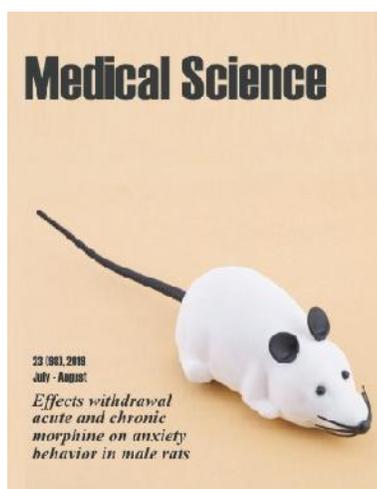


Medical Science

About the Cover



The opioid medicines administration affects anxiety processes inconsistently in an acute and chronic form. On the other hand, isolation and socially rearing is not obvious on behavioral differences in the dependency and withdrawal process. This study examines isolation and socially rearing rats on the anxiety behavior in the chronic and acute dependency on the morphine or withdrawal of it. In this experimental study, 64 male Wistar rats were divided into 8 groups of eight each: isolation and socially rearing, then these groups were divided into control (saline) and morphine sulfate (10 mg/kg) and each one of them includes the acute and chronic subgroups. The injection was conducted intraperitoneally for 10 days in acute groups and in chronic groups for 60 days. The rats were quitted after the end of the period of dependence with withdrawal drug, and their anxiety and locomotors activity indexes were measured by elevated plus maze (EPM). The results of this study indicate that, 5 days after morphine withdrawal, the percentage of the time spent on the open arm of EPM was significantly decreased compared to the control group. Also, the percentage of the time spent on the open arm in isolation-reared groups compared to the corresponding group in socially reared groups has significantly decreased ($P < 0.05$). However, locomotor activity in the isolation and socially reared groups does not show significant differences. The findings of this study indicate that life in isolation-reared rats can increase the level of anxiety and increase the chance of addiction recurrence. (Ref: Ghasemali khodabandeh, Gholamhassan Vaezi, Vida Hojati, Shahram sharafi. Effects withdrawal Acute and chronic morphine on Anxiety behavior in Male Rats under Isolation and Socially Rearing. *Medical Science*, 2019, 23(98), 410-417).

RESEARCH

Effects withdrawal acute and chronic morphine on anxiety behavior in male rats under isolation and socially rearing

Ghasemali khodabandeh, Gholamhassan Vaezi, Vida Hojati, Shahram sharafi

The opioid medicines administration affects anxiety processes inconsistently in an acute and chronic form. On the other hand, isolation and socially rearing is not obvious on behavioral differences in the dependency and withdrawal process. This study examines isolation and socially rearing rats on the anxiety behavior in the chronic and acute dependency on the morphine or withdrawal of it. In this experimental study, 64 male Wistar rats were divided into 8 groups of eight each: isolation and socially rearing, then these groups were divided into control (saline) and morphine sulfate (10 mg/kg) and each one of them includes the acute and chronic subgroups. The injection was conducted intraperitoneally for 10 days in acute groups and in chronic groups for 60 days. The rats were quitted after the end of the period of dependence with withdrawal drug, and their anxiety and locomotors activity indexes were measured by elevated plus maze (EPM). The results of this study indicate that, 5 days after morphine withdrawal, the percentage of the time spent on the open arm of EPM was significantly decreased compared to the control group. Also, the percentage of the time spent on the open arm in isolation-reared groups compared to the corresponding group in socially reared groups has significantly decreased ($P < 0.05$). However, locomotor activity in the isolation and socially reared groups does not show significant differences. The findings of this study indicate that life in isolation-reared rats can increase the level of anxiety and increase the chance of addiction recurrence.

Medical Science, 2019, 23(98), 410-417

The effect of web-based education on disease activity, symptom management and quality of life in patients with inflammatory bowel disease: randomized-controlled study

Berna Nilgun OZGURSOY URAN, Yasemin YILDIRIM, Fisun SENUZUN AYKAR, Belkis UNSAL

The aim of the study is to determine the effect of web-based education on disease activity, symptom management and quality of life in individuals with inflammatory bowel diseases. This randomized controlled study was carried out with two groups that were web-based and standard education groups. The disease information was given either via website or educational books. At the beginning of the study, it was found that the majority of the patients who were in the mild disease stage mostly entered remission during the study, however, there was no significant difference found between the groups in terms of disease activity according to measurement times. It was determined that there was a significant difference among severity averages of diarrhea, abdominal pain and faecal blood symptoms of patients in both two groups with regard to the time interaction. It was observed that there was no significant intra- and intergroup difference in terms of the quality of life scores of the education groups, but there was an improvement observed in the quality of life of the patients over time. In this study, there were no significant differences found between the web-based and standard education, however symptom severity, disease activity and quality of life were found to be improved in both groups. It was concluded that is structured or individualized education is effective and important.

Medical Science, 2019, 23(98), 418-431

ANALYSIS

Self-efficacy and nutritional behaviors in young adolescents: A Model-guided Study

Parisa Kasmaei, Parisa Mirzajanzade, Nooshin Rouhani-Tonekaboni, Asieh Ashouri, Iraj Zareban, Hossein Izadi Rad, Fardin Mehrabian

Healthy eating habits during childhood will affect development and that is the key to a healthy life. Pre-adolescence is an essential time for the formation and stability of behaviors. The aim of this study was to determine the predictive power of the Health Belief Model (HBM) and its constructs in nutritional behaviors in young adolescents. This cross-sectional study was conducted on the 332 (164 boys and 168 girls) fifth-grade of governmental public primary schools (ages 10-11 years old) in Rasht city, the center of Guilan province of the north of Iran during February 2017. Students were selected using a cluster random sampling procedure. Data collection instrument was a questionnaire. In order to examine HBM constructs most predictive of nutritional behaviors, stepwise multiple regression analysis was performed. There was no statistically significant difference between demographic variables and nutritional behaviors ($P > .05$). Stepwise regression showed that HBM could predicted 22% of the variations of the student's nutritional behaviors with the constructs of perceived self-efficacy ($B = 0.217$, 95% CI = 0.156 - 0.279, $P < 0.001$), barriers ($B = -0.114$, 95% CI = -0.177 - 0.051, $P < 0.001$) and benefits ($B = 0.100$, 95% CI = 0.026 - 0.175, $P < 0.001$). According to the predictive power of the HBM, the educational interventions based on this model with emphasis on the construct of perceived self-efficacy is suggested for these young adolescents.

Medical Science, 2019, 23(98), 432-440

CLINICAL TRIAL

The effectiveness of adding low dose of ketamine to the injected morphine in opioid-addicted patients admitted to emergency ward with acute fracture: A double-blind clinical trial

Hassan Amiri, Mahdi Foroughian, Esmaeil Rayat Dost, Samaneh Abiri, Mohamad Javad Zarei

Patients with fractures are among the patients visiting the emergency ward the most. Pain control in these patients has many advantages both ethically and scientifically (physiologically and psychologically) both for the patient and the health system. Many studies have shown that the addition of low doses of ketamine to morphine, which is the standard painkiller of the emergency ward, can reduce the severity of acute pain in patients and the adverse events of morphine. The study tried to examine the effectiveness and the safety of the addition of low doses of ketamine to injected morphine in opioid-addicted patients admitted to emergency ward with acute fractures. The study was a double-blind clinical trial where 128 patients, who were addicted to different types of opioids based on their self-report and admitted to the emergency ward with acute fractures of the long bones of each of the four limbs, were randomly assigned to two groups: receiving morphine / placebo and morphine/low dose of ketamine. The severity of pain and adverse events of the injectable medication were measured and recorded before receiving the pain medication and 15, 30, 60 and 90 minutes after and compared at the end of the study. The data was analyzed in SPSS16 using descriptive and inferential statistical tests at the significance level of $P < 0.05$. The severity of pain was similar in both groups before pain medication and 15, 30, 60 and 90 minutes after with no significant difference between the two groups. The incidence of adverse events in the morphine / ketamine group was significantly higher than that of the morphine / placebo group. The addition of intravenous low ketamine dose to injectable morphine sulfate cannot increase the effectiveness of pain control in opioid addicted patients with acute fractures. Significant increase in adverse events in the group receiving low dose of ketamine besides morphine sulfate questioned the safety of this medication for patients.

Medical Science, 2019, 23(98), 441-451

ANALYSIS

The number of repetitions of the McGill tests to reliably determine core muscle endurance in subjects with and without chronic nonspecific low back pain: A cross sectional study

Naeemeh Haddadi Esfahani, Zahra Sadat Rezaeian, Jan Dommerholt

McGill tests are popular and practical clinical tests for evaluating the isometric endurance of core muscles. Previous studies have reported the mean or maximum rate of the McGill tests from one to three times of McGill tests. *Objective:* To assess the number of repetitions of the McGill tests to reliably determine core muscle endurance in subjects with and without nonspecific low back pain. *Methods:* The participants were 50 (24 males and 26 females) sedentary subjects with and without chronic nonspecific low back pain. Isometric core muscle endurance of the trunk flexion, extension and lateral flexion (right and left) was measured using the McGill tests. The order of the test was set randomly and each test was repeated three times with 5-minute rest intervals. The subjects were recruited from state and private companies and organizations and were purposefully assigned into low back pain and without low back Pain group. In each test, three trial scores, maximal score and mean score were reported. The frequency of reporting maximal score in first, second and third trial was determined and compared within groups using McNemar test and between groups using Mann-Whitney U test. *Results:* For all McGill test, the maximum score trials was significantly greater than the mean score in both groups ($P \leq 0.001$). For trunk flexion endurance, the probability of obtaining the maximal score in the first couple of trials was up to 80% and 92%, 76% and 84% for the trunk extension endurance, 72% and 76% for right lateral flexion endurance and 92% and 76% for left lateral flexion endurance in LBP and WLBP subjects respectively. *Conclusion:* Two repetitions of McGill tests seem to be sufficient to detect core muscle endurance in subjects with and without chronic nonspecific low back pain.

Medical Science, 2019, 23(98), 452-461

The role of maternal stress, cortisol and IL-12 in cases of missed abortion in the first trimester of pregnancy in Saudi women

Khulood S Hussein

Missed abortion in early pregnancy is a common gynecological condition and the incidence has been increasing presenting itself as public health problem. This study aimed to examine stress, cortisol concentration, and altered IL-12 levels in women who experienced missed abortions. Women with missed abortions ($n = 40$) were matched with control women of the same age in the same stage of pregnancy ($n = 30$). Participants filled out a survey about common stress factors. Venous blood samples were taken from the patients at 7:00 a.m. IL-12 concentrations were detected by ELISA, and serum cortisol was measured by electrochemiluminescence immunoassay. Women with missed abortions reported significantly more common stressors, and their serum cortisol and IL-12 concentrations were significantly higher than those of the women with normal pregnancies (all $P < 0.05$). Receiver operating characteristic (ROC) analysis was used to assess the power of the studied parameters to predict women at risk for missed abortion. IL-12 performed the best in predicting women with missed abortions as it had the highest area under the curve (AUC), followed by cortisol. Stress and changes of the immune system may play a role in the etiology of missed abortion in Saudi women in early pregnancy.

Medical Science, 2019, 23(98), 462-469

RESEARCH

An investigation into the relationship between amniotic fluid sludge in the second trimester of pregnancy and preterm labor

Fatemeh Mastari Farahani, Maryam Shokrpour, Alireza Kamali, Fatemeh Safi

Amniotic fluid sludge is an additional ultrasound indicator for preterm labor. Amniotic fluid sludge refers to dense particles near the inner cervical spine. Amniotic fluid 'sludge' is defined as the presence of dense aggregates of particulate matter in close proximity to the internal cervix. It is of clinical significance in asymptomatic patients at high risk for spontaneous delivery, and in patients with preterm labor and intact membranes. Sub-chorionic hematoma is another ultrasound finding that is associated with a higher incidence of threatened miscarriage and preterm delivery. Given the ultrasound imaging features, it is similar to the gallbladder sludge. This study aimed to investigate the relationship between amniotic fluid sludge in the second trimester of pregnancy and preterm labor. This cross-sectional, analytical study was carried out on pregnant women with amniotic fluid sludge referring to the radiology clinic. Pregnant women underwent ultrasound and examined if they had amniotic fluid sludge. Accordingly, 347 people were selected. Firstly, characteristics such as age, location, education level, occupation, number of pregnancies, labor, and abortion were completed by a specialized radiologist. The amniotic fluid sludge was investigated within 14-18 weeks, 20-24 weeks and 24-28 weeks. The cervical length was measured at 20-24 weeks and the duration and method of labor were recorded. Finally, the data were analyzed using SPSS (version 20). There was no relationship between preterm labor and the observation of sludge in the second trimester ($P = 0.951$). There was a relationship between the number of pregnancies and the number of deliveries and the observation of sludge in the second trimester ($P = 0.0001$). There was a positive relationship between the number of pregnancies and the observation of sludge in the second trimester ($r = 0.293$). There was a positive relationship between the number of births and the observation of sludge in the second trimester ($r = 0.247$). There was no relationship between preterm labor and amniotic fluid sludge in the second trimester. Further studies are required in this regard.

Medical Science, 2019, 23(98), 470-477

Survival rate of Breast Cancer patients referring to the Radiotherapy center, 2005 to 2018

Simin Soltaninezhad, Mohammad Hasan Larizadeh, Maryam Bahador

Breast cancer is one of the most common and worrying health problems in women around the world. Several factors, namely, age, breed, spread of disease, stage of diagnosis and lymph node involvement play a role in prediction of survival rate in breast cancer patients. This study was conducted aiming to determine the survival rate of women with breast cancer in Kerman, Iran. This retrospective study was conducted on all female patients with breast cancer who were referred directly to the radiotherapy unit at Besat clinic and Shafa Hospital in Kerman, Iran from 2005 to 2018. The study sought to determine the survival probability of patients with breast cancer based on receptor status as well as other prognostic factors such as age, histopathology, stage/grade of tumor, metastatic status, and surgical procedures using the life table and Kaplan-Meier curves. Different subtypes were generated based on expression of ER, PR, Ki67 and HER2, positive (+) and/or negative (-). The mean age at breast cancer diagnosis was shown to be 53.76 ± 11.54 . It was found that the survival rate of breast cancer patients with MRM surgery was higher than those with BCS ($P=0.009$). Overall survival has not been significantly different for type of stage. After four years, survival of patients with HER2-positive was shown to decrease. Overall survival was statistically significant for $Ki67 \geq 15$ and <15 ($P= 0.002$). Survival of patients with positive ER and PR was not different than those with negative ER and PR ($P=0.64$). Patients with metastasis to vertebra showed a better survival rate in primary stages compared to other parts of the body. Overall survival was different for two surgery methods, HER2 and Ki67 gene expression status and age at the time of diagnosis, which was statistically significant.

Medical Science, 2019, 23(98), 478-487

REPORT

The causes of poisoning in children under 14 years old referred to Amir al-Momenin Ali hospital, Zabol, Iran

Majid Reza Akbarizadeh, Mahin Naderifar, Abdolghani Abdollahimohammad, Khadijeh Saravani

Children poisoning is one the most common pediatric emergencies. The aim of this study was to find out the causes of poisoning in patients under 14 years old who were referred to Amir Al-Momenin Ali Hospital in Zabol in 2017. This cross-sectional study was performed in Amir al-Momenin Ali hospital in Zabol. The samples were poisoned children under the age of 15 years old who referred to the emergency department. Data was collected by a physician through parents' interviews and a physical examination. Data were analyzed using SPSS 20. Of the 40 cases who admitted to emergency department, 52.5% were above 10 years old. The most common causes of admission and hospitalization of children under the age of 10 years were organophosphorus poisoning (17.5%), then the incidental taking pill (10%), poisoning with detergents (7.5%), and taking of narcotic drugs by the parents to the child (7.5%). Taking drugs was the most common cause of poisoning (45%) in children above 10 years old. Increasing the information and awareness of parents about how to use and consume the drugs, how to store the drugs, the unavailability of organophosphorus, detergent, bleach, and petroleum in children is very important.

Medical Science, 2019, 23(98), 488-491

RESEARCH

Maternal risk factors associated with Autism among children in Tabuk Autism Center

Nagwa Gad, Mohamed Elbatanony, Shamina Begum, SawsanAl Blewi, AsmaaGhmaid, Abdalla Ali, Amina Altabbal, Omnia Elsefie, Mohammad Zubair, Marai M Alamri, Munirah Hamdan A Alkhriji, Alanoud Ibrahim S Albazei

Autism is a developmental disability characterized by impairment in social interaction, abnormalities in speech, and stereotyped pattern of behaviors with onset in childhood (under 3 years old). Due to the surge in the number of children diagnosed with autism in recent decades, a wide range of studies have been done to identify the etiological risk factors of autism. It has been found that genetic and environmental factors are both involved in autism pathogenesis. In this study, a set of risk factors involved in the occurrence of autism has been collected, and some recommendations are represented to reduce the risk of this disease in children.

Medical Science, 2019, 23(98), 492-504

ANALYSIS

Metformin compared with diet or insulin in the management of gestational diabetes in clinical practice

Tagreed Hamood Hatem, Nisreen Ali Hussein

This study involved 150 women with singleton pregnancies diagnosed with GDM, and they were divided into three groups (50 women managed with diet, 50 women managed with insulin and 50 women managed with metformin). The study aimed to compare the maternal and neonatal outcome according to different treatments. The study carried out in Baghdad Medical city, from the period of March 2013 to July 2014. The rate of cesarian delivery was higher in those treated with insulin compared to those on metformin and diet (46%, 26%, and 22% respectively), also insulin receiving women had higher rate of preterm birth compared to those on metformin and diet (20%, 4%, and 8% respectively), neonatal admissions (20%, 4% and 6%, respectively), neonatal intravenous dextrose use (22%, 6%, and 8%) compared to metformin and diet. In conclusion, the use of metformin was associated with fewer adverse outcomes compared with insulin.

Medical Science, 2019, 23(98), 505-509

The effectiveness of stress reduction based on mindfulness on students' education self-concept and shyness

Elham Esmaeil-nezhad, Samira Elhami, Ahmad Shams Abadi, Marzieh Rostami

The purpose of this study was to evaluate the effectiveness of the program of reducing the effectiveness of Stress Reduction, Based on Mindfulness on Students' education Self-Concept and Shyness. This research was experimental and based on pre-test and post-test design with control group. The statistical population of this study consisted of all 5th and 6th grade elementary school students in district 5 of Tehran in the academic year of 2015-16. Out of primary schools of boys in this area, a school was randomly selected and the fifth and sixth grade students of this school were given the Schick-Briggs Shyness Questionnaire and 40 of the students who were eligible for sampling were selected and the case group was randomly divided into two experimental and control groups (each group was 20). The experimental group received a "Mindfulness-Based Stress Management" program for 8 sessions of 2 hours that was performed once a week, but the control group did not receive any intervention. After the end of the sessions, both the experimental and control groups performed a post-test and after one month followed up and both groups completed the questionnaire again. The results of the covariance analysis showed that there is a significant difference between the mean scores of shyness, lack of determination and lack of confidence, distress and social exclusion and spatial range in relation to unfamiliar subjects in both the experimental and control groups. In the experimental group, the amount of shyness was significantly decreased. Also, there is a significant difference between the mean scores after academic self-concept and its dimensions including general, non-academic and non-teaching in the experimental and control groups, so that in the experimental group, the level of self-concept and its dimensions were significantly increased. The educational program for reducing mindfulness-based stress can reduce students' shyness.

Medical Science, 2019, 23(98), 510-522

Comparative biochemical study on the effect of ginger, orlistat or chitosan on obesity in experimental animals

Wafa S Alansari

Obesity is characterized by the expanded mass of adipose tissue, which is accompanied by fat accumulation. Adipose tissue is imperative for energy balance, as indicated by the metabolic necessities of the life form. This study made a comparison between commercially used anti-obesity drugs (Orlistat and Chitosan) and ginger as a natural weight management plant, on rats fed a high-fat diet (HFD) in order to explore some side effects of the drugs. Fifty albino rats were classified into five groups: control, HFD, HFD supplemented with dietary ginger, HFD supplemented with Orlistat and HFD supplemented with Chitosan. Results showed that all different treatments had a significant effect on reducing the body weight and lipid profile. Ginger supplementation increased high-density lipoprotein (HDL)-cholesterol compared with other treatments; it also did not change total bilirubin and pancreatic lipase activity, but Orlistat and Chitosan lowered the concentrations. A HFD changed levels of hepatic mRNA expression of glucose transporter-2 and pyruvate kinase, which were then counteracted by ginger, Orlistat and Chitosan. In conclusion, Orlistat and Chitosan reduce body weight by inhibiting pancreatic lipase, whereas ginger has a greater capability in reducing body weight without affecting the bilirubin concentration or inhibiting the pancreatic lipase level, with a positive effect on increasing HDL-cholesterol and peroxisomal catalase levels, suggesting that ginger has excellent potential against HFD-induced obesity.

Medical Science, 2019, 23(98), 523-531

Effect of group logotherapy on death anxiety and occupational burnout of special wards nurses

Mohammadali Sheykhi, Mahin Naderifar, Mohammadreza Firouzkohi Abdolghani Abdollahimohammad

Death anxiety and burnout are among common problems among healthcare workers, especially among nurses, and have an adverse effect on patient care, physical and mental health, and medical expenses. Logotherapy can reduce many psychological problems by giving meaning and purpose to life and work. The aim of the present study was to investigate the effect of logotherapy on death anxiety and burnout among special wards nurses. This is a quasi-experimental study, which was performed on two groups of 20 special wards nurses in Amiralmomenin Ali Hospital in Zabol in 2018. The data collection tool included three questionnaires demographic information, Temple death anxiety and Maslach job burnout. Before the intervention, both groups completed the questionnaires and then a 5-session one-hour logotherapy test was performed twice a week. The questionnaires were completed again by the two groups after 20 days. Data analysis was carried out using Chi-square and T-test in SPSS ver. 22. Findings showed that the mean death anxiety scores in the experimental group after group logotherapy significantly decreased from 51.15 to 45.05 ($p < 0.05$). Also, the mean burnout scores significantly decreased in the experimental group after group logotherapy training (56.45 to 42.15). The results also showed that there was a significant difference between the three areas of emotional exhaustion, depersonalization, and work engagement in the experimental group after group logotherapy ($p < 0.05$), which indicates the effect of the logotherapy, but it was not effective in the dysfunction dimension ($p > 0.05$). The results of the present study revealed that logotherapy reduces death anxiety and burnout among nurses, which can be used as a therapeutic method.

Medical Science, 2019, 23(98), 532-539

RESEARCH

Comparing the effect of education through SMS with face-to-face method on awareness and care in mothers with premature neonates

Farzaneh Rezaie, Mohammadreza Firouzkouhi, Abdolghani Abdollahimohammad, Mahin Naderifar

This study aimed to compare the effect of education through smart phone SMS and face-to-face method for mothers on the awareness and care for premature newborns hospitalized in Valiasr hospital in Birjand, Iran. In this quasi-experimental study, 15 mothers of premature neonates hospitalized in NICU ward of Valiasr hospital in Birjand were chosen and then assigned into intervention and control groups randomly. The required information was collected through mother and neonate demographics questionnaire as well as the questionnaire for measuring mothers' awareness about breast-feeding and premature neonatal care. The intervention group received education in a face-to-face session and then for four weeks through SMS. On the other hand, the control group received only one face-to-face educational session. After three months, we investigated the indices of neonatal development (height, weight, head circumference) and the premature neonate care measurement questionnaire. In order to compare the developmental indices regarding investigation of awareness and manner of care in both groups, independent t-test was used, with $P < 0.05$ considered significant. The neonatal development indices at the beginning of birth and three months later were measured which showed a significant difference in the intervention group. Furthermore, a significant difference was observed between the two groups in terms of awareness and manner of care provided by their mothers ($p < 0.05$). Education through SMS to mothers with hospitalized neonates is effective in persistence of care and controlling the natural course of growth of premature neonates. Thus, as cell phone is economical and usable by the most individuals in the society, it can be employed to improve health and for education in follow-up and helping in improvement of health status of premature neonates.

Medical Science, 2019, 23(98), 540-546

Minichromosome maintenance-2 as a biological marker of oral epithelial dysplasia and squamous cell carcinoma

Mohammed Abidullah, Prashant Nahar, Syed Afroz Ahmed

To evaluate the immunohistochemical expression of MCM2 in normal epithelium and in cases of oral epithelial dysplasia and squamous cell carcinoma and correlate MCM2 in different grades of dysplasia and different grades of oral squamous cell carcinoma. The study was carried to compare and evaluate the expression of MCM2 in OED and OSCC. The study comprised of 15 cases of oral squamous cell carcinoma and 15 cases of oral dysplastic epithelium. The criteria used to define MCM2 positive cells were: brown staining of nuclei. 10 random fields were chosen and 100 cells were counted. In different grades of dysplasia, the mean labeling index of MCM2 in different grades of dysplasia were calculated as 46.3 (SD=1.32), 50.325 (SD=4.47) and 60.44 (SD=6.58) respectively. These means were analyzed by using one way ANOVA test and p value of < 0.001 was obtained which was statistically significant. In different grades of OSCC: the mean LIs of MCM2 in various grades of OSCC were calculated as 70.62 (SD=0.420), 79.02 (SD=2.456) and 83.65 (SD=0.494). These means were analyzed using one way ANOVA test and a p value of 0.000 was obtained which was statistically significant. This study indicated that MCM2 has a potential role to be used as a reliable proliferative marker in OED and OSCC. Its expression can be used not only to estimate the proliferative index, but also as a prognostic factor for the survival of patients with oral cancer.

Medical Science, 2019, 23(98), 547-556

Linkage of aerobic capacity and body fat percent: Effects of recreational activity on aerobic capacity, body composition, blood pressure and resting heart rate in University students

Rakesh Tomar, Varghese C Antony

Objective of present study was to evaluate the effects of small-sided recreational basketball on maximum oxygen uptake, body composition, blood pressure and resting heart rate in untrained male and to examine relationship between maximal oxygen uptake and body fat percent. Two groups were formed; intervention and control with 12 participants in each. All participants were assessed at baseline and after 12 week. A supervised recreational basketball was offered to participants in intervention group for 12 weeks. All games were played on half court and on 3 a side basis. Frequency of sessions was 2 times per week. Each session was of 30 minutes duration. Heart rates of all participants were measured during basketball sessions using polar heart rate monitors. Independent T test have shown mixed results with regard to physical parameters after twelve weeks of basketball. There was significant difference seen between two groups in body fat percent ($t_{20} = 2.417, P = 0.026$), VO_{2max} ($t_{20} = 2.144, P = 0.046$) and resting heart rate ($t_{20} = 2.183, P = 0.043$). No significant difference was seen in body mass ($t_{20} = 1.759, P = 0.097$), BMI ($t_{20} = 1.775, P = 0.095$), lean body mass ($t_{20} = 0.292, P = 0.773$), systolic blood pressure ($t_{20} = -1.389, P = 0.180$) and diastolic blood pressure ($t_{20} = -1.712, P = 0.107$). Significant relationship was seen between VO_{2max} and body fat percent intervention group ($r = 0.049$). Probably for the first time recreational basketball carried on half court (3 a side) on half hourly basis and only for two days in a week have shown significant improvement in VO_{2max} of untrained males along with reduction in body fat percent and resting heart rate.

Medical Science, 2019, 23(98), 557-564

The role of obesity in the development of polycystic ovary syndrome (PCOS) in Iraqi women

Reem M Obaid

This study was conducted to evaluate the role of obesity in the development of PCOS and the relationship between menstrual dysfunction and different clinical parameters such as FSH, LH, infertility, hirsutism and testosterone. The study was carried out on 120 individuals with PCOS age ranged from (15-45) years old. The statistical analysis results showed a significant positive correlation coefficient ($p > 0.05$) between fasting blood sugar, FSH level and obesity. A highly significant correlation coefficient ($P < 0.01$), between LH, testosterone levels and obesity, a significant positive correlation coefficient ($p > 0.05$) was between menstrual dysfunction and galactorrhea, diabetes mellitus and FSH level, but a highly significant positive correlation coefficient ($p < 0.01$) between menstrual dysfunction and hirsutism, infertility, acne, obesity, LH level and testosterone. The results also showed a significant positive correlation coefficient ($p > 0.05$) between FSH level, testosterone and fasting blood sugar (FBS) but a highly significant positive correlation coefficient ($p < 0.01$) between FSH and LH levels.

Medical Science, 2019, 23(98), 565-570

Supernumerary teeth amongst Saudi children: A retrospective radiographic survey

Zakirulla M, Salem Almoammar, Elaf S Alshehri, Maha M Alshehri, Asma M Alqahtani, Shaden M Najmi, Sami M Alawwad

This study aimed to determine the prevalence of supernumerary teeth in Saudi children. In this retrospective study consisted of records of Pediatric patients attended the Department of Pediatric Dentistry from past 5 years between December 2013 and December 2018. A total of 1350 children and adolescents (670 girls, 680 boys) were included in the study, and the sample was equally divided between the genders and age includes 5 to 15 years. Pretreatment and longitudinal radiographs for the present investigation (panoramic and periapical radiographs) to check the presence of supernumerary teeth. The data were entered and analyzed using the Statistical Package for the Social Sciences (SPSS 20). The difference in the prevalence of supernumerary teeth between gender was assessed with the chi-square test ($p < 0.05$ significance level). Prevalence rate of the supernumerary tooth was of 71 (5.2%). Mesiodens was the most common supernumerary tooth with prevalence being more in boys (4.6%) than girls (2.5%). Out of 71 supernumerary teeth, 41(57.7%) were in mixed dentition stage, 19(26.7%) patients in the permanent dentition stage and 11(15.6%) in the primary dentition stage. Majority of patients 60 (84.5%) presented with one supernumerary tooth, 8(11.2%) patients reported with two supernumerary teeth and only 3(4.2%) patients reported with three supernumerary teeth. This study showed a higher prevalence of supernumeraries in Saudi children than previously reported. The prevalence of supernumerary teeth was more in males than their female counterparts. The present study emphasizes the necessity for early detection and appropriate management of supernumerary teeth.

Medical Science, 2019, 23(98), 571-576

Study the relation between factors effecting on creating conflict of interests and quality of care: The case of Ayat-Allah-Taleghani hospital, Arak, Iran

Morteza Ghasemi, Abdolsamad Samadi, Zohreh Anbari, Saeed Amini

Conflict of interests (COI) refers to conditions that professional judgment about patient, which is a professional and main interest, is influenced by subsidiary and personal interests. The aim of current study is to assess the relation between factors effecting on creating COI and quality of care in Ayat-Allah-Taleghani hospital. The opinions of 119 hospital employees were assessed about performance improvement, quality of care and 5 components of COI using valid and reliable questionnaires. The data were analyzed through Structural Equation Modeling (SEM) using SPSS23 and LISREL8.80. COI components including different and inconsistent

goals ($t=-2.39$), tasks interference ($t=-2.49$), inconsistency in the assessment process and system of rewards and penalties ($t=-2.64$), mutual tasks and their interdependence ($t=-2.49$) and the effect of difference in dignity and financial level ($t=-2.03$) had significant negative impact on patients' care ($p<0.05$). There was no significant relationship between gender, marital status and age group of employees with the study variables ($p>0.05$). Hospital managers should plan about decreasing vulnerable point's regarding COI. The important measures in this regards include strengthening the sense of responsibility, revise work processes, definition the role and authorities of beneficiaries, formulation, implementation and monitoring ethical guidelines and coordination between personal and organizational goals.

Medical Science, 2019, 23(98), 577-585

Promoting quality of teaching maternal and neonatal health in nursing students based on gender challenges: Action research

Fatemeh Ghasemi, Akram Sadat Sadat Hoseini, Fatemeh Valizadeh, Nahid Dehghan Nayeri, Tahereh Toulabi

The best way to improve the student's ability is effective teaching and its fitting with their cultural characteristics. This study was aimed to promote the quality of teaching the theoretical course of Maternal and Neonatal Health (MNH) for nursing students. This action research was conducted in the two cycles. Data gathering was done using semi-structured interviews and focus group discussion with 16 nursing students and professors. The identified issues included inefficient course planning, inefficient teaching method, inappropriate evaluation and educational environment. The solutions included using concept maps, simulation teaching in Clinical Skills Laboratories (CSL) with sex segregation, and continuous evaluation. In the second cycle, the modifications were team learning teaching and preparation of educational handouts. The sex-segregated application of simulation teaching in CSL based on students' cultural beliefs along with active learning methods promotes the quality of MNH teaching.

Medical Science, 2019, 23(98), 586-598

The effectiveness of short-term psychodynamic psychotherapy on improving quality of life and life expectancy in divorced women in Iran

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The study aimed to determine the effectiveness of short-term psychodynamic psychotherapy in increasing the quality of life and life expectancy in divorced women. The statistical population consisted of all divorced women referring to psychological clinics of district 4 in Tehran in 2017. In order to achieve the research goals, 30 people were selected using the convenient sampling method from those referring to Yara consulting center in Tehran. They were included in experimental ($n = 15$ people) and control ($n = 15$) groups in a completely randomized way. In this study, convenient sampling method was used to select the sample. After sampling, participants responded to Miller's life hopescale (1988) and Ware and Sherbourne's quality of life scale (2007). Then, among these people, those who had a standard deviation lower than the average on the life expectancy and quality of life scale were separated and entered the test. The treatment was done in groups twice a week as 8 60-minutesessions. The research tool was repeated as a post-test on subjects. For data analysis, covariance analysis was used. The results showed that there was a significant difference between the experimental and control groups in terms of increasing life expectancy and quality of life.

Medical Science, 2019, 23(98), 599-605

RESEARCH

Effect of *Nigella sativa* on thyroid function in patients with hypothyroidism treated with levothyroxine: a triple-blind randomized controlled trial

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Hypothyroidism is a common endocrine disorder and a risk factor for cardiovascular disease; despite the treatment with classic medicine; the symptoms are not completely eliminated. *Nigella sativa* is an effective herbal medicine in traditional medicine that used for a variety of metabolic diseases and cold nature. The aim of this study was to investigate the effect of *N. Sativa* on thyroid function in hypothyroidism. The present study is a triple-blind randomized controlled trial conducted on 42 patients (16-65 years of age) with hypothyroidism treated with levothyroxine in Imam Khomeini Hospital in Tehran during 2017- 2018, and were randomly allocated into two groups of intervention and control receiving powdered *N. Sativa* or placebo daily for two months and changes in thyroid status and lipid and glucose profile after 2 months were measured. 22 patients were analyzed in the intervention group and 20 in the placebo group. The results showed that there was no significant difference between the intervention group and the placebo group ($p=0.02$). Significant decreases in total cholesterol and fasting blood sugar (FBS) were observed in patients with negative anti-thyroid peroxidase (Anti-Tpo) antibodies. In patients with positive Anti-Tpo antibodies, a significant increase in total cholesterol and FBS were observed in the intervention group ($p=0.02$). 5 patients in the intervention and placebo groups experienced mild and temporary side effects. *N. sativa* is used in Persian medicine to treat the disorders due to cold nature, and its consumption is increasing due to its native and safe nature and its low cost and effectiveness. Nevertheless, its function on human thyroid requires more trials and it should be used with caution.

Medical Science, 2019, 23(98), 606-614

Expression of S1 protein from infectious bronchitis virus (IBV) serotype 793/B in *Pichia pastoris*

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Infectious bronchitis (IB) is a viral acute respiratory and contagious disease in chickens characterized by respiratory symptoms including nasal discharge, coughing, sneezing, and respiratory rates, and may be associated with the involvement of the reproductive system of females, digestion system and kidneys. This research was carried out to express recombinant S1 infectious bronchitis virus serotype 793/B. S1 gene complete (1617bp) was cloned in PTZ57 plasmid and transferred to *E. coli*- XL1 blue bacterium and next cloned to pPICZB vectors transferred to *P. pastoris* Km71. *P. pastoris* expression system is used successfully for the production of different recombinant heterologous proteins. Then *P. pastoris* has become an interesting and main alternative to bacterial expression system, for instance, *E. coli* especially when it needs typical eukaryotic post-translation modification or inclusive disulfide bridge, folding and glycosylation. In this study, the agent gene amplified successfully and it visualized validation and purity on agarose gel electrophoresis. Afterward, the products were ligated into PTZ57 cloning, pPICZB vectors and transfer to *E. coli* XL1 blue, *Pichia pastoris* competent cells. Next, by restriction digestion and PCR, the colonies were confirmed. The recombinant plasmid was confirmed by sequencing gene by using specific and universal M13 primers. Finally produced proteins were visualized by SDS PAGE gel that the recombinant protein was size 62 kDa.

Medical Science, 2019, 23(98), 615-621