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مؤتمر طرابلس الثالث للتقنيات الطبية

السبت 12-10-2024 **م**

نبذة عن المؤتمر

مؤتمر طرابلس للتقنيات الطبية هو مؤتمر طبي سنوي ينظم عن طريق قسم البحوث والاستشارات بكلية التقنية الطبية واحد اقسام مركز البحوث والاستشارات بالجامعة

يسعى هذا المؤتمر الى النهوض بالمجتمع و تحقيق التنمية الصحية المستدامة من خلال تطوير البحث العلمي في العلوم الطبية المختلفة، و ذلك من خلال الجمع بين الكوادر الطبية والأكاديمية المختلفة وتعزيز التعاون بينها، ودعم فرص التعاون و البحث في المجال الطبي والأكاديمي.

اهداف المؤتمر

1. اظهار دور التكنولوجيا والابتكار في تطوير التعليم الطبي لتحقيق اهداف التنمية المستدامة .
2. بث روح العمل الجماعي بتكوين فرق عمل لتحقيق أهداف محددة.
3. رفع روح المنافسة العلمية بين الطلاب مما يؤدي إلى رفع المستوى العلمي.
4. تبادل الخبرات والتجارب العلمية ودعم روح المنافسة.

محاور المؤتمر:

- محور التقنيات الطبية
- محور التقنيات الصيدلانية
- محور التقنيات الحيوية

شروط المشاركة بالمؤتمر

- اختيار موضوع الملخص أو البحث حسب رغبة المشارك بمايلائم محاور المؤتمر
- يجب الالتزام بشروط وقالب النشر الخاص بمجلة القلم للعلوم الطبية والتطبيقية
- يجب التسجيل عبر رابط المؤتمر وارفاق الملخص او البحث حسب رغبة المشارك

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Isolation of Carbapenem and Colistin Resistant Gram-Negative Bacteria Colonizing Immunocompromised SARS-CoV-2 Patients Admitted to Some Libyan Hospitals

Allaaeddin Ali El Salabi

Department of Public Health, Faculty of Medical Technology, University of Tripoli, Tripoli, Libya
a.el_salabi@uot.edu.ly

Abstract
The emergence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has had a devastating effect, globally. We describe, for the first time, the occurrence of carbapenem-resistant bacteria colonizing SARS-CoV-2 patients who developed hospital-associated infections with carbapenemase-producing, Gram-negative bacteria at some isolation centers of SARS-CoV-2 in the eastern part of Libya. In total, at first, 109 samples were collected from 43 patients, with the samples being recovered from oral (n = 35), nasal (n = 45), and rectal (n = 29) cavities. Strain identification was performed with antibiotic susceptibility testing. A molecular study was carried out to characterize the carbapenem and colistin resistance in Gram-negative bacterial strains with sequencing. *Klebsiella pneumoniae* (n = 32), *Citrobacter freundii* (n = 21), *Escherichia coli* (n = 7), and *Acinetobacter baumannii* (n = 21) were the predominant isolated bacteria. Gram-negative isolates were multidrug-resistant and carried different carbapenem resistance-associated genes, including NDM-1, OXA-48, OXA-23, VIM, and mcr-1. The overuse of antimicrobials, particularly carbapenem antibiotics, during the SARS-CoV-2 pandemic has led to the emergence of multidrug-resistant bacteria, mainly K. pneumoniae, A. baumannii, and colistin-resistant E. coli strains. Increased surveillance as well as the rational use of carbapenem antibiotics and, recently, colistin are required to reduce the propagation of multidrug-resistant strains and to optimally maintain the efficacy of these antibiotics. In this work, we describe, for the first time, the occurrence of carbapenem-resistant bacteria colonizing COVID-19 patients who developed hospital-associated infections with carbapenemase-producing, Gram-negative bacteria at some isolation centers of COVID-19 in the eastern part of Libya.
Keywords. SARS-CoV-2, Colonization, Bacteria, Carbapenemase, Colistin Resistance, Libya, COVID-19, Infection.

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Internet Gaming Disorders and Social Media Addiction among Medical Students in University of Tripoli, Libya

Ziyad Alatrash[1]*, Rana Shembesh[2], Hajir Dakheel[3]

[1]Faculty of Medicine, University of Tripoli, Tripoli, Libya
[2]Faculty of Medicine, Libyan International Medical University, Benghazi, Libya
[3]Department of Family and Community Medicine, Faculty of Medicine, University of Tripoli, Libya.
ziadalmlk00@gmail.com

Abstract
Video games and social media have become increasingly popular among adolescents, with potential implications for their mental health. In recent years, there has been growing concern about the prevalence and negative consequences associated with internet gaming disorder and social media addiction among adolescents, particularly about their mental health. The study aimed to assess the magnitude of the problem of internet gaming disorder and social networking addiction among Tripoli University medical students. A cross-sectional study from one month from February to March 2024 at the University of Tripoli. (431) students responded to online questionnaires based on Internet Gaming Disorder Scale -9 (IGD-9) and Social Networking Addiction Scale (SNAS-21). Out of (431), 46.4% (200) were playing gaming frequently in the last 12 months, and 9% (39) of them were an addict. 75.2% (324) were using social media daily, 27.4 % (118) out of them were addicted. With mean ± SD of (IGD-9) scale 16.2 ± 7 6.5, and the mean score of SNAS-21 scale mean ± SD 70.6± 33. The addiction shows a significant association between genders 14.2% of males and 7.4% were addicted to gaming at x2 p=0.03 df 1, and social media shows 30.5% of females and 17.9% of males were addicted to social media at x2 0.012 df 1. Medical students in Libya were shown to be at a relatively higher risk of social addiction than gaming disorder, The frequency of social addiction in Tripoli University medical students identified by (SNAS-21) criteria was relatively high, males were more prone to gaming addiction than females in the opposite to social media addiction.
Keywords. Gaming Disorder, Social Media Addiction, Psychological Distress, Medical Students.

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Heavy Metals as Unhealthy Contaminants of Some Dairy Products

Mohamed Gaset[1]*, Mahfouz Masonry[2]

[1]*Faculty of Medical Technology, Misrata, Libya*
[2]*Tripoli Universal Hospital, Tripoli, Libya*
drmahamedgasset@gmail.com

Abstract

An evaluation of the contamination of some milk & milk products with heavy metals in Misrata city north of north of Libya has been conducted. The metals of Mercury, Cadmium, Lead, Cupper, Cromium, Nikel, Zinc,Manganese, Iron contents in dairy samples at * 1sr Ju;y – 2nd December 2023) were determined by using Atomic Absorption Spectrometer (AAS) The results showed that heavy metals Hg,Cd,Pb,Cu,Cr,Ni, Zn,Mn,Fe in Fresh milk are 0.002, 1.62, 0.19,0.15,0.20, 0.25,0.59,0.25,0.79 µg/L respectively and in Pasteurized fresh milk are 0.005,1.67, 0.20,0.16,0.22, 0.56,0.38, 0.28 ,0.87 µg/L respectively and in Sterilized milk are 0.005,1.58, 0.15,0.20, 0.25,0.56,0.37, 0.26, 0.99µg/L respectively ,and in Yoghurt (plain/flavored) 0.007,1.97, 0.16, 0.19, 0.35, 0.54, 0.56,0.37,0.59 µg/kg respectively and in Soft cheese are 0.004,2.16, 0.58, 0.71, 0.46, 0.65, 0.85,0.27,0.77 µg/kg respectively, and in Ricotta cheese are 0.003,1.65, 0.14, 0.29, 0.55,0.45 ,0.75,0.46,0.67 µg/kg respectively, and in Butter are 0.002,0.77, 0.65, 0.19,0.77,0.45,0.96,0.45,0.69 µg/kg respectively ,and in fermented milk are 0.00, 0.00,0.17,0.28,0.63,0.67,0.77,0.37,0.67 µg/L respectively and in ice cream are 0.005, 0.42, 0.18,0.29,0.17 ,0.88,0.74, 0.49,0.69 µg/kg respectively and in formula milk are 0.00,0.00, 0.15,0.49, 0.38, 0.29, 0.37,0.48,0.41 µg/kg respectively, where the highest Hg was in yoghurt samples (0.007)while the highest level of Cd was in soft cheese (2.16 µg/kg)and the highest level of Pb was in butter (0.65 µg/kg) and the highest level of Cu was in formula milk(0.49 µg/kg)and the highest level of Cr was in butter(0.77 µg/kg) and the highest level of Ni was in ice cream (0.88 µg/kg) and the highest level of Zn was in butter (0.96 µg/kg)and the highest level of Mn was in ice cream (0.49 µg/kg)Finally the highest level of Fe was in sterilized milk (0.99 µg/kg µg/L)by results of this study we are recommending to check levels heavy metals in all imported dairy products especially butter ,ice cream and formula milk because babies might be subject to over doses of some toxic heavy metals, might affect their health.

Keywords. Dairy, Yoghurt, Heavy metals, Pollution, Local market.

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The Impact of Targeted Drugs Use on the Treatment of Cancers: Field Study at Misurata Cancer Center

Al-Zaira Al-Shibli

Kidney treatment and dialysis Center – Misrata, Libya
zezeelshibli@gmail.com

Abstract
The study aims to measure the effect of targeted drugs in the treatment of cancerous diseases at Misurata Cancer Center. The importance of this study stems from the important role of these drugs in the treatment of cancerous diseases in terms of their formulations designed to target cancer cells without affecting the normal cells of the affected state. To achieve the objectives of this study, the researcher followed the descriptive and analytical approach to review all that is important in this topic. The researcher also conducted an applied study on Misurata Cancer Center, where the study sample consisted of 40 doctors and consultants from various specialties in the Center, and the researcher adopted the questionnaire as a tool for data collection, and the SPSS program as a tool for data analysis. After collecting and analysing the data, the study came up with a set of results, the most important of which are: These medications are used according to a protocol that integrates both targeted and conventional therapy simultaneously in accordance with the nature of the case, as a large number of physicians directed the importance of integrating both targeted therapy and conventional therapy in one protocol to obtain a quick and satisfactory result for the affected case. Based on the findings, the researcher recommends that the government should support research centers within hospitals that specialize in treating cancerous diseases in order to conduct more studies and research in this field to provide a data base that helps doctors enact treatment protocols capable of alleviating the severity of the disease.
Keywords. Targeted Drugs Use, Cancer, Misurata Cancer Center.

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Alteration of Blood Parameters in non-dialyzed Patients of Chronic Kidney Disease

Najat Mohammed[1]*, Tahani Hamad[2]

[1]Department of Medical Laboratory, Faculty of Medical Technology, Omer AL-Mukhtar University, EL-Beyda, Libya
[2]Department of Anesthesia, Higher Institute of Science and Medical Technology, EL-Beyda, Libya
Najat.mohammed@omu.edu.ly

Abstract
Chronic kidney disease (CKD) is a serious health problem that can lead to end-stage renal disease. Patients with CKD are usually suffered from anemia, which is one of the major consequences of kidney damage which in turn lead to reduce quality of life and increased risk of cardiovascular disease, cognitive impairment. The study aimed to assess the hematological abnormalities in the CKD patients during in pre-dialyzed conditions in EL-Beyda City. The study was included 107 patients who are attended to nephrology department in EL-Bayda Medical Center and Cyrene Teaching Hospital in Shahat in the period from November 2021 to March 2022. The study was included all CKD stages and were not on dialysis and they were following upped by these centers regularly each month. Data sources were obtained from the personal interview with patients and the records of patient's files in nephrology units. Blood samples were taken in EDTA tube to measure complete blood counts (CBC) include hemoglobin (Hb), hematocrit (HCT), Mean cell volume (MCV), Mean cell hemoglobin (MCH) and Mean cell hemoglobin concentration (MCHC), white blood cells (WBC) and platelets count (PLT), as well as renal function tests (serum urea and creatinine). The data were analyzed by Minitab version17. Out of 107 patients were included in this study, 63(58.8%) of patients were females and 44(41.1%) were males, The majority of patients had chronic diseases which could the contributing cause of CKD; 62% were suffered from hypertension, 40% suffered from diabetes, anemia was the main abnormality in our study which observed in 49 of participants (45.8%) while the others were non anemic 54% (14.6±0.23). There was a significant difference in the mean of hemoglobin and hematocrit between anemic and non-anemic participants (p-value=0.000). Red cell indices showed normocytic normochromic anemia, other blood changes were noticed thrombocytopenia in 7 (14%) of patients and leukocytosis was reported in 9 (18%) of them. We can conclude that developing of anemia in CKD patients is associated with poor outcomes and requires a careful management to avoid comorbidities.
Keywords. Chronic Kidney Disease, Hematological Changes, Anemia.

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Impact of Protein-Energy Wasting and Dietary Management on Complications in Chronic Kidney Disease Patients Undergoing Hemodialysis: A Study from Tripoli, Libya

Manal Abuagela*, Nadya Alsarbot

Department of Public Health, Faculty of Medical Technology, University of Tripoli, Libya.
Mabuagela@ufl.edu

Abstract
Chronic Kidney Disease (CKD) leads to advanced kidney dysfunction, mostly necessitating interventions like dialysis or kidney transplantation. To counteract the negative effects associated with this disease, particularly for patients experiencing Maintenance Hemodialysis (MHD), dietary modifications are crucial. This study aimed to assess the awareness and nutritional status of CKD patients on hemodialysis, focusing on the relationship between dietary intake and disease complications, as well as the effects of phosphorus and sodium intake on CKD patients' morbidity and mortality. The study conducted Interviews with 111 hemodialysis patients at two Kidney dialysis centers in Tripoli, Libya. The study utilized a 35-question questionnaire covering personal information, medical history, and dietary health assessments. Findings revealed that only 31% of pre-dialysis patients had adequate knowledge of food management systems to enhance dialysis and treatment protocols, whereas 69% of hemodialysis patients understood their dietary needs but they did not follow a proper diet. Among hemodialysis patients, 63% experienced loss of appetite and sudden weight loss, with 16% unable to regain their baseline weight and facing protein-energy wasting (PEW). A staggering 99% reported symptoms of short-term hyperphosphatemia, with 55% using Reangle pills for relief, while 44% did not due to financial reasons or lack of awareness. Hypertension affected 40% of post-dialysis patients, and 38% experienced edema and shortness of breath, emphasizing the need for better fluid regulation. In conclusion, while a majority of CKD patients were aware of their dietary needs, many struggled with appetite loss and weight issues, leading to significant nutrient deficiencies and complications.
Keywords. Chronic Kidney Disease, Dialysis, CKD diet, Hyperphosphatemia.

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Isolation and identification of bacteria in post-operated wound patients at Sabratha Teaching Hospital in Libya

Halemah Mohamed Alashoury[1]*, Khalid Othman[2]

[1]Department of Medical Laboratory Sciences, Faculty of Medical Technology, Wadi Alshatii University, Libya
[2]Sabratha Teaching Hospital, Sabratha, Libya.
h.abulkasim@wau.edu.ly

Abstract

Hospital-acquired infections are a serious health risk worldwide; wound infections are the most common nosocomial infection, especially in surgical patients. surgical site infections are the second most common cause of hospital-acquired infections, accounting for about 24% of all hospital-acquired infections. wound infections are the most common nosocomial infection in patients undergoing surgery. Samples of post-operated wound were collected and inoculated in on blood agar and MacConkey's agar under aseptic condition. and plates were incubated at optimum temperature 37°C for overnight [18-24 h]. All cultures were examined with the naked eye for growth and colonial morphology as well as any changes in the media. Plates, which showed visible growth, were subjected to subsequent bacteriological tests like Catalase test, Coagulase test, Oxidase test, Urease test, and Citrate utilization test. Those which did not show visible growth were re incubated and examined daily for up to 7 days. Colonies were identifying by gram stain and Standard bacteriological identification for gram positive and gram negative. Total number of 22 patients included in this study of these twenty had different surgical operations and two patients were outpatients during the period May to June 2023. A total of 22 patient's male represents 7[31.8%] and female represent 15[68.1%]. The most predominant bacterial isolate was Staphylococcus spp 10 (62.5%) followed by Pseudomonas spp 4 (25%), Klebsiella spp 2(12,5%) and 6 sample were no growth. The rate of wound was high among our patients, Staphylococcus spp was the highest gram-positive isolate while Pseudomonas spp was the highest among gram negative.

Keywords. Post-Operated Wound Infection, Bacteria, Patients, Predominant, Libya, Staphylococcus.

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Phenotypic Profile and Antibiogram of Bacteria isolates from Diabetic Foot Ulcers from Abu Salim Trauma Hospital

Hajar M Abuzaid[1], Nehal N Diab[1], Khaled M Abdullah[1], Bushra E Aboukhadeer[1], Abdelghader Dhawi[1,2], Mohamed Ahmed[2]*

[1]Faculty of Medical Technology, University of Aljafara, Alzahra, Libya
[2]Department of Microbiology and Parasitology, Faculty of Veterinary Medicine, University of Tripoli, Libya
a.mo@live.com

Abstract
Diabetes is a global public health concern, and diabetic foot ulcers are common causing substantial medical and economic loss with diminished life quality, longer hospitalization, high morbidity and mortality. The study aimed determine the biofilm-forming bacterial organisms from infected skin lesions of diabetic foot ulcer and determine their antimicrobial susceptibility pattern. This study was performed on Abu Salim Trauma Hospital and conducted from March to June 2024. Samples from skin lesions were aseptically collected and bacteria were isolated and identified based on phenotypic and biochemical tests. Bacterial collected isolates were further confirmed using the automated identification and susceptibility testing systems BD Phoenix M50 and MA120 Render. A total of 38 participants were enrolled in the study of which 74% (n=29) were males and 26%(n=10) females, with an age range was 30->60 years. A total of 16 bacterial isolates were confirmed mainly represented by Gram-negative bacterial organisms (75%) followed by the Gram-positive bacterial organisms represented by 25% of the collected isolates. Respectively, Staphylococcus auereus (25%) was the most identified organisms followed by Enterobacter cloacae, Escherichia coli, and Pseudomonas fluorescens each represents 10% than Klebsiella ozaenae (5%). This study highlights the occurrence and microbiological features of bacterial species isolated from diabetic patients form a single national hospital in Tripoli, Libya. The study provides important knowledge and information on the distribution and antibiogram of important bacterial species requiring monitoring and prospective studies.
Keywords: Antibiogram; Nigeria; Zaria; bacteria; biofilms; diabetic foot ulcers.

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Evaluation of Anti-bacterial Activity of some Synthetic 3-Acetylpyridine Chalcone Derivatives

Tasneem S Alarife[1*], Renad S Dow[1], Mohammed Alshenbary[2]

[1]Faculty of Medical Technology, University of Aljafara, Alzahra, Libya
[2]Department of Biochemistry, College of Medical Technology, Al-Jaffara University
Karmaak2003@gmail.com

Abstract
Synthesis, and evaluation of antibacterial activity of novel chalcone derivatives containing O, N, and S in the ring. Chalcone can be chemically synthesized in the laboratory using the Claisen Schmidt or aldol condensation reaction. Chalcone has been reported to exert multiple beneficial properties, such as anti-inflammatory, antifungal, antioxidant, antimalarial, antituberculosis, analgesic, antiHIV, and antitumor activities. This study aimed to evaluate the antibacterial activity of synthetic 3-acetylpyridine chalcone derivatives against selected bacteria. Chalcone derivatives were prepared in three steps. In the first step, chalcones containing -NO2 functional group were synthesized using Claisen-Schmidt condensation of aromatic aldehydes with 3-acetylpyridine in methanol in the presence of aqueous NaOH. In the second step, the -NO2 group was reduced to the -NH2 group. Resulting compounds containing NH2 functional groups were reacted with different dichlorothienopyrimidines and dichlorofuropyrimidines in the presence of N, N-diisopropylethylamine to obtain pyrimidine derivatives. The antibacterial activity of pyrimidine derivatives was studied in vitro. The compounds demonstrated varying levels of effectiveness against different bacterial strains. MBS01 showed the highest efficacy against MARSA with a zone of inhibition of 20.17 mm but was less effective against other strains. MBS04 exhibited broad-spectrum activity, particularly against P. fluorescens (14.83 mm). MBS06 demonstrated moderate to high effectiveness across all tested strains, with the largest zone of inhibition against P. aeruginosa (13.61 mm). Overall, the results suggest that different compounds have varying degrees of effectiveness against specific bacterial strains, highlighting the importance of targeted compound selection in clinical practice. The antibacterial activity of the newly synthesized pyrimidine derivatives will inspire future researchers for the preparation of new analogs.

Keywords. Anti-bacterial Activity, Synthetic 3-Acetylpyridine Chalcone, Bacteria.

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Bir Al-Ghanam Detention Center, Municipality of Southern Zawiya, Libya.

Hanan Aqeehal*, Walid Saadawi, Nadia Aldobea, Ahmed Alarbi, Ala Nuwayji Hala Kafala, Kareemah Abdelalhadi, Adel Mahbob, Ahmed Elgrari

National Centre for Disease Control, Ministry of Health, Libya.
hananaghila@yahoo.com

Abstract
Scabies is an ectoparasitic infestation that spreads easily in overcrowded areas like prisons and detention centers. Globally, 300 million people are infected annually. In Libya, the burden of scabies in detention centers is not well-studied. This study aimed to estimate the prevalence of scabies and identify factors associated with it among inmates in the Bir al-Ghanam detention center in Southern Zawiya. A cross-sectional study was carried out in February 2024 at the Bir al-Ghanam detention center of Southern Zawiya (Libya) utilized clinical diagnosis methods. The findings revealed that 35.5% of male refugees and asylum seekers, with the most prevalent cases among those staying in Bir al-Ghanam detention center for 15 days to less than 1 month. Scabies lesions were found in 62% of cases, with the most common areas being the inguinal/thigh region and buttocks. The study found a significant association between Hygiene and detention conditions such as soap use, sharing of clothes, duration of stay, number of inmates in detention centers. The findings suggest that Scabies infection in Bir al-Ghanam detained inmates in this study was linked to sharing clothes, inadequate soap usage, and overcrowded conditions. Effective intervention measures, public health interventions, sanitation practices, rigorous screening, and isolation during admission and discharge are recommended.
Keywords: Scabies, Bir al-Ghanam, Southern Zawiya, Libya, Detention center, Prevalence.

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Prevalence of Caesarean Section Among Mother in public Hospitals in Amran City, Yemen.

Fares Mahdi

Community Health Nursing, 21 September University for Medical and applied Sciences, IBN Al-Nafis University, Yemen
mahdifares69@gmail.com

Abstract
Cesarean section is one of the most commonly performed major surgeries in obstetric practice intended to save the mother and child, in turn, reducing the maternal and perinatal mortality. This study was conducted to determine the prevalence and causes of cesarean section among mothers who were delivered in the public hospitals at Amran City. Descriptive, cross-sectional study was done to assess prevalence and causes of cesarean section among mothers who were delivered in the public hospitals at Amran city during study period from October to December 2021. The sample size was determined using Epi calc program. A consecutive sampling was administered to select 182 participants. Data were collected through structured questionnaire. The questionnaire was including: the demographic characteristics of the participants, Reproductive characteristics of the participants, Causes of CS, the data was analyzed by using Statistical Package of Social Science (SPSS) program version 26.0. Frequencies, and t-test were done to find out the association among variables Approval was obtained and oral consent was obtained from participant to participate in the study. The prevalence of CS was (6.5%) in the study population. Causes of CS were previous caesarean section, Pelvic stenosis Mal presentation or mal positioning, Amniotic fluid disorders. Abnormal uterine contractions (insufficient), Bleeding during childbirth and High blood pressure. Conclusion: Prevalence of CS was 6.5%. There were statistically significant associations between the prevalence of CS and the following causes: previous CS, contracted pelvic, Hypertension abdominal cerclage, GDM, postdate and previous uterine rupture.
Keywords. Caesarean Section, obstetric, Hospitals, Yemen.

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Assessment of Iron Status and Iron Deficiency Anemia in Patients with Celiac Disease in Tripoli University Hospital

Layla Dabaj[1], Mahfouth Almansory[1]*, Fatma Dabaj[2]

[1]Department of Gastroenterology, Tripoli University Hospital, Tripoli, Libya.
[2]Department of Food Technology, Gheran Institute of Agriculture, Tripoli, Libya.
Mahfouz19911991@gmail.com

Abstract

The iron absorption process occurs mainly in the proximal duodenum portion. this portion is typically destroyed in celiac disease (CD), resulting in a reduction in absorption of iron and subsequent iron deficiency anemia (IDA). IDA is the most common extraintestinal manifestation in CD. The primary treatment of CD is the gluten-free diet (GFD), which is associated with management of IDA, if present. Iron replacement treatment is mainly based on oral iron supplement. The absorption of iron is decreased in patients with untreated CD and unpredictable in patients on a GFD. Anemia Normalization is typically achieved after at least 6 months of GFD, but the process can take up to 2 years for iron stores to replenish. Aim: This study aimed to assess the status of iron stores and the frequency of iron deficiency anemia in Celiac disease (CD) patients referred to the Department of Gastroenterology, Tripoli University Hospital. In this study, 100 CD patients were assessed. The presence and severity of anaemia were determined using the serum hemoglobin concentration according to WHO criteria. The status of body iron stores was also evaluated based on serum ferritin levels. Mean and SD of age, serum iron, ferritin, TIBC, and serum hemoglobin were 27.98±9.42 years, 32.63± 24.76 µg/dL, 14.86±11.91mg/dL, 259.40±95.42 µg/dL and 10.26±2.54 g/dl, respectively. 38.0% had no anemia, 20.0% had mild anemia, 33.0% had moderate anemia, and 9.0% had severe anemia. 65.0% of patients had depleted iron stores, 35.0% had normal iron stores, and no exposure to iron overload. In this study, 62.0% of CD patients on a gluten-free diet had some degree of anemia. In addition, 65.0% of patients had depleted iron stores. These results suggest that CD patients should be evaluated for iron status, even with a gluten-free diet.

Keywords: Celiac Disease, Anemia, Serum Iron, Ferritin, Total Iron-Binding.

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Evaluation of Mean Corpuscular Volume across different Age Groups and Genders in Tripoli Reference Medical Laboratory in 2024: A Retrospective Analysis of CBC Data

Waad Ekwas*, Sakina Alaswed, Naser Sayeh

The Reference Medical Laboratory, Tripoli, Libya
waadkwas@gmail.com

Abstract
Mean Corpuscular Volume (MCV) is a key hematological parameter that reflects red blood cell size and can indicate various types of anemia. This study aimed to evaluate the influence of age and gender on MCV values in a Libyan population (n=1386), with the goal of identifying any significant differences between genders across different age groups. A retrospective analysis was conducted using CBC data collected from patients over the last six months (February – August 2024) in Reference Medical Laboratory. The study population was divided into three age groups: Adolescents (13-18 years), Adults (19-59 years), and Elderly (60+ years). MCV values were compared between males and females within each age group using Welch's t-test to account for unequal variances and sample sizes. The analysis revealed statistically significant differences in MCV values between males and females in the Adolescent and Adult groups ($p < 0.05$). No significant difference was observed in the Elderly group ($p > 0.05$). Overall, the largest disparity in MCV values was found in the adult group, where the p-value was 2.99E-07 when comparing the MCV values of both genders. These findings suggest that gender and age significantly influence MCV values, particularly in the adolescent and adult groups populations. Understanding these differences is crucial for accurate diagnosis and management of anaemia in different demographic groups. Further research is warranted to explore the underlying mechanisms driving these variations.
Keywords. Mean Corpuscular Volume, MCV, Gender Differences, Age Groups, Anemia.

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Computational Analyses of Amino Acid Molecules in PDE7A For Elucidating Their Evolutionary Diversity and Protein Interactions in Multiple Mammalian Species

Narjes El Osta[1]*, Zainab El Mabrouk[2], Omran Algriany[3]*

[1]Department of Medical Laboratory Sciences, Faculty of Medical Technology, University of Tripoli, Tripoli city, Libya.
[2]Department of Zoology, Faculty of Science, University of Tripoli, Tripoli city, Libya.
[3]Department of Physiology, Biochemistry, and Nutrition, Faculty of Veterinary Medicine, University of Tripoli, Tripoli city, Libya.

N.EL-OSTA@uot.edu.ly

Abstract
Phosphodiesterase type 7A (PDE7A) is an enzyme responsible for hydrolyzing cyclic adenosine monophosphate (cAMP), playing a crucial role in regulating various cellular transduction pathways. Despite its known major functions in several tissues, there is limited information regarding its expression and regulatory pathways in different tissues. To address this gap, this study utilized computational analyses of the amino acid sequence of PDE7A to explore its evolutionary conservation and protein interactions across different species, aiming to identify species with the highest similarity to humans and major regulatory pathways and protein interactions. The phylogenetical diversity analysis revealed a common evolutionary relationship between the selected species and humans, but camels show the most variable evolutionary lineage in their PDE7A protein over time. In searches for homologous proteins, identity analysis results for four returned amino acid sequences were as follows: 91.81 ± 4.25% (mean ± SD), while the similarity between the sequences was 94.66% ± 4.55, and analysis of BLOSUM62 (Blocks Substitution Matrix 62) yielded a minimum value of 0.901 ± 0.055. All species have closely related physicochemical properties: molecular weight (Mw) returned a mean of 55.3 ± 0.22; the isoelectric point of the protein sequence 6.93 ± 0.37; and hydrophobicity as follows: mean 45.48% ± 0.86. The computational analyses revealed conserved amino acid residues of the gene across the studied species, which likely contribute to the similar expression patterns of the PDE7A gene in various animals. The findings also suggest that rats are a suitable model for gaining deeper insights into human biology.
Keywords. PDE7A, Amino Acid Sequence, Mice, Rats, Camels.

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Short Term Effect of Myofascial Trigger Points Dry Needling on Pain and Disability Outcomes for Patients with Chronic Neck Pain

Abdulmonam Adeeb

Department of Physiotherapy, Faculty of Medical Technology, University of Tripoli, Tripoli, Libya.

abdulmonamdeeb@gmail.com

Abstract

Neck pain is a musculoskeletal condition ranked as the fourth leading cause of disability worldwide. Neck pain starts at the neck and radiates to one or both upper limbs, which could be neuropathic or mechanical pain. Myofascial trigger points associated with neck pain are common complaints that aggravate the pain episodes and limit daily activities. Dry needling emerged during the last decades to have promising results in inactivating trigger points associated with neck pain.
Objective: This study aims to compare the short-term effect of dry needle and standard physical therapy in the treatment of trigger point associated with chronic neck pain versus standard physical therapy alone. Twenty-two adults (female and male) outpatients were allocated randomly to dry needling standard physiotherapy (experimental group) or only standard physiotherapy (control group). Patients were recruited from Al-Itamaze Center in Tripoli City in Libya. Pain intensity and perceived level of disability were measured pre- and post-treatment using the Numerical pain rating scale (NPRS) and Neck disability index (NDI), respectively. Patients in each group received10 sessions, lasting for 60 minutes approximately. The percentage of change between pre- and post-treatment was calculated for each patient with Microsoft Excel. The experimental group showed a higher mean change percentage (81.54%) of improvement in pain intensity pre- and post-therapy with dry needling compared to the control group (66.5%). The same pattern was reported among the results of the perceived level of disability, with (85.09%) improvement in the experimental group and only (63.90%) in the control group. It was found that dry needling with standard physiotherapy can improve disability levels and reduce pain intensity resulting from trigger points associated with chronic neck pain. In addition, offering dry needling in combination with physiotherapy has significantly better results than only physiotherapy for short-term effects.

Keywords. Myofascial Trigger Point, Dry Needle, Neck Pain, Physical Therapy, Disability.

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The DPP-4 inhibitor linagliptan improves endothelium-dependent relaxation of rat mesenteric arteries in the presence of high glucose and hyperglycaemia in STZ-induced diabetic rats.

Salheen Salheen[1*], Amanda Mather[2], Usha Panchapakesan[2], Carol Pollock[2], Owen Woodman[1]

School of Medical Sciences, Health Innovations Research Institute RMIT University[1], Bundoora, VIC, Kolling Institute[2], St Leonards, NSW, Australia

s.salheen@uot.edu.ly

Abstract

Dipeptidyl peptidase-4 (DPP-4) inhibitors are used to treat type 2 diabetes and may exert beneficial effects on the cardiovascular complications of diabetes, such as impairment of endothelial function, independently of their glucose lowering effects. This study was conducted to investigate the effect of linagliptin, a DPP-4 inhibitor, on the mechanism(s) of endothelium-dependent relaxation in rat mesenteric arteries acutely exposed to high glucose or isolated from streptozotocin (STZ)-induced diabetic rats. Endothelium-dependent and –independent relaxation to acetylcholine (ACh) and sodium nitroprusside (SNP) was determined in Wistar rat mesenteric arteries pre-contracted with phenylephrine (10-100 nM). Arteries were isolated from normal or diabetic rats and exposed to normal (11 mM) or high (40 mM) glucose. Endothelium-dependent relaxation was significantly impaired by exposure to high glucose or by hyperglycaimia in vivo (ACh pEC50 11 mM = 7.31±0.07, 40 mM = 6.32±0.21, diabetes = 6.15±0.21 $p<0.05$), but responses to SNP were not affected. Linagliptin (1μM) in vitro reversed the impairment of endothelium-dependent relaxation caused by high glucose and diabetes (ACh pEC50 =7.25±0.06, 6.94±14 respectively). ACh-induced relaxation was also assessed when the contribution of NO was abolished by N-nitro-L-arginine (L-NNA, 100 μM) plus a soluble guanylate cyclase inhibitor (ODQ, 10 μM), or the contribution of endothelium derived hyperpolarising factor (EDHF) was inhibited with TRAM-34 (1μM) plus apamin (1μM). ACh-induced relaxation was significantly impaired by high glucose and diabetes under both conditions indicating that the contributions of both NO and EDHF were affected. Linagliptin significantly improved ACh-induced relaxation in the presence of both groups of inhibitors. Endothelium-dependent relaxation was impaired by high glucose and diabetes but was significantly improved by acute exposure to linagliptin which preserved the actions of both NO and EDHF demonstrating that the vasoprotective actions of the DPP-4 inhibitor are independent of any glucose lowering activity.

Keywords. DPP-4 Inhibitor, Linagliptin, Endothelium-Dependent Relaxation Rat Mesenteric Arteries.

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Relationship Between the Polycystic Ovary Syndrome and Obesity

Rehab El-Megrabi*, Manal Aldufan

Department of Medical Laboratory Sciences, Faculty of Medical Technology, The University of Tripoli, Tripoli, Libya

rehabalmegrbi@gmail.com

Abstract

Polycystic ovary syndrome (PCOS) is a prevalent endocrine disorder that frequently leads to obesity. This can be attributed in part to insulin resistance, a common consequence of the condition. To combat obesity, individuals with PCOS can consider medication, adopting healthier eating habits, and engaging in regular physical activity. These measures can prove beneficial in reducing weight and improving overall health. PCOS primarily affects women of reproductive age and is characterized by irregular menstrual cycles, elevated testosterone levels, and the presence of polycystic ovaries. It is associated with various health complications, including cardiovascular and metabolic issues. The present study was to study the correlation between polycystic ovary syndrome and obesity, by studying the hormonal variance correlation within groups. This study was conducted in private laboratories. Data were collected from the Al-Sharq and Adam laboratory in the period from January to March 2024. The total number of cases for this study was 151 cases. The results of comparing the means with the T-test showed that FSH had higher arithmetic mean in women without PCOS, 11.846 ± 10.924 mIU/ml, compared to women with PCOS, 9.519 ± 9.395 mIU/ml, and the p-value = 0.186 was not statistically significant, as for the LH, Prolactin, and Testosterone test. The Pearson correlation coefficient between FSH "PCOS" and FSH "NON-PCOS" is -0.092, with a statistical significance of 0.594 at a significance level of 0.05. It is recommended to follow a healthy lifestyle and lose weight for women with polycystic ovary syndrome.

Keywords: PCOS, Prolactin, Obesity.

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Effect of Sub-Chronic Administration of Omeprazole on Haematological and Biochemical Parameters in Fischer Male Rats

Alaa Aldouayb[1], Akraam Areebi[1], Abdalmohymen Shuqman[1], Samia Elkedrawy[1,2*], Bushra Aboukhadeer[1]

[1]Department of Medical Laboratories, Faculty of Medical Technology, University of Aljafara, Alzahra, Libya.

[2]The Libyan Centre for Medical Research, Alzawia, Libya.

samia.alkedrwey2018@gmail.com

Abstract

Long-term use of proton pump inhibitors (PPIs) is believed to have various potential adverse events. Omeprazole is a part of PPIs most commonly prescribed worldwide; it irreversibly binds to the H+-K+ ATPase enzyme system in the gastric parietal cells to reduce the secretion of H+ ions into the lumen of the stomach. The main objective of the current work is to assess the adverse effects of omeprazole medication on certain haematological and biochemical parameters in rats who were on treatment for three months. We conducted a comparative cross-sectional study between March 2024 and July 2024. 20 male Fischer rats (Albino) aged two months, weighting (200-250g) was obtained from the Animal House located in The Libyan Centre for Medical Research, in the city of Alzawia, and were enrolled in this study. Rats were divided into two groups, the first group was the control (Normal saline group) (n=10), second was administered 40mg/kg omeprazole via IP route (n=10) once daily. Complete blood count and biochemical parameters were measured for both groups. The treatment group had remarkably significant reductions in the number of red blood cells (RBCs) ($p<0.001$) and the platelets indices. Omeprazole elevated the cholesterol level ($p<0.001$) and triglyceride ($p<0.001$) as well as low-density lipoprotein ($p<0.01$). However, no impact was found with high-density lipoprotein (HDL) ($p>0.05$). Blood urea levels ($p<0.001$) were significantly increased in the treatment group treated with omeprazole medication. The results also showed that the treatment group had a significant decline in calcium levels ($p<0.001$) than that of the control group. Prolonged use of omeprazole might result in adverse effects on haematological profile, particularly RBCs and their indices leading to the development of anaemia in patients on this medication. Furthermore, it might result in disturbances in biochemical profile, levels of minerals, and vitamins as consequences of affected absorption.

Keywords. Omeprazole, Haematological and Biochemical Parameters, Fischer Male Rats.

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Psychological status of a sample of elderly people living with their families and residing in Dar Al-Wafa for the Elderly and the Aged in the city of Tripoli

Najia Elwaseea*, Fawzea Eltarhoni

Department of Public Health, Faculty of Medical Technology, University of Tripoli, Libya

nagiaelwaseaa@gmail.com

Abstract

This study was conducted with the aim of studying the psychological state of a sample of elderly people residing with their families and residing in the Al-Wafa Home for the disabled and the elderly in the city of Tripoli, to know the extent of the elderly's need to use medical technologies for psychosocial support and health care. The comparative descriptive approach was used in the study. The research sample consisted of (80) elderly men and women aged 60 years and over, (40) respondents residing with their families, including (20 males, 20 females), and (40) respondents residing in Al-Wafa House for the disabled and the elderly (22 males, 18 females). To achieve the objectives of the study, a psychological state scale was used, which was filled out through a personal interview. The results of the study revealed that there were statistically significant differences between the two research samples of the elderly in the care home and those residing with their families in general. The level of their psychological state for a sample of elderly people residing in Al-Wafa House for the disabled and the elderly.

Keywords. Psychological Status, Elderly People, Tripoli.

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Evaluation of Preoperative Anxiety and Fear of General Anesthesia in Different Tripoli Hospitals

Weam Abu Algharbawiyah*, Mawadda Alboaishe, Alaa Alyaqoupi, Salma Elkayekh, Husam Elmahmoudi

Department of Anesthesia and Intensive Care, Faculty of Medical Technology, University of Tripoli, Libya

weam_1952_f@yahoo.com

Abstract

Anxiety is one of the most frequently observed psychological reactions among patients awaiting various surgeries. The incidence of preoperative anxiety varies based on several factors, such as the nature of the surgical procedure, gender, the criteria applied, the reason for the surgery, and level of education. The aim of this study is to reveal the causes of the patient's anxieties regarding anesthesia, and investigate how the patient's age, gender, the operation, surgical briefing, type of anesthesia recommended for the operation ahead, and patient's prior anesthesia experience affect the patient's anxieties. This cross-sectional study was conducted in different Tripoli hospitals (Tripoli Central Hospital, Tripoli University Hospital, Al Khadra General Hospital, Emetiga Military Hospital and Abu-Slim Trauma Hospital) aiming to assess the level of fear and anxiety of patients during routine screening one day before surgery, the study conducted between DEC 2023 to MAR 2024, 113 adult patients were asked about fear, worry, and anxiety using a questionnaire, Data were analyzed using SPSS (statistical package for social science). The results of the present study that included 113 adult patients showed that the percentage of females (64%) is higher than males (36%), as the most prevalent age group in the study is 18-28 years (30%), and that most of them are university graduates (51%) and married (72%). In terms of patients' fear of anesthesia, (54%) answered that they are afraid of anesthesia, while their level of anxiety is (49%), they are very worried about anesthesia. The reasons that most worries the patient is surgical causes (43%) then (23%) are worried about not waking up. Preoperative anxiety is still very common among adult patients scheduled to undergo an elective procedure. Therefore, it should be evaluated routinely. Anxiety about surgery and anxiety about anaesthesia differ in many patients. For this reason, anxiety about surgery and anxiety about anaesthesia should be assessed separately. This would allow providing a more individualized support of patients to cope with their anxiety and could require particular attention by the surgeon or the anaesthetist.

Keywords. Preoperative Anxiety and Fear, General Anesthesia, Tripoli.

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The relationship between insulin resistance and polycystic ovary syndrome in Libyan women

Maryouma Aghil*, Hana Alfaghi, Raniya Alrakhees

Department of Medical Laboratory Sciences, Faculty of Medical Technology, The University of Tripoli, Tripoli, Libya

maryouma.aghil@gmail.com

Abstract

Polycystic ovary syndrome (PCOS) is a heterogeneous endocrine disease that is common in women of reproductive age. Insulin resistance (IR) frequently coexists with this condition, along with various symptoms including hirsutism and issues related to fertility. This study aims to determine the prevalence of insulin resistance in Libyan patients to lower their risk of developing polycystic ovarian syndrome. 69 patients diagnosed with PCOS between the ages of 20 and 40 years. The study was conducted over three months, from January to March 2024, at Nour Al Hayat Fertility Hospital in Tripoli. A short questionnaire was utilized to gather data including demographics, HbA1c and FBS levels. A venous blood sample was collected from each patient for analysis various hormones levels including HOMA IR, thyroid stimulating hormone (TSH), follicle stimulating hormone (FSH), Prolactin, and Testosterone. Insulin and fasting glucose levels were measured using two different assays to calculate the equation: Insulin * FBS /450. Statistical analysis was performed using IBM SPSS version 22 software. The prevalence of PCOS among patients was 75%, compared to the control group, 25%. Furthermore, the results showed that HOMA IR, HBA1c, Prolactin and Testosterone were statistically significantly higher in PCOS women ($P < 0.05$). There was a strong positive correlation between HOMA IR and HBA1c in both study groups, PCOS women ($r= 0.796$, $p= 0.001$) and control group ($r= 0.704$, $p= 0.002$). Furthermore, HOMA IR was negatively correlated with FSH in both groups, whereas it was positively correlated with TSH in control group ($P > 0.05$). In conclusion, insulin resistance is a common feature of women with PCOS, although it is not universal and differs between clinical phenotypes of PCOS. This study highlights the importance of insulin resistance and hyperandrogenism as key factors in the pathogenesis of PCOS. Addressing insulin resistance can help improve symptoms and outcomes for individuals with PCOS.

KEYWORDS: Insulin resistance, PCOS, Hormonal imbalance, Androgen.

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Dosimetric Evaluation of Three-Dimensional Conformal Radiation Therapy Breast Cancer Treatment Plans

Kaduga Altwieb[1]*, Jalal Eltabib[2]

[1]*Department of Diagnostic and Therapeutic Radiology, Faculty of Medical Technology, Tripoli university, Tripoli, Libya*
[2]*Department of Radiotherapy, Tripoli University Hospital, Tripoli, Libya*

kadugaaltwieb@gmail.com

Abstract
Breast cancer is one of the most common cancers affecting women worldwide. Radiotherapy plays a pivotal role in breast cancer management. This study aims to conduct a comprehensive dosimetric analysis of breast cancer patients undergoing radiotherapy. In this study, 28 breast cancer patients were analyzed for various dosimetric parameters, including D98%, D95%, D50%, D5%, and D2%, as well as maximum, minimum, and mean doses within the PTV. PTV volume coverage was assessed at 95%, 93%, and 91% of the prescribed dose, with hot spot dose volumes at 115%, 110%, 108%, and 105%. Doses to organs at risk (OARs) were also evaluated. Dosimetric indices—uniformity index (UI), conformity index (CI), and homogeneity index (HI)—were calculated to assess treatment quality. Right-sided patients received higher doses at D98% and D95%, with smaller differences at D50%, D5%, and D2%. Left-sided patients had higher mean maximum and mean doses within the PTV, while right-sided patients had higher minimum doses. Left-sided chest wall-only patients showed higher hot spot volumes at 110% and 105%, though all patients had minimal volumes at 115%. Ipsilateral lung V20 was below 35% for all, with higher values in the chest wall and supraclavicular treatments. The mean heart dose was higher for left-sided treatments but stayed below cardiac toxicity limits. UI was slightly better in right-sided "Breast & SC" plans, and CI was higher in right-sided patients, while HI was higher in right-sided "Breast & SC" than left-sided "Breast Only." The study highlights differences in dose distribution between left and right-sided patients, with right-sided cases receiving higher doses at key points and left-sided cases showing larger PTV volumes and greater heart exposure. Dosimetric indices suggest treatment refinement may be needed, particularly for left-sided cases, to improve outcomes and reduce toxicity.
Keywords. Breast Cancer, PTV, Lumpectomy, Mastectomy, Uniformity Index.

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Evaluation of the teeth in the neutral zone concept of biting force in complete denture wearers

Gazia El Bakoush

Department of Dental Technology, Faculty of Medical Technology, University of Tripoli, Libya
gaziaelbakoush3@gmail.com

Abstract
The present study was conducted to evaluate the biting force in patients wearing complete dentures constructed according to the neutral zone and conventional techniques for setting-up artificial teeth. Ten completely edentulous patients were selected from the out-patient clinic of the Prosthodontic Department. Patients were selected with no previous experiences with removable prostheses. Patients were randomly divided into two grouped each included five patients. Group(I), patients had received complete dentures with the artificial teeth were arranged according to the conventional technique. While group (II) patients had received complete dentures with the artificial teeth were arranged according to the neutral zone concept. The biting force was measured using the Load sensor devices (I- Load digital USB sensor) at the insertion visit and two weeks after denture insertion. The results of the present study revealed that: The biting force was statistically higher with neutral zone dentures than conventional dentures. The biting force increasing gradually in both groups throughout the follow-up period.
Keywords. Neutral Zone, Biting Force, Complete Denture.

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Assessment of Factors Affecting the Severity of Post-dural Puncture Headache

Ghada Alnaeli[1], Sara Hwisa[2]*, Aeshah Altayf[3], Ahmed Aqeelah[4], Mayar Oaan[4], Rasha Aldoukali[4]

[1]Department of Anesthesia, Faculty of Medical Technology, Surman, Sabratha University Libya.
[2]Department of Medical and Basic Sciences, Faculty of Dentistry, University of Zawia, Libya.
[3]Faculty of Nursing, Sabratha University, Surman, Libya.
[4]Department of Anesthesia, Faculty of Medical Technology, Alzahra- Aljafara University, Libya

Sara.ab.mu.hw@gmail.com

Abstract
Post-dural puncture headache is a common complication following spinal/epidural anesthesia procedures. Identifying factors that influence the severity of these headaches is important for improving patient outcomes. The objective of this study was to evaluate the influence of various factors on the severity of post-dural puncture headaches. This was a descriptive study where participants were divided into 4 groups based on headache severity - group 1 had weak, group 2 had moderate, group 3 had strong, and group 4 had no headaches. Factors such as gender, age, weight, and details of the anesthesia procedure were evaluated across these 4 groups. The study included 100 participants with mean age of 35.5 years and weight of 75.3 kg. the mean operation times was 52.4 minutes. Headache severity varied, with 17% reporting weak, 16% moderate, 19% strong, and 48% no headaches. Gender was a factor, with all strong headaches in females, but more males reporting no headaches. Younger participants had the strongest headaches, lasting over 23 hours on moderate compared to 2 hours for weak. 22-gauge needles were linked to strong headaches. Treatment differed, with paracetamol for strong and coffee for weak headaches. Age and needle size were the primary factors influencing the severity of post-dural puncture headaches in this study. Gender also played a role, with strong headaches only reported in female participants.
Keyword. Post Puncture Headache, Spinal Anesthesia, Needle Size.

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Assess and Management of Sepsis and Septic Shock in Intensive Care Unit

Yaqeen Alqiblawi*, Yuosra Nasr, Fatimah Othman, Hind Brani

Department of Anesthesia and Intensive care, University of Al-Jafara, Alzahra, Libya

Yakeenalgeblawi2002@gmail.com

Abstract

Sepsis and septic shock are a medical emergency that leads to impaired organ function and are one of the main common reasons for admission to the intensive care unit, as septic shock is the most severe complication of sepsis and causes a high mortality rate. This study was conducted to evaluate and manage sepsis and septic shock and identify the most important causes and influential factors that increases the risk of sepsis and septic shock. The study was included 50 patients who were admitted to the intensive care unit, and data was collected from 35 cases who were diagnosed with sepsis and septic shock specifically from within the Zawia Medical Center and the Oil Clinic in Tripoli, by filling out a questionnaire after obtaining approval from the hospital administration and medical staff in the period between March and July2024. The results were extracted and analyzed through statistical analysis using the SPAS V.24 program, where the largest percentage was women, at a rate of 60% out of 35 cases. All cases developed into septic shock, and the age group most affected was >70 years, while Pseudomonas bacteria were the most prevalent. Among patients, the death rate reached 30% of the total cases. The incidence of infection and septic shock was higher in the elderly, female population, and patients with chronic diseases such as diabetes, who are more affected than patients with hypertension. The infection rate with Pseudomonas bacteria was higher compared to other bacteria that cause sepsis and septic shock.

Keywords. Sepsis, Shock, Inflammation, Bacteria, Antibiotic.

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Study of Myasthenia Gravis Risk Factors, prevalence and Complications in Tripoli, Libya

Zainab Qudura[1*], Eida Elmansorry[2]

[1]*Department of Anesthesia and Intensive Care, Faculty of Medical Technology, University of Tripoli, Libya*

[2]*Department of Medical Laboratory Sciences, Faculty of Medical Technology, The University of Tripoli, Tripoli, Libya*

Zaimab17898@gmail.com

Abstract

The term myasthenia gravis (MG) is derived from the Greek terms my, asthenia, and gravis, which mean muscle, weakness, and severe, respectively. It is a rare and fatal chronic autoimmune disorder in which circulating autoantibodies attack components of the neuromuscular junction (NMJ) of skeletal muscle, most commonly the nicotinic acetylcholine receptor (AChR), blocking the resulting neuromuscular transmission. Muscle weakness usually worsens with continuous activity, and the patient improves with rest, while the severity ranges from mild eye muscle weakness to severe general muscle weakness. This study was conducted to determine its prevalence in the Libyan city of Tripoli, and identifying risk factors that may have a role in its spread. This research was conducted on the period between June 2023 to January 2024. 50 MG patients were included in this study. After informed consent, patients' data were collected according to the previous provided survey. It was found that 52% of the females and 48% of the males, their average age was 43 years and the date of diagnosis was 5 years. 54% were suffering from other diseases in addition to GM disease. In terms of general laboratory parameters, there was a decrease in the levels of Vit.D and Vit.B12, while there was an increase in the levels of WBC. As for immunological tests, there was an increase in both Anti-Acetylcholine Receptors and Anti-Muscular Antibodies. Many symptoms associated with the disease have appeared, including Ptosis, Dysphagia, and Double Vision. And the Pearson correlation coefficient between age and disease complications showed a moderate positive relationship between age and dysphagia (r=0.344), with a statistical significance of 0.014 at a significance level of 0.05. In summary, this study demonstrated that risk factors can contribute to myasthenia relapse. Age of onset is an important predictor, there was a weak, statistically significant direct relationship between age and dysphagia, meaning that the older the age, the greater the impairment of dysphagia.

Keywords. Myasthenia Gravis, Risk Factors, Prevalence, Complications.

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Evaluation of blood hemoglobin, hematocrit and red blood cells count in people living at high and low altitudes

Waed Yousufe, Malak AL-Tommy, Mohammed Alshenbary, Haifa Bitrou*

Department of Medical laboratories, Faculty of Medical Technology, AL-Jafara University, Libya

Haifa.milad@hotmail.com

Abstract

This study was conducted to compare levels of hemoglobin, hematocrit, and red blood cells between people living at high and low altitudes. 182 samples were collected from healthy adult individuals, aged between 15 and 60 years, including (91) were permanent residents of the city of Gharyan at high altitudes. High ranging from 750 to 900 meter from sea level, including (60) men and (31) women, and compared to (91) a sample of permanent residents in the city of Zawia at low altitudes, which range from 0 to17 meters from sea level, including (60) men and (31) women. The study was conducted over a period of about five months (15–January–2024 to 6- May –2024) in Central Hospital of Gharyan and Al-Zawia Medical Hospital. The study included a test complement blood count (CBC). All blood samples were analyzed correctly, and the results extracted from samples that lived at high altitudes were compared with those that live at low altitudes. There was a difference between them, as the mean of hemoglobin, hematocrit, and red blood cells. The values for samples on high areas (Gharyan) were as follows: 15.088, 43.831, and 5.0857, respectively, and the mean for hemoglobin, hematocrit, and red blood cells for samples on low areas (Gharyan) were as follows: 13.933, 39.668, and 4.842.

Keywords. Blood Hemoglobin, Hematocrit, High and Low Altitudes.

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Risk of Shivering After Anesthesia in an Intensive Care Unit

Muhammad Oun*, Abdulmajid Almaedani, Ahmed Kadare, Omiuma Greseia, Abdulali Taweel

Department of Anesthesia, Faculty of Medical Technology, Alzahra- Aljafara University, Libya

mwn880192@gmail.com

Abstract

Post-anesthetic tremor (PAT) is an involuntary movement of the body's muscles that can occur after general or local anesthesia. It is a common complication, affecting up to 60% of patients. PAT can be a concern in the ICU, because it can cause high body temperature, low blood pressure, and increased heart rate. A study was conducted on PAT patients and anesthesia technicians at Tripoli Central Hospital in Libya from July to October 2023. The sample consisted of 100 individuals, 50 of whom were patients and 50 of whom were technicians. The majority of participants were female, followed by male. The study found that a significant proportion of people who undergo anesthesia have some form of heart disease, multiple chronic diseases, and are taking medication. A significant proportion of people who undergo anesthesia also reported having trouble breathing or shortness of breath, or suffering from thyroid problems or other hormonal problems. The most common factor that anesthesiologists believe increases the risk of shivering after anesthesia is low body temperature, followed by low blood pressure. The most common treatment for PAT is anti-shivering medications, followed by physical procedures, such as massage. The most common potential complications of PAT are increased heart rate, high blood pressure, and low blood pressure.

Keywords. Shivering, Anesthesia, Intensive Care Unit.

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Evaluation of Anti-Inflammatory Activity of Some Synthetic 3-Acetylpyridine Chalcone Derivatives

Elham Talib, Doaa Rahuma, Tasneem Aboadalla, Mohammed Al-Shenbary*

Department of Medical laboratories, Faculty of Medical Technology, AL-Jafara University, Libya

Doaarahuma@gmail.com

Abstract

This study investigates the anti-inflammatory effects of different compounds using a rat model of foot swelling induced by carrageenan. This study was conducted at the Libyan Center for Medical Research, Al-Zawiya. Rats were divided into six groups. Each group received different treatments: compound 1 at 3mg/kg concentration and 6mg/kg concentration, compound 2 at 3mg/kg concentration and 6mg/kg concentration, diclofenac with carrageenan, and carrageenan only. Foot swelling measurements were taken hourly for four hours post-treatment. The researchers used 2 compounds of 3-acetylpyridine as anti-inflammatory at 3mg/kg and 6 mg/kg concentration and comparison with diclofenac by control group. Found that the edema inhibition % of compound 1 at 3mg/kg concentration is ranging from -20.18% to 5.23%, while at 6 mg/kg concentration ranging from -6.14% to 17.73%. And the edema inhibition %of compound 2 at 3 mg/kg concentration ranging from 2.63% to 14.55%, while at 6 mg/kg concentration ranging from 14.91% to 38.18%. While diclofenac rangingfrom-32.46% to - 4.24%. The researchers concluded that the compound 2 at 6mg/kg have higher activity as anti-inflammatory because have the best edema inhibition % of 41.21% at third hour.

Keywords. Inflammation, 3-acetylpyridine, activity, chalcones.

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An Evaluation of Complications Related to Various Regional Anesthesia Techniques

Ghada Alnaeli[1]*, Sara Hwisa[2], Aeshah Altayf[3], Abdulgader Dhawi[4,5], Rawasy Sowan[6], Hana Alkurdi[6], Rawnda Othman[6], Omaima Alzwawi[6]

[1]Department of Anesthesia, Faculty of Medical Technology, Surman, Sabratha University Libya.
[2]Department of Medical and Basic Sciences, Faculty of Dentistry, University of Zawia, Libya.
[3]Faculty of Nursing, Sabratha University, Surman, Libya.
[4]Faculty of Medical Technology, University of Aljafara, Libya.
[5]Department of Microbiology and Parasitology, Faculty of Veterinary Medicine, University of Tripoli, Libya.
[6]Department of Anesthesia, Faculty of Medical Technology, University of Aljafara, Libya.
Ghada.alnaeli@sabu.edu.ly

Abstract
Regional anesthesia is widely used for its benefits in pain management; however, complications can arise, impacting patient outcomes. Understanding the frequency and types of these complications is essential for improving practice. This study aims to evaluate the complications associated with various regional anesthesia techniques and identify demographic and procedural factors influencing these outcomes. We conducted a descriptive study involving 80 patients who were categorized into three groups based on the complications experienced: Group 1 (None), Group 2 (Nerve Injury), and Group 3 (Vascular Injection). Statistical comparisons among groups were performed using one-way ANOVA, with significance set at $P < 0.05$. Complications were distributed as follows: Group 1 (None) included 47 patients (58.8%), Group 2 (Nerve Injury) included 26 patients (32.5%), and Group 3 (Vascular Injection) included 7 patients (8.8%). No significant differences were observed in age ($P = 0.527$), onset time ($P = 0.903$), or volume of local anesthesia ($P = 0.496$). Gender distribution showed no significant variation in complication rates ($P = 0.254$). However, the method of anesthesia administration significantly affected outcomes, with ultrasound-guided techniques associated with fewer complications compared to landmark techniques ($P = 0.001$). The findings highlight the importance of anesthesia technique selection in minimizing complications associated with regional anesthesia. Further research is needed to enhance patient safety and optimize clinical practices in this field.

Keywords. Complications, Regional Anesthesia, Clinical Practices.

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Insulin Resistance in the Blood and its Relationship with Cumulative Blood Sugar

Rayan Sagher, Etidal Alsead, Amani Kashar, Haifa Mohamed*

Department of Medical laboratories, Faculty of Medical Technology, AL-Jafara University, Libya

Miladhaifa@gmail.com

Abstract

In this research, we studied insulin resistance in the blood and its relationship to accumulated sugar for the period from April 2024 to June 2024, where the importance of the relationship between accumulated sugar and the prevalence of insulin resistance, its symptoms, causes, risks, insulin resistance, and the analyses used were identified. The experimental method was used in this research for its suitability to the phenomenon studied. The research community included (190) distributed between females and males in each of Tripoli University Teaching Hospital, Al-Khadra Hospital, and Al-Zawiya Teaching Hospital. The research tool used in the research was a questionnaire to collect information and data. The percentage was used within the statistical methods to process data and information. The results showed that there is a strong positive association between the deterioration of obesity and increased insulin resistance. As most individuals (75%) in the sample weigh more than 50 kg, which is associated with increased insulin resistance. Also, eating meals rich in sugar frequently contributes to increased demand for insulin and its resistance over time. A clear positive association was also observed between glycated hemoglobin levels and insulin resistance.

Keywords. Insulin Resistance, Blood, Cumulative Blood Sugar.

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Bacterial Contamination on Healthcare Worker's Mobile phones

Atika Kshir*, Salsabil Mansour, Alaa Rawag, Enas Mansour

Department of Medical laboratories, Faculty of Medical Technology, AL-Jafara University, Libya

Kshir12@gmail.com

Abstract

The Mobile phone has become an important tool in daily life. However, the widespread uses of mobile phones by healthcare workers can be a vehicle for transmission of pathogenic bacteria. This study aimed to investigate the bacterial contamination and determine the main bacteria species present among of mobile phones of healthcare workers in the Al-zawiya Teaching hospital, Libya. This cross-sectional study was conducted from March to May 2024, included 50 samples of healthcare workers. The healthcare workers included were nurses, doctors and health staff from two different departments of the hospital: medical laboratories, emergency department. Al-zawiya Teaching hospital. A self-administered questionnaire was used to collect social and phone usage data. The mobile phones of healthcare workers were swabbed for culture testing of microbes. Culture and the identification of all species were based on standard microbiological methods as well as morphological and physiological characteristics. 60% of the participants never disinfected their phones, 30% disinfected their phones occasionally and only 10% disinfected their phones always. In results of this study, the prevalence of mobile phone contamination was 86%. The predominant isolates were Staphylococcus aureus 31(62%) followed by staphylococcus epidermis 8 (16%), Enterococcus faecalis 4 (8%). the majority of participants were aged 26-55 years and no significant association was found between mobile phone contamination and gender. In conclusion, the mobile phones of healthcare workers' carry potentially pathogenic bacteria and can be a source of healthcare-associated infections. Hence, there is a need to develop regulations regarding the use of mobile phones, especially in critical areas, to reduce the dissemination of pathogenic bacteria from hands to phones and possibly to patients.

Keywords. Bacterial Contamination, Healthcare Workers, Mobile phones.

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Psychological Impact of Derna Flooding Disaster on Rescue Personnel of the Libyan Red Crescent

Reham Al-ghanni*, Maryam Algazal, Badereddin Annajar, Fawzia Al-Tarhouni

Department of Public Health, Faculty of Medical Technology, University of Tripoli, Tripoli, Libya

reay7117@gmail.com

Abstract

A disaster, is a severe ecological and psychological disturbance that exceeds the coping capacity of the affected individuals. Failure can have a variety of undesirable mental health consequences. This study aimed to examine the effect of a disaster on the psychological health of rescue workers after Derna disaster. A cross-sectional, descriptive study was performed on 205Red Crescent emergency participants between the ages of 18 and 60. The participants were from all Libyan cities including Tripoli was used to answer the electronic questionnaire, which was conducted from 3rd of February to 18 of march 2024. Data were analyzed using SPSS 24. Descriptive statistics of frequencies, and percentages were used to describe the participants' data. In addition, one-way analysis of variance (ANOVA) test. Out of 205 of red crescent workers who were participated in Derna disaster which is considered a high percentage of responses were males at a rate of 89.8%, the majority of them were single (76.1%) and the majority of rescue workers were from Derna followed by Tripoli. Half of participants were had psychological effects after one month, at (52.2%). Most of the group of respondents went to work immediately after returning from the Derna accident, at a rate of 54.6%. 69.8% was take excessive drinking after come back. From analysis, there was no significant relationship between experience in Red Crescent workers and how long did the psychological effects last for red crescent workers after they return from the Derna disaster. There was a strong relationship between age and how long did the psychological effects last for red crescent workers after they return from the Derna disaster with what they extent did the shock affect when they arrived at the scene of the accident (p value= 0.001), and there was no significant relation between sex and psychological distress. there was a high relationship between age and unsatisfactory behavior and Experience did Red Crescent acquire after returning from the disaster (p value= 0.001). In summary, there was prevalence of general psychological disorder among rescue workers in the first one month after the disaster. Immediate psychosocial intervention should be considered to ameliorate the distress related to disaster rescue work.

Keywords. Red Crescent, Psychological Effects Derna Disaster, Libya.

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Evaluation of HbA1c in patients with type 2 diabetes with gastric bypass surgery

Malak Ghellai, Danya Agareb, Nour Alaqil, Basem Rajab*

Department of Medical Laboratories Sciences, Faculty of Medical Technology, University of Tripoli, Tripoli, Libya

Email. Brajab50@gmail.com

Abstract

The primary objective of Roux-en-Y Gastric Bypass (RYGB) in the context of type 2 diabetes management is to achieve rapid and sustained glycemic control and potentially induce diabetes remission. RYGB has unique metabolic effects that extend beyond weight loss alone, making it a powerful intervention for type 2 diabetes. Significantly lowers glycosylated hemoglobin (HbA1c) levels and stabilizes blood glucose levels, reducing the need for insulin or other antidiabetic medications. This study was conducted t0 evaluate levels of HbA1c in patients with type 2 diabetes with gastric bypass surgery. The study participants were sixty T2DM patients aging 25–56 years, HbA1c ≥7.5 % despite good clinical practice medical therapy, submitted to laparoscopic RYGB. A total of 41 females, their ages ranged (25–56) years, weight (97–181) kg, and 19 males, their ages ranged (28–55) years with weight (98–230) kg, with BMI >35 kg/m2, HbA1c 9.5% (7.5–13.3). There was no mortality, and there were complications. BMI and waist decreased stabilizing around 25 kg/m2. HbA1c reached values around 4%, There was remission in 81.6% of cases. According to our research, we can conclude that a positive association was found between the gastric bypass operation and HbA1c, as it can reduce its percentage in people suffering from TD2.

Keywords. HbA1c, Type 2 Diabetes, Gastric Bypass Surgery.

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Anticancer Potential of Caulerpa prolifera and Dictyota dichotoma Alcoholic Extracts against Breast Cancer Cells

Maha Ouda*, Rabia Alghazeer

Biochemistry Division, Chemistry Department, Faculty of Sciences, University of Tripoli, Tripoli, Libya

Email. mahaouda2009@yahoo.com

Abstract

Algae, rich in bioactive compounds, have potential anticancer properties by inhibiting cancer cell growth, promoting apoptosis, and reducing tumors. This study aims to evaluate the anticancer activity of methanolic extracts of Caulerpa prolifera and Dictyota dichotoma by investigating their effects on cancer cell proliferation, apoptosis induction, and potential mechanisms of action. The inhibition of breast cancer MCF-7 cell proliferation was assessed using MTT assays. Apoptosis assays and cell cycle arrest analysis were conducted using caspase-3 activity evaluation and flow cytometry methods, respectively. Both extracts effectively inhibited the proliferation of MCF-7 cancer cells, with Dictyota dichotoma showing a lower IC50 value and greater efficacy compared to Caulerpa prolifera. Significant increases in Caspase-3 gene expression were observed in MCF-7 cell lines treated with D. dichotoma compared to negative control MCF-7 cell lines, with a much greater increase than in cells treated with C. prolifera. Cell cycle analysis revealed that treated MCF-7 cells with both extracts were predominantly arrested in the G0/G1 phase. In conclusion, this study highlights the potential of these algae as future anticancer agents and suggests their role as functional foods that may contribute to cancer prevention.

Keywords. Anticancer, Caulerpa prolifera, Dictyota dichotoma, Breast Cancer Cells.

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Synergistic Antioxidant Effects of Clove Bud and Banana Extracts in alleviating Hydrogen Peroxide-Induced Oxidative Stress in Semen: An in Vitro Investigation

Sabrea Imbark[1]*, Rabia Alghazeer[1], Sana El-Gahmasi[2]

[1]Department of Chemistry, Faculty of Science, University of Tripoli, Tripoli, Libya.
[2]Department of Biochemistry, Faculty of Human Medicine, University of Tripoli, Tripoli, Libya.

Email. sabreasalem6@gmail.com

Abstract
Clove bud and banana extracts, rich in antioxidants like eugenol, phenolic compounds, vitamins, and flavonoids, can reduce oxidative damage by neutralizing reactive oxygen species (ROS). This study evaluates the combined effects of clove bud and banana extracts in reducing H_2O_2-induced oxidative stress in an in vitro semen model. Methods: Thirty viable donors will be recruited with informed consent for semen analysis in accordance with WHO recommendations. Semen samples were treated with hydrogen peroxide to induce oxidative stress. Pretreated samples will be separated into portions and treated with individual and combined clove and banana extracts, with ascorbic acid as a control. Sperm oxidative parameters will be assessed. The study shows that individual and combined extracts of clove and banana effectively reduce oxidative stress in semen pretreated with hydrogen peroxide. This is evidenced by significant decreases in MDA, nitric oxide (NO), and superoxide radical levels, along with increased GPx enzyme activity in the treated samples. The 2:1 clove-banana combination provided the strongest protection against oxidative stress. These findings suggest that incorporating clove and banana extracts may offer a promising natural strategy to address male infertility issues associated with oxidative stress.
Keywords. Antioxidant Effects, Clove Bud, Banana Extracts, Oxidative Stress.

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Computational Analysis of Anticancer and Antiviral Properties of Libyan Algal Lipids

Ezdehar Althallouthi[1]*, Moammar Sidati[2], Abdul-Fattah Gabaj[3], Rabia Alghazeer[4]

[1]Department of Marine Chemistry and Physics, Marin Biology Research Center, Tajura-East of Tripoli, Tripoli, Libya
[2]Department of Marine Biotechnology, Marine Biology Research Center, Tajura-East of Tripoli, Tripoli, Libya
[3]Department of Genetics and Biochemistry of Medicinal Chemistry, Faculty of Pharmacy, Tripoli University of Medical Sciences, Tripoli, Libya
[4]Department of Chemistry, Faculty of Sciences, University of Tripoli, Tripoli, Libya

Email. sabreasalem6@gmail.com

Abstract
Computational approaches have emerged as powerful tools in drug discovery, allowing researchers to model and predict the interactions between bioactive compounds and biological targets. The aim of this study is to investigate the anticancer and anti-COVID-19 effects of fatty acids derived from lipids extracted from Libyan marine algae using computational methods. The study utilized Auto Dock 4.2 to assess the interactions of algal fatty acids with biological targets in cancer cells and SARS-CoV-2, focusing on their binding with B-DNA fragments and the 6LU7 protease enzyme. The results show that van der Waals, hydrogen bonding, and electrostatic interactions play significant roles in these bindings. Doxorubicin binds to DNA through intercalation, primarily involving van der Waals and hydrogen bonding. The docking of marine fatty acids with protease enzymes also revealed similar interaction patterns. In conclusion, fatty acids in algal lipids show anticancer properties due to their strong binding affinity to DNA. However, marine fatty acids exhibited very weak docking interactions with the protease active site, suggesting they have weak antiviral potential.
Keywords. Computational Analysis, Anticancer and Antiviral Properties, Libyan Algal Lipids.

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Enhancing Rehabilitation: The Impact of Physical Therapy on Dysarthria and Drooling

Marwa Alfitury*, Amira Ben Said

Department of Physiotherapy, Faculty of Medical Technology, University of Tripoli, Tripoli, Libya.

Email. marwaalfituri@gmail.com

Abstract

One of the most pressing problems in recent years is the increase in the number of children suffering from various speech disorders. In this study, the spotlight was placed on children with cerebral palsy and children suffering from speech disorders, specifically dysarthria. This study aims to examine the role of physical therapy in improving cases of dysarthria and drooling. It also demonstrated the effectiveness of facial and neck muscle massage, tongue exercises, and breathing exercises. The method adopted was experimental, as it was held in private centers in the Tripoli city in Libya, from February to June 2024. The sample consisted of 12 cases (5 females and 7 males); 7 cases of cerebral palsy type (4 Spastic-3 Hypotonic) and 3 healthy without mental problems, but they suffer from dysarthria, and one cognitive impairment, and one case of Down syndrome - as they underwent a treatment protocol, lasted 10 sessions in a two-hour system depends on massaging the muscles of the face, neck and shoulders, tongue exercises, breathing exercises and vocal exercises that were under the supervision of speech therapists. In all cases, the treatment successfully improved the drooling, which was observed to improve from the first sessions, Where the quantitative evaluation of the results was carried out., due to they were evaluated by the visual analog scale and was measured during eating, during rest and during activity. The findings show 75% of cases had drooling reduced to 16.7%, as well as massage was effective in straightening the neck, and the cases of dysarthria 83.3% decreased to 16.7%, and massage and breathing exercises helped calm the cases and they were able to open the mouth completely 100%, and they were able to extend and raise the tongue. In addition, the (Lee Silverman Voice Treatment) measurement LSVT LOUD showed that improvement from 6 second to 10 second range of their voice. The effectiveness of the treatment program for cases of drooling and dysarthria was noted, as it was effective and had an impact on the behavior of the cases and became calmed, increased its self-confidence to talk, and enabled it to participate and interact with those around it and request its needs smoothly.

Keywords. Dysarthria, drooling, physical therapy, speech therapist, facial and neck massage, vocal cords, Down syndrome.

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Assessment of protein carbonylation as a key indicator of oxidative damage in infertile men

Manar Houdoud[1]*, Sana El-Gahmasi[2], Rabia Alghazeer[3]

[1]*Department of Chemistry Sciences, Libyan Academy for Postgraduate Studies.*

[2]*Department of Biochemistry, Faculty of Human Medicine, University of Tripoli, Tripoli, Libya.*

[3]*Department of Chemistry, Faculty of Science, University of Tripoli, Tripoli, Libya.*

Email. Haddod82@gmail.com

Abstract

Infertility affects around 15% of couples of reproductive ages, with male factor infertility accounting for nearly 50% of cases. Oxidative stress is a significant contributor to male infertility, causing damage to sperm DNA, lipids, and proteins. Protein carbonylation serves as a key marker of oxidative damage but has been infrequently studied in infertile men. This study aims to compare protein carbonylation levels in the seminal plasma of infertile men and fertile donors, and to examine its relationship with conventional semen parameters. The study will recruit 50 infertile patients and 50 proven fertile donors, all providing informed consent. Semen analysis will follow WHO guidelines, categorizing participants into normozoospermic and non-normozoospermic groups. Protein carbonylation levels in seminal plasma will be measured spectrophotometrically. Statistical analyses, including t-tests and correlation assessments, will be performed. Participants were divided into three groups based on protein carbonyl (PC) concentration: G1 ($PC < 0.65$), G2 ($0.65 \leq PC \leq 2.23$), and G3 ($PC > 2.23$), with G1 as the control. Significant differences in sperm motility were observed among the groups (p-values < 0.001), with G1 showing higher motility than G3, suggesting that lower PC concentrations are associated with better sperm motility. The study found significant differences in protein carbonyl levels between infertile patients and controls, highlighting the importance of protein carbonylation as an indicator of oxidative stress. These findings could improve the assessment and management of oxidative stress-related infertility.

Keywords. Protein Carbonylation, Oxidative Damage, Infertile Men.

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Knowledge, Attitude and Practice of Libyan Mothers Regarding Oral Rehydration Salt

Awatef Samud*[1], Tasneem Jrid[2], Yousef Taher[2]

[1]Department of Anesthesia and Intensive Care, Faculty of Medical Technology; [2]Department of Pharmacology and Clinical Pharmacy, Faculty of Pharmacy, University of Tripoli, Tripoli, Libya

a.samud@uot.edu.ly

Abstract

The present study was aimed to assess the knowledge, attitude and Practice of mothers regarding Oral Rehydration Salt (ORS). In this cross-sectional descriptive study, a total of 360 Libyan mothers were enrolled by convenience sampling. The study was carried out in Tripoli city, over a 3-months period, during March-May 2022. Data was gathered by means of semi-structured questionnaire. Questionnaire asked information about the knowledge of mothers regarding ORS, availability in the market, method of preparation, its route of administration, source of information about ORS and the role of ORS in the controlling of diarrhea. Of the total 360 mothers, about 55% of respondents were literate. 82% of mothers belonged to middle social class and among those 45% seemed to have sufficient knowledge pertaining ORS preparation, and more than 80% of participants have adequate knowledge regarding its significance in deal with diarrhea. Only 34 % of participated mothers did know how to prepare ORS and 31% of mothers did know how to use ORS properly. Information related to availability of ORS was found to be accurate among 30% of mothers. Most of mothers (86%) got information about ORS from physicians. The information of less than 10% of participated mothers were from their mothers and relatives. Knowledge, attitude and practice regarding ORS were found to be acceptable among Libyan mothers belonging to middle socioeconomic status. The information relating to ORS was principally informed by the health care providers.

Keywords. Oral Rehydration Salt, Diarrhea, Rehydration Solutions, Dehydration, Knowledge.