Knowledge and attitudes about epilepsy need to be changed. Misunderstandings must be corrected by physicians and health educators, and they must educate both patients and their families about the nature of the disease and how it should be treated.

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Assessment level of awareness of Vitamin D deficiency among the public residents of Al-Baha region; Saudi Arabia

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Background: Vitamin D deficiency is a common problem worldwide. One of the main reasons for the spread of this nutritional disorder is the lack of knowledge and understanding of the importance of vitamin D and its role in health and disease. *Objectives:* To assess the awareness and knowledge of vitamin D among the population of Al-Baha Region, Saudi Arabia. *Methods:* Data for this cross-sectional study were acquired using a structured electronic survey translated to Arabic that covered the sociodemographic profile and several awareness domains (knowledge, benefits, sources, and toxicity), using answers from participants over 18 years. This online survey was conducted for three months from December 2020 to obtain 410 total valid answers. *Results:* The study showed that 49.1% of females (opposed to 36.3% males) had a diagnosis of vitamin D deficiency; 69.8% believed rickets was treatable with vitamin D, while 60.7% agreed that vitamin D was essential for maintaining calcium and phosphate homeostasis. Moreover, 79% agreed that vitamin D was crucial for bone and teeth. 72% agreed that vitamin D enhanced immunity, 91.2% believed that sunlight exposure promoted vitamin D production, while only 13% of participants agreed that vitamin D content was higher in meat than in vegetables and fruits. 29.5% agreed that exposure to sunlight did not lead to vitamin D toxicity, while 11.5% agreed that people with darker skin were prone to vitamin D deficiency. *Conclusion:* Public awareness of vitamin D and its deficiency is low, particularly in the sources domain. Therefore, educational campaigns are needed to improve knowledge levels.

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Investigation of psychometric properties of Persian version of Pregnancy-Related Anxiety Questionnaire-Revised 2 (PRAQ-R2) for primiparous women

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Introduction and purpose: Pregnancy anxiety is a strong predictor of negative birth outcomes. Therefore, carrying out adequate assessment of pregnancy-related anxiety as well as conducting extensive research on this area is of paramount importance and this, in turn, necessitates the provision of specific reliable, valid tools. For instance, Pregnancy-Related Anxiety Questionnaire – Revised 2 (PRAQ–R2) is a widely used instrument. Taking a step in this perspective, the present study is aimed at determining psychometric properties of PRAQ-R2 for a sample of primiparous women in Iran. *Method*: This descriptive-cross sectional study was undertaken based on 183 primiparous women in Tehran, Iran. The convenience sampling method using is Google Form. To this aim, PRAQ–R2, Five-Facet Mindfulness Questionnaire (FFMQ), the Wijma Delivery Expectancy-Experience Questionnaire (W-DEQ) along with the required demographic information were entered and transformed into a Google-Form survey and distributed among primiparous, pregnant women through social networks. *Results*: Internal consistency that measured with Cronbach's alpha was 0.85. The alpha coefficient for the subscales was also higher than 0.77. PRAQ-R2 questionnaire has a positive and significant relationship with W-DEQ and has a negative and significant relationship with FFMQ, which indicates the appropriate convergent and divergent validity of the questionnaire. Finally, Confirmatory Factor Analysis (CFA) showed that the three-factor model enjoys an acceptable fit. *Discussion and conclusion*: PRAQ-R2, suggesting acceptable validity and reliability measures for assessing primiparous women's pregnancy-related anxiety, thus, can be used for research and clinical purposes.

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