وزارة التعليم العالي والبحث العلمي
جامعة النــور
ALNOOR UNIVERSITY

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ICMHS

The 2nd International Conference on Medical and Health Sciences

2nd International Conference on Medical and Health Sciences

17 and 18 Apr. 2024

PROGRAMME SCHEDULE – Day 1 (17 Apr. 2024)

Venue: D1

Inaugural address 1- Iraqi national anthem 2- Reading Surah Al-Fatihah 3- Opening speech by the President of Al-Noor University **(Professor Dr. Yassen Taha Al-Hajar)** 4- Alnoor University Video	**9.00 am – 9.30 am**
Event The official announcement of: **1- BioMed Vision Journal** **2- ADR reporting Application**	**9.30 am – 10.00 am**
Keynote 1: (The scientific/ medical research in Iraqi universities: a highlight and ambition for the best) **Presenter:** **Prof. Dr. Nabeel NajebFadhil** **Chairperson:** **Dr. Moayad Aziz Alabdaly**	**10.00 am – 10.30 am**
Coffee Break	**10.30 am – 11.00 am**
Session 1	**11.00 am – 12.30 pm**

Chairperson: Prof. Dr. Yassar Al-Tamer
Co. Chairperson: Ass. Prof. Dr. Sanaa Mohammed Taib

Plenary session I: (Enhanced recovery after surgery) **Presenter:** **Dr. Omer S. Al-Taan**	**11.00 am – 11.15am** **(Virtual)**

Ab. No.	Title	Presenter	Time
OP 3	Study the effect of some factors and antioxidants on the newborn jaundice	Ali Shukur Jasim Al Hatemi	11.15-11.25
OP 4	Correlation Between Vitamin-D Deficiency and Toxoplasma Gondii Infection	Amani Mohamed Jasim	11.25-11.35
OP 5	Epidemiology study of Leukemia Incidences among patients from Baghdad AL-Karkh District, Carrying four different types of Leukemia - Subject Review	Dawood Salim Edan	11.35-11.45
OP 28	Frequency and Impact of Energy Drink Consumption on BMI at AlNoor University	Fahad Abdulwahab Jameel	11.45-11.55

Session Discussion		
Coffee Break		**12.30 pm – 1.00 pm**
Session 2		**1.00 pm – 3.00 pm**
Chairperson: Prof. Dr. Samir khalaf Abdulla		
Co. Chairperson: Ass. Prof. Dr. Sahlia Mohammed Zeadan		
Ab. No.	**Title**	**Presenter**	**Time**
OP 7	Isolation, identification, and In vitro antifungal susceptibility testing of Candida species from Duhok City patients with otomycosis	Asia A.M.Saadullah	1.00-1.10
OP 9	Examine the impact of total hip replacement on spine mobility via gait analysis	Haider Mohy Al Saigh	1.10-1.20
OP 10	Estrogen antagonist monotherapy for breast cancer women	Faris Abdulmawjod	1.20-1.30
OP 11	Investigation of Enterobius vermicularis in primary school children at Baghdad province	Amani Mohamed Jasim	1.30-1.40
OP 12	Diagnosis and Treatment of Giardia lamblia	Wahda A. M. Khrofa	1.40-1.50
OP 13	Diagnostic Utility of PAX5 in both Hodgkin's and non Hodgkin's Lymphoma	Abdulkarim Y. Altae	1.50-2.00
OP 14	The outcome of surgical management of cryptorchidism in terms of postoperative testicular size, position & vascularity	Abbas Alhasani	2.00-2.10
Session Discussion			

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PROGRAMME SCHEDULE – Day 1 (17 Apr. 2024)

Venue: D2

Inaugural address 1- Iraqi national anthem 2- Reading Surah Al-Fatihah 3- Opening speech by the President of Al-Noor University **(Professor Dr. Yassen Taha Al-Hajar)**	**9.00 am – 9.30 am.** **(Virtual)**
Event The official announcement of: **1- BioMed Vision Journal** **2- ADR reporting Application**	**9.30 am – 10.00 am** **(Virtual)**
Keynote 2: (Hybridoma technology) **Presenter:** **Assoc. Prof. Dr. Omar Sarheed** **Chairperson:** **Assis. Prof. Dr. Omer Q. Allela**	**10.00 am – 10.30 am**
Coffee Break	**10.30 am – 11.00 am**
Session 3	**11.00 am – 12.30 pm**
Chairperson: Prof. Dr. Faris Abdul-Mawjood Ahmed **Co. Chairperson: Ass. Lec. Anfal Nabeel Mustafa Almallah** **Plenary session 2: (The impact of incorrect use of dry powder** **inhalers on asthma and COPD management** **Presenter:** **Prof. Dr. Muhannad R. M. Salih**	**11.00 am – 11.15 am**

Ab. No.	Title	Presenter	Time
OP 15	Degree of Anxiety among first and final year Pharmacy Students: Results from Mosul College of Pharmacy	Harith Khalid Al-Qazaz	11.15-11.25
OP 16	Assessment of Antibiotic Resistance Patterns in Bacterial Isolates from Contaminated Surgical Tools	Mohammed Omar	11.25-11.35
OP 17	Exploring interindividual Varilability in Acetylcholinesterase Activity among Diverse Human Groups	Razan Nadhim	11.35-11.45
OP 18	Analysing Antihypertension Medications Prescription Trends in Sulaymaniyah City: A Data-Centric Study	Rafal Malik Kamil	11.45-11.55
OP 19	Women's Attitudes Regarding Myths and Misconceptions about Contraceptive Methods in Mosul City	Abdulrahman Mazin Hashim	11.55-12.05

OP 20	Evaluation of the Attitudes toward Communicable Diseases Prevention among Health Workers at in Al-sadr Medical City in Najaf Governorate\ Iraq	Ahmed A. Mohammed	12.05-12.15
OP 102	Quality indicators of antimicrobial prescribing in Iraq: A narrative review	Jaafer M. Kurmanji	12.15-12-25
OP 103	Factors Influencing Adverse Drug Reactions Reporting Among Healthcare Practioners In Selected Pediatric Hospitals In Iraq	Bootan Abdulkadir A. Salih	12.25-12.35
Session Discussion		
	Coffee Break		**12.30 pm – 1.00 pm**
	Session 4		**1.00 pm – 3.00 pm**

Chairperson: Prof. Dr. Raya Jasim Al-Naimi

Co. Chairperson: Dr. Abduladheem. Raouf Sulaiman

Ab. No.	Title	Presenter	Time
OP 21	Incidence of Unsuspected Prostatic Carcinoma in Transurethral Resection Biopsies	Zainab Waleed Aziz	1.00-1.10
OP 56	Updates in Cryopreservation of Embryo,Oocyte and sperm in Assisted Reproductive techniques	Maha Alsammak	1.10-1.20
OP 23	Laparoscopic appendicectomy should be a standard practice in Paediatric Appendicitis management. Open procedure should be performed only in exceptional circumstances	Mussalam Layth Alobaidy	1.20-1.30
OP 24	Neuro-protective effect of natural-derived compounds against neurotransmitters abnormalities in SHSY5Y Neuroblastoma Cells	Farah Jabbar Hashim	1.30-1.40
OP 25	Bioinformatics Investigation of Saccharomyces cerevisiae Killer Toxin K28	Hiba Hadi Taha Aldabbagh	1.40-1.50
OP 27	Obstacles to Efficient Nursing Practices in Neonatal Care at Mosul City Teaching Hospitals	ElaafHazim Khudir	1.50-2.00
OP 76	Relationship between Hepcidin and ferritin with insulin in the blood of obese males	Mohammed Najmadden Mahmmud	2.00-2.10
OP100	Synthesis, characterization, docking, and antioxidant of new triazole sulfa-drugs based on mannitol	Mohammed Ridha Abbood Alhaideri	2.10-2.20
Session Discussion		

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PROGRAMME SCHEDULE – Day 2 (18 Apr. 2024)

Venue: D1

Keynote 3:	9.00 am – 9.30 am
(Optimizing Resin restorations with proper light curing: Selection criteria and Clinical success) **Presenter:** Prof. Dr. Abdul-Haq A. Suliman **Chairperson:** Prof. Dr. Talal H. Alsalman	

Session 5	9.30 am – 10.30 am
Chairperson: Prof. Dr. Ahmed Yahya Dallal Bashi **Co. Chairperson: Ass. Lec. Zahraa sabah Ghanim**	
Plenary session 3: (Brand or Generic?) **Presenter:** Ass. Prof. Dr. Mayasar Alkotaji	9.30 am – 9.45 am

Ab. No.	Title	Presenter	Time
OP 77	Hematological Parameters and Trace Element Levels in Pregnant Women with Anemia	Dhifaf Zeki Azizi	9.45-9.55
OP30	Senior Nursing Students Knowledge about the Use of Antibiotics	Luay Amjed Mahmood Al-Waly	9.55-10.05
OP31	Detection and Identification of Bacteria on Mobile Phones Used by Healthcare workers in Mosul City	Mareb Hameed Ahmed	10.05-10.15
Session Discussion			

Coffee Break	10.30 am – 10.45 am

Session 6	10.45 am – 12.30 pm
Chairperson: Ass. Prof. Dr. Maan M. Nayif **Co. Chairperson: Dr. Kubais Hachim Al Assaf**	

Ab. No.	Title	Presenter	Time
OP 32	Abuse-deterrent dosage form: formulation and evaluation.	Haneen Talal Mohammad	10.45-10.55
OP 33	Comparative Analysis of the Histological Changes and Immunohistochemical Expression of Vascular Endothelial Growth Factor in the Placenta in Gestational, Pre-Gestational Diabetic, and Normal Women	Intissar Numman Waheed	10.55-11.05

OP 34	Assessing the Efficacy of Salvia officinalis Gel in the Treatment of Periodontitis by Monitoring Gingival Crevicular Fluid Volume and Interleukin 17 Concentration	Ismael W. Aljuboori	11.05-11.15
OP 35	Public awareness toward mental illnesses in Mosul city	Israa Mohammed Zaki Shihab	11.15-11.25
OP 36	Isolation and Identification of bacterial agents that cause tonsillitis and evaluating the ability of aqueous extracts of beetroot and turnip plants to inhibit them	Khadija Ismail Mohammad	11.25-11.35
OP 75	Estimation of ovary efficiency factor and detected of menopause period	Samah Amer Hammood	11.35-11.45
OP 38	Genetic study of the parasite cryptosporidium parvum isolated from the lunges of experimentally infected rats	Luma abdullatef S.N.	11.45-11.55
Session Discussion			
Coffee Break		**12.30 pm – 1.00 pm**	
Session 7		**1.00 pm – 3.00 pm**	
Chairperson: Prof. Dr. Muna Abdubasit Kashmola **Co. Chairperson: Dr. Thabit Moath Omer**			
Ab. No.	**Title**	**Presenter**	**Time**
OP 39	Enhancing Patient Access: IoMT Kiosk Solution for Locating Medicines in Local Pharmacies	Mafaz Kadhim Ahmed	1.00-1.10
OP 40	Association Between Pro-Inflammatory Cytokines (TNF-α, IL-1β and IL-6) and Uterine Fibroid	Marwa Assim Qaba	1.10-1.20
OP 41	Analysis of Acquired Antimicrobial Resistance Genes in Genomes of Iraqi Acinetobacter baumannii KO	Maryam hazem Abduljabar	1.20-1.30
OP 42	Calculation of Heavy Metal Concentrations and Their Relationship to Patients with Chronic Renal Failure	Mohammed A. Hasan	1.30-1.40
OP 43	Novel spectrophotometric determination of mesalazin in tablet dosage forms using veladium salt as a reagent	Mohammed Khalid Al-shaheen	1.40-1.50
OP 44	Clinical study of serum Spexin and asprosin in obese hypothyroidism female patients	Mohammed Rajab Abed	1.50-2.00
OP 45	Serum and Urine Exosomes estimation as biomarkers in bladder cancer patient's diagnosis	Farhan Hussien Khalaf	2.00-2.10
OP 46	Mirabegron Induced Relaxation of Isolated Bovine Coronary Segments: Role of NO and K+ Channel	Rahma S. Almallah	2.10-2.20
Session Discussion			

Conference Recommendations   3.00 pm – 3.30 pm
Ass. Prof. Dr. Omer Q. Allela

Lunch time   3.30 pm – 4.00 pm

Venue: D2

Keynote 4: (From Bench to Bedside: Embracing Personalized Care Through Evidence-Based Research) **Presenter:** Assoc. Prof.Dr. Mohammed Aleskandrany **Chairperson:** Dr. Mussalam Layth Alobaidy	**9.00 am – 9.30 am**

Session 8	**9.30 am – 10.30 am**

Chairperson: Ass. Prof. Dr. Wafaa Mohammed Ali Alsheikh
Co. Chairperson: Ass. Lec. Dhuha Ghassan Younus

Plenary session 4: (SiLaC and seton in treating PNS perspective study in Mosul) **Presenter:** Dr. Modhar Saadaldeen Alomary	**9.30 am – 9.45 am**

Ab. No.	Title	Presenter	Time
OP 47	Effect of Curcumin on expression levels of Carbapneam Resistance Genes in Proteus mirabilis Isolated from Clinical Samples from Baghdad Hospitals	AbdulMuhsin Moslim Shami	9.45-9.55
OP48	Occurrence of Methicillin-Resistant Staphylococcus aureus (MRSA) in different clinical isolates in three hospitals in Baghdad province	Meroj A. Jasem	9.55-10.05
OP49	Enhancing Infection Control Knowledge: A Training Program for Surgical Department Nurses in Mosul Hospitals	Atheer Abd Ahmed	10.05-10.15
	Session Discussion		

Coffee Break	**10.30 am – 10.45 am**

Session 9	**10.45 am – 12.30 pm**

Chairperson: Prof. Dr. Nabeel Ahmed Jarjees
Co. Chairperson: Lec. Laith Yassen Qassem

Ab. No.	Title	Presenter	Time
OP 50	Five Years Survival Rates of Breast Cancer Patients in Nineveh	Moayad Aziz Alabdaly	10.45-10.55
OP 51	Doctors Adherence to the Guidelines in Managing Patients in the Coronary Care Unit	Nada K. AL-Mukhtar	10.55-11.05
OP 52	Public acceptance, attitude and perception toward covid-19 vaccination in Mosul City; Iraq.	Nadia H Saeed	11.05-11.15
OP 53	Methionine Sulfoxide Reductase, Some Enzymes of the Neural Pathways, and State Of Oxidative Stress in Down syndrome Patients	Othman qusay abdulhameed	11.15-11.25
OP 55	A Clinical Study of Asprosin and its Relation with Oxidative Stress in Metabolic Syndrome	Thikra Ali Ali Allwsh	11.35-11.45

Ab. No.	Title	Presenter	Time
OP 22	Risk and Protective Factors in Alzheimer's Disease: A Review	Bushra Khairuddin Abdulqader	11.45-11.55
Session Discussion			

Coffee Break	**12.30 pm – 1.00 pm**	

Session 10	**1.00 pm – 3.00 pm**

Chairperson: Ass. Prof. Dr. Hadi Mohammed Ehmayed
Co. Chairperson: Lec. Shamil Shoker Mahmood

Ab. No.	Title	Presenter	Time
OP 57	Role of oxidative stress Nitric oxide in Detection Echinococcus granulosus Patients	Rasha amer noori	1.00-1.10
OP 58	The synergistic effects of Urtica dioica and vitamin E on hyperglycemia, oxidative stress and histological changes in diabetic rats	Abeer Mansour	1.10-1.20
OP 59	Comparative Study Between Basal Bolus Insulin Regimen Versus Twice Daily Regimen In Children And Teenagers With Type One Diabetes In Mosul City.	Zakaria Abdul Khaliq Qassim	1.20-1.30
OP 60	The Antibacterial Effects Boiled Aqueous And Chemical Extracts Of Selected Medicinal Plants From Iraq On Some Bacterial Species In vitro Using Disc Diffusion.	Talal taha ali	1.30-1.40
OP 61	Survey for etiologic agents causing superficial mycoses from populations in Kurdistan region of Iraq using phenotypic and molecular Techniques	Wazeera Rashid Abdullah	1.40-1.50
OP 62	The Effect of Vitamin D deficiency on Central Obesity and Fatty Liver in Female within Reproductive Age	Zahraa Alsarraf	1.50-2.00
OP 63	Assessment of appetitive traits among Iraqi population	Zainab Mohammed Alshamaa	2.00-2.10
OP 64	Survey On Surgical Treatment and Complication of Paediatric Hydatid Cysts in Al Khansa'a Hospital	Zakaria Abdul Khaliq Qassim	2.10-2.20
OP101	The enzymatic and Non-Enzymatic Effects of Secretion Phospholipase A2 and Relationship with Some Anti-Oxidant and Vitamin D3 in Asthma Patients.	Oda mizal yassir	2.20-2.30
Session Discussion			

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Conference Recommendations **Ass. Prof. Dr. Omer Q. Allela**	**3.00 pm – 3.30 pm** **(Virtual)**
Lunch time	**3.30 pm – 4.00 pm**

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PROGRAMME SCHEDULE – Day 2 (18 Apr. 2024)

Venue: D3

Session 11			9.30 am – 10.30 am
Chairperson: Ass. Prof. Dr.			
Co. Chairperson: Ass. Lec.			

Ab. No.	Title	Presenter	Time
OP 65	Role of rehabilitation in Rheumatoid arthritis	Anas falah jebur al-zihaymee	9.45-9.55
OP 66	The development of nano-lipidic formulation of a phytochemical, apigenin.	Bahjat Alhasso	9.55-10.05
OP 67	Survey of some immunological and bacteriological parameters in Iraqi women infected with PCOS	Wajida Ataallah Khudhur	10.05-10.15
	Session Discussion		
	Coffee Break		**10.30 am – 10.45 am**

Session 12			10.45 am – 12.30 pm
Chairperson: Prof. Dr.			
Co. Chairperson: Lec.			

Ab. No.	Title	Presenter	Time
OP 70	Estimation of Serum Magnesium to Calcium ratio in Pregnant Women with Iron deficiency anemia	Khairaldeen Mohammed Sulaiman	10.45-10.55
OP 71	Exploring Attitudes of Undergraduate Nursing Students toward the Nursing Profession: A Qualitative Study at Mosul University	Younes K. Attia	10.55-11.05
OP 72	The impact of VDR gene and biochemical indicators in osteoporosis	Sabah subhi ismael barani	11.05-11.15
OP 73	Exploring the Association of Campylobacter jejuni with inflammatory bowel diseases: insight from a clinical study	Nisreen Jawad Kadhim	11.15-11.25
OP 78	Clinical Learning Obstacles of Nursing Students at the University of Mosul: A Qualitative Study	Karam Yassin Fathi	11.35-11.45
OP104	The histopathological change in the lung tissues of induced by malathion	Saddam Abdulhussain	11.45-11.55
OP106	Effect of Green Tea on Blood Pictures and Liver Functions in Male Quails Exposed on Stress	Suha Rasheed	11.55-12.05
	Session Discussion		
	Coffee Break		**12.30 pm – 1.00 pm**

Conference Recommendations   3.00 pm – 3.30 pm

2nd International Conference on Medical and Health Sciences

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PROGRAMME SCHEDULE – Day 2 (18 Apr. 2024)

Poster session
Ab. No.	**Title**	**Presenter**
PP 1	Association between the ABO blood group and hepatitis B virus infection among blood donors At the main blood bank in Mosul and accepted to published in the Malaysian Orthopaedic Journal	Ahmed Abd Al-Salam Fawzi Altai
PP 2	Faecal calprotectin as a non invasive marker for differentiating between inflammatory bowel disease and irritable bowel syndrome	Eman Shaker Mahmood Al-Obeidy
PP 3	Metabolic Outcomes in Samples of PCOS Reproductive Aged Iraqi Women Reversed by Oral Combined Metformin and Spironolactone Treatment	Mustafa Mohammed Albassam
PP 4	Detection of IMP and VIM genes and evaluation the antibacterial activity of some ethanolic plant extracts in Carbapenem-resistant Pseudomonas aeruginosa isolated from burn infections .	Abdullah Marwan Al-Jammas
PP 5	Dry eye syndrome : causes, symptoms and treatments available among different age groups in Iraq	Aisha Marwan Abd Al Majeed Alkhyat
PP 6	The curative potential of Petroselinum crispum seed aqueous extract on experimental pyelonephritis caused by Escherichia coli in Albino rats	Rasmia Omar Sultan
PP 7	Coexistence of Atopic Allergy and Mycoplasma pneumoniae.	Farah H. Omer
PP 8	Association of oral and arterial microbiota in atherosclerosis using molecular diagnostics	Haqy yazan ismail
PP 9	Study of Fungal contamination of some medicinal plants and food covered for Mosul	Mishaal ali Mohammed
PP 10	Phenotyping and molecular identification of some uropathogenic bacteria isolated from pregnant women in mosul city	Nadia khalid Mustafa
PP 11	Study of oxidative stress in patients with neurological diseases in Mosul City	Omar Mohammed Hameed
PP 12	Hydrogen Sulfide and Cystathionine γ – lyase with Oxidants and Antioxidants Levels for Patients with Epilepsy Diseases	Luay Abed Al-Helaly
PP 14	Variations in plasmid content and antibiotic resistance in Escherichia coli isolates from the normal human intestinal flora and clinical sources.	Ranaa wadullah younus
PP 15	Determination of the Laboratory Tests and Clinical Characteristics among End-Stage Renal Disease Patients at Dialysis Units	Hanna Hussain

PP 16	Potential risks of nitrate and fluoride ions to human health: A case study of drinking waterfor some neighbourhoods on the left side of Mosul city.	Qamar 'ohmmed Alzuhairy
PP 17	Effect of Atorvastatin on Indomethacin-Induced Gastric Ulceration in Rats: Role of NO and Gastric Motility	Dilgash A. Abdullah
PP 20	Exploring the Relationship Between Demographic Characteristics and Adults' Knowledge about Hypertension in Sinjar region	Mustafa Ismael Saadoon
PP 22	Phytochemical Screening, Antioxidant, And Antibacterial Activity Properties Of Alcoholic Extract Of Saussurea Costus Roots	Israa Mohammed Adel
PP 23	Mother's Information About Dangerous uses Herbal Sagwa in Mosul City	Rayan Mahmood Ibraheem
PP 24	Prevalence of Obesity and Overweight Among Elementary School Students in Mosul City	Alaa Yousif Aid
PP 25	Biogenic synthesis, characterization, along with investigated Cytotoxicity and antibacterial activities of silver nanoparticles using twigs of Polyalthia Sclerophylla	Morug Salih
PP 26	Correlation of D-dimer with the Severity of COVID-19 in a Sample of Iraqi Patients in Diyala Governorate	Issam Fadil Alwan
PP 27	Separation and Identification of phenolic compounds in Aleppo Oak - Nut Gall (apple) and study its effect on types of Bacteria and Candida	Sedik Baker
PP 28	Micro RNA_155 and cancer metastasis:Regulation of invasion,migration,and epithelial_to_ mesenchymal transition	Abdulkarim Y. Altae
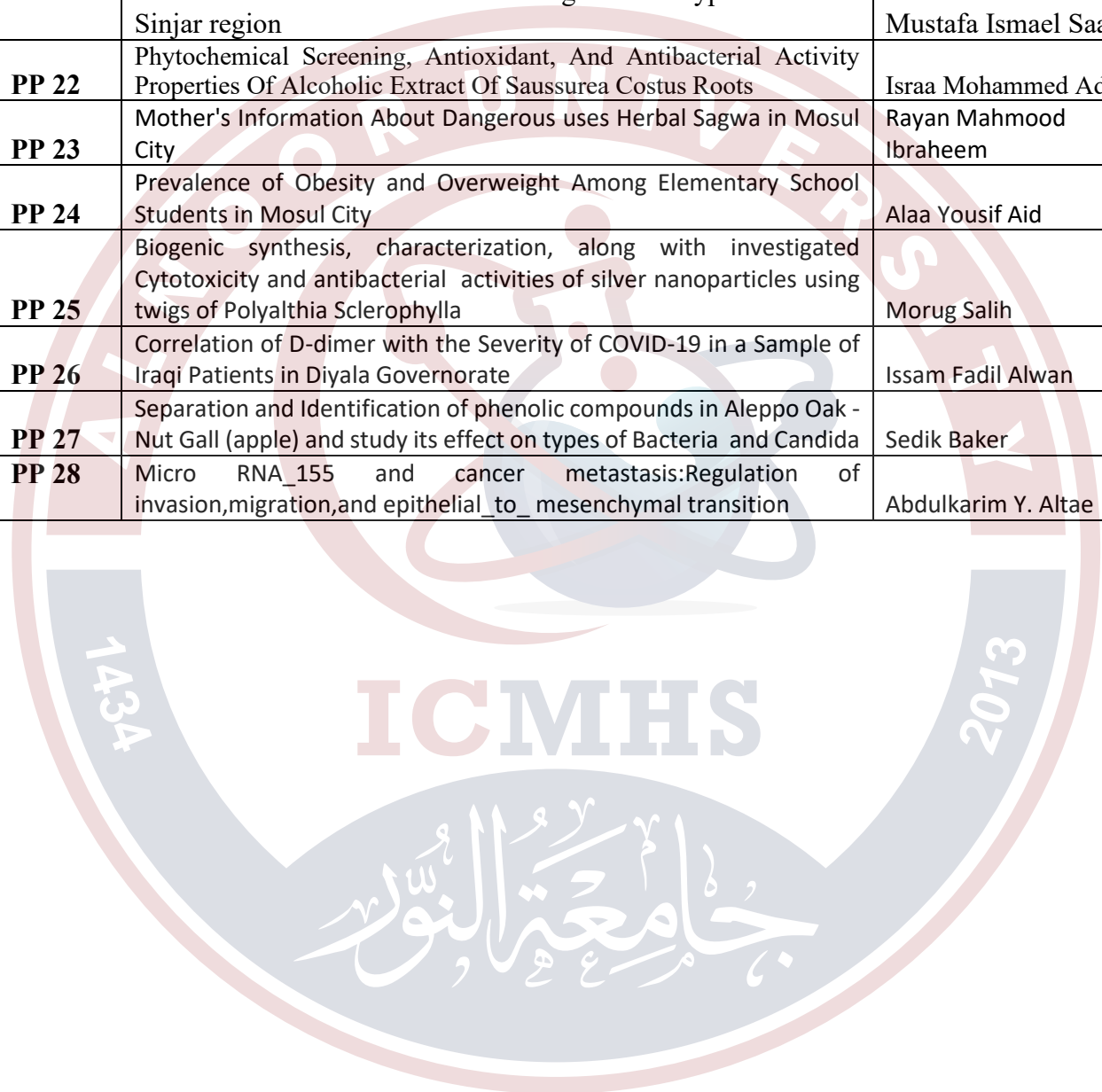
Study the effect of some factors and antioxidants on the newborn jaundice

Ali Shukur Jasim Al Hatemi[1]

Wijdan I. Abd Al-wahab[2]

[1]General Directorate of Anbar education

[2]University of Samarra, College of Education

Abstract

(120) blood sample was collected for children reviewing for Fallujah Women and Children Hospital for the period from October / 2020 to March / 2021, and it was divided into two unequal groups in the number, namely the G1 control group and included (30) blood sample for healthy children and the second included (90) blood sample For children with entrepreneurial jaundice, where the patient group was divided into three groups according to the concentration of the bilirubin in the blood. , And the fourth group G4 (31.0 - 17.7) MG/DL, where the results showed that the percentage of males with guerrilla jaundice in the two groups of control and patients was greater than the female lineage. She also clarified that the percentage of children who are breastfeeding adopted in the two controls and patients were greater than the proportions of children, the social and mixed breastfeeding. She also showed that the percentage of children whose blood does not match in ABO or RH with their mothers in the two controls and patients was less than the percentage of children whose blood in ABO or RH coincides with their mothers. It also showed that the percentage of children born in a natural birth group and the group of sick children was greater than the percentage of children born in cesarean section for a group for the group of sick children and the control group. The results also showed the occurrence of a vocal height $P \leq 0.05$ in the effectiveness of GSH in the three groups (G2, G3, G4) for newborn children with gymnastics infection compared to the G1 control group. In contrast, the G3 group showed a significant decrease $P \leq 0.05$ in the MDA event With newborn collections with birthday jaundice compared to the control group. In contrast, the G2 group showed a significant decrease in $P \leq 0.05$ compared to other pathological groups.

Correlation Between Vitamin-D Deficiency and Toxoplasma Gondii Infection

Amani M. Jasim[1], Rabia Ali Aboud[2], Mohammad Oda Selman[3], Mostafa Yuness Abdelfatah Mostafa[4]

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[2] Department of Medical analysis,College of Medical Technology,Al-Farahidi University

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Abstract

Background: Numerous recent studies show that vitamin D deficiency potentiates various chronic physical and psychiatric disorders and diseases. It has been shown that a similar range of disorders is also associated with infection with Toxoplasma gondii.

Aim of the study : A study aimed the relation between infecting the aborted women with toxoplasmosis and the level of vitamin D in sera samples of women.

Method: A cross sectional study included 60 women attending medical city hospital, age range from 16 to 51 years, 30 women infected with *Toxoplasma gondii*, and other thirty women were taken as healthy control. Estimation of serum anti–T. gondii Ab (IgG) and IgM levels are done in this patient's groups. Evaluation of serum Vitamin D (D3) also determined to study the relation between infecting aborted women and the level of vitamin D in sera samples under study.

Result: The results show nonsignificant differences in the age of all cases studied and healthy control group, there was 4 (13.3%) of infected women had acute infected with toxoplasma IgM, while 26 (86.7%) had chronic infection of toxoplasma IgG antibodies. The prevalence of *T. gondii* infection was in high frequency with vitamin D deficient women noticeable

Conclusion: *Toxoplasma* infection was associated with vitamin D deficiency while there were highly significant differences according to toxoplasma infection.

Keyword: T. gondii, aborted women, vitamin D, IgM, IgG.

Epidemiology study of Leukemia Incidences among patients from Baghdad AL-Karkh District, Carrying four different types of Leukemia - Subject Review

Dawood Salim Edan , Hamed H. Khamees

Al mustansiriya university

Abstract

Background: This study carried out in National Center for Research and Treatment of Blood Disease in Baghdad, Iraq. More than 300 patients have been recorded in last year with the registration more than 60 different Leukemia cases, due to difficulties in coverage all types of Leukemia, The current study has selected only four major types of the following Leukemia in the records: Acute Lymphoblastic Leukemia (ALL), Chronic Lymphoblastic Leukemia (CLL), Chronic Myeloid Leukemia (CML) and Acute myeloid leukemia (AML).Only one hundred five of three hundred Iraqi patients have been examined and studied their differences in Ganders, Counts, Ages, percentages and distributions in Iraq among the above four types of Leukemia. Acute lymphoblastic leukemia (ALL) was seen as common type of leukemia 48%, whereas the AML 25%, CLL. 19% and CML 8%, decreased respectively. The incidence rate for leukemia in 105 ganders was included 53 males (50.47%) and 52 females (49.52%). The incidence rate of leukemia was generally high in old age groups and in the peak in the age group (70 year). Furthermore, the demography of all four types of leukemia cases were distributed in 12 Iraqi governorates but the highest one in all types of Leukemia was distributed in Baghdad. The aims of current study were to announce the major and minor types of Leukemia particularly in Iraq and identify each type according to this disease.

Method: This study was performed in Iraq center for genetics and medical research; The data were collected from National center for research and treatment of Blood disease, Baghdad-Iraq. The data of patients covered in one year totally started in the beginning of January until the end of December. The data were recorded under the Hematologist's observation and some tests. This study was conducted by selecting only four major types of the following leukemia: ALL, CLL, AML and CML that were noticed as majors in the record of patients.

Result: The exposure of depleted Uranium which were used during the 1 st Gulf war in 1990 and 2 nd Gulf war 2003 may raise the leukemia incidences in Iraq, We investigated the leukemia incidence was higher in the Baghdad governorate (BG) (Figure 4 and Table 3) which has been exposed to wars and crisis, furthermore in fact it has the highest population rate compare with other Iraqi governorates. The current study collected information of 105 patients represented current 4 types of leukemia and was registered at National Iraqi center. The results showed the incidence rate in BG included 53 males and 52 females, the Figure (1, 2 and 3) summarized the leukemia incidence base on gender, age and type.

Leukemia of acute lymphoblasticis most common type has 47.6% whereas the other, AML 23.8%, CLL. 19% and CML 7.6% respectively (figure 3), similar results have been reported from Karachi reveal that ALL was the commonest type (36), from Kuwait 44%, Saudi Arabia 34%, UAE 32% (37),Yemen and Kurdistan .

In this study it was found that out of 105, 50.47% were male and rest 105 were female patients 49.52%, leukemia incidence in the old age was generally higher than other ages and reach to the peak in group aged 70 year .

The median age of patients with ALL was 43.5 year for males and 32.5 for females, AML was 40 year for males and 44.5 for females, CLL 44.5 year for males and 55 year for females, CML, 52 for males and 67.5 for male, the age ranges in these succession agrees with studies17-2 The differences in age incidence observed in this study when compared to the western countries may be due to relationship of both environmental and racial factors19.

The median age of patients was around 40 years compared with patients in western countries where the median age was more than 60 years 20-24.

Conclusion: Leukemia of acute lymphoblasticis considered the most common type has 47.6% whereas the other, AML 23.8%, CLL. 19% and CML 7.6% respectively (figure 3), similar results have been reported from Karachi reveal that ALL was the most popular type , from Kuwait 44%, Saudi,Arabia 34%, UAE 32% (37),Yemen and Kurdistan respectively. This study showed obviously the leukemia incidence in the males 105cases, 50.47% were in younger age than the rest of female patients that considered reach to the peak in group aged 70 year as shown (Figure 2).The average ages of patients with ALL was 43.5 year for males and 32.5 for females, AML was 40 year for males and 44.5 for females, CLL 44.5 year for males and 55 year for females, CML, 52 for males and 67.5 for male, the age ranges in these succession agrees with studies17-2 The differences in age incidence observed in this study when compared to the western countries may be due to relationship of both environmental and racial factors19.The median age of patients was around 40 years compared with patients in western countries where

the median age was more than 60 years.

Keyword: Acute Lymphoblastic Leukemia, Chronic Lymphoblastic Leukemia, Chronic Myeloid Leukemia, Acute myeloid leukemia.

Frequency and Impact of Energy Drink Consumption on Body Mass Index among Undergraduate Students at Al Noor University

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Abstract

Background: This study aimed to investigate the frequency of energy drink consumption and its association with body mass index (BMI) among undergraduate students at AlNoor University in Iraq.

Method: A cross-sectional survey was conducted with 270 students, collecting data on demographics, energy drink intake frequency, sleep duration, physical activity, dietary habits, and measured BMI. Descriptive statistics, ANOVA, and Fisher's exact tests were used to analyze the data.

Result: The majority of participants (67.4%) were male. Energy drink consumption was common, with 45.6% consuming at least once per month. Males had significantly higher intake than females (p=0.001). Underweight prevalence was 7%, normal weight 43%, overweight 35.9%, obesity 13%, and morbid obesity 1.1%. No significant association was found between energy drink intake frequency and BMI (p>0.05). Very short sleep duration (≤5 hrs) was reported by 34.4%. Intake frequency did not significantly differ by sleep duration or physical activity level.

Conclusion: Energy drink consumption was highly prevalent among this sample of Iraqi undergraduate students, especially males. Although intake frequency was not significantly associated with BMI, high rates of overweight/obesity were observed overall. Health education efforts may be needed to encourage moderation, adequate sleep, and healthy weight maintenance in this population.

Keyword: energy drinks, body mass index, sleep, physical activity, college students, Iraq.

Isolation, identification, and *In vitro* antifungal susceptibility testing of *Candida* species from Duhok City patients with otomycosis

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Abstract

Background: This study aimed to determine the most common Candida species of otomycosis in Duhok City, Iraq; and subsequently study their sensitivity to the most commonly prescribed Drugs.

Method: From August 2021 till October 2021, a total of 90 patients (46 females and 44 males) who attended the outpatient clinic of ear, nose and throat (ENT) department at Azadi Teaching Hospital; were clinically examined for mycotic otitis. Ear debris was collected by sterile swabs and transferred to the laboratory for direct microscopic and macroscopic examination by culturing on sabouraud dextrose agar, potato dextrose agar, and CHROM Agar Candida. Antifungal drugs were dissolved with (dimethyl sulfoxide) DMSO and used for evaluation of antifungal sensitivity by agar well diffusion method against commonly used antifungal drugs namely; Fluconazole, Itraconazole, Terbinafine, Nystatin, Amphotericin B, and Clotrimazole.

Result: In this study, positive fungal infections were found in 88 (97.8%) of the collected samples, and it was more common among patients aged 40 to 49 years. The most common fungal isolates were *Candida* (88.9%), Among the identified species, *Candida krusei* (44.4%) and *Candida albicans* (16.7%) followed by other candida species.

Conclusion: *Our study demonstrated that otomycosis was very prevalent in Duhok city (97.8%). The most common fungal isolates in our study are Candida and the predominant species identified was C.krusei. Candida showed the highest sensitivity to nystatin and amphotericin B,. In order to avoid or reduce otomycosis, patients should avoid using cotton or metallic sticks to remove ear wax, avoid over use of broad-spectrum antibiotics and keep ear   canal   dry.*

Keyword: Otomycosis, ENT, Candida, Antifungal sensitivity test.

Examine the impact of total hip replacement on spine mobility via gait analysis

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Abstract

Total hip replacement (THR) is an elective surgical procedure with the primary indication being pain relief. Secondary to pain relief, but still very important, is a patient's desire to improve his or her physical function and quality of life. The aim of this study was to assess the impaction of the THR on the mobility of the spine. a method has been proposed for assessing the geometry of spine, and study the spine kinematics and their association during walking pre and post THR. Nine healthy men (age $20.44 \pm$ SD 1.01 years, height: mean $178.44 \pm$ SD 6.34 cm, mass: mean $68.55 \pm$ SD 10.4 kg) were studied. The results of control cases were compared with 6 pre THR and 6 post - THR patients (Age: mean $40 \pm$ SD 13.08 years, height: mean $165.7 \pm$ SD 8.693 cm, mass: mean $81.2 \pm$ SD 18.042 kg), four of them before undergoing unilateral total hip replacement surgery, and four other patients after the operation, two of them were examined before and after surgery.

The gait analysis was performed by two-dimensional (2D) motion analysis using two digital video cameras, one placed in the sagittal plane and the other on the frontal plane. Kinematics data were obtained from 2D trajectories of eight passive markers using SkillSpector software (version1.2.4). The digitizing points were exported as txt files that could be imported into Microsoft Excel.

The sagittal vertical axes and spinal angles (thoracic kyphosis, lumbar lordosis, thoracic scoliosis, lumbar scoliosis, horizontal pelvic slop, and vertical spine slope) were measured; this was found to be more correlated with a corotation factor >0.65 and a p-value of 0.05. When comparing these angles for patients pre and post THR with control cases, these angles are near control cases post total hip replacement (p-value < 0.05). So, as a conclusion, functional improvement was found in spinal movement and balance after the operation. It is not uncommon for the mechanics of walking to still not be back to normal after months of recovery. This is because the muscles around the joint need time to heal.

Estrogen antagonist monotherapy for breast cancer women

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Abstract

Background: Tamoxifen is an estrogen antagonist used as neo-adjuvant drug for breast cancer women. *Objective*: To evaluate tamoxifen monotherapy on breast cancer elderly women with estrogen positive, progesterone positive, and Her2/neu negative.

Method: Seventeen breast cancer women were included in the study. The age range of the patients was between 73 and 87 years (mean ± SD: 79.2 ± 3.8 years). The patients were examined and diagnosed by a surgeon, and by histopathologic examination. The patients included in the study were estrogen positive, progesterone positive, and Her2/neu negative. The patients were treated with tamoxifen monotherapy 20 mg/day orally during the two-year study and continued to 5 years. Ultrasound examination for the breast of each patient and the size of the tumor were measured. Five mL of blood samples were taken from the patients and analyzed for CA15-3. The examination study by the physician and the measurements by ultrasound and blood samples were continued every 3 months for two years. Statistical analysis was applied by using ANOVA test followed by paired t-test.

Result: Treatment of breast cancer women with tamoxifen 20 mg/day decreased serum CA15-3 ($p \leq 0.01$) significantly and gradually every 3 months. After 24 months of treatment with tamoxifen, serum CA15-3 was within normal range. The size of the tumor was decreased significantly and gradually every 3 months. After 24 months the tumor was completely disappeared. Comparison was made between each parameter and that parameter measured before 3 months. Lymph node positive patients were 11 of 17 patients before tamoxifen treatment, but after 21 months of the treatment all patients were lymph node negative.

Conclusion: Tamoxifen monotherapy can be used for the treatment of women with breast cancer with estrogen +, progesterone + and Her2/neu – on condition that other program of treatment cannot be applied.

Keyword: Tamoxifen, breast cancer, serum CA15/3, estrogen+, progesterone+, Her2/new-.

Investigation of *Enterobius vermicularis* in primary school children at Baghdad province

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Abstract

Background :*Enterobius vermicularis* is the causative agent of enterobiasis, or pin worm infection. The World Health Organization estimates that there are over a billion infected individuals globally.

Method: A total of one handed scotch tape samples was collected from the children in primary school age from (1-13) years children (male and female) study was conducted After obtaining informed from each child which included age, sex ,economic level,abdominal pain,saliva gonorhea, nocturnal itching.

Result: The results showed No significantly difference was noticed between males and females studies compared with control and the infection results shows the high prevalence rate in female than male (30%) and the infection increasesd under age more than 10 years(15%) our findings showed the high prevalence rate in intermediate economic level of family and also found that the infection were more frequently with children who had symptoms like Saliva gonorrhea during sleeping and nocturnal itching in perianal area our .

Conclusion: our results shows the high prevalence rate in female than male (32%)under age less than 10 years(15%) our findings showed the high prevalence rate in intermediate economic level of family.

Keyword : Enterobius vermicularis, scotch tape, nocturnal, itching.

Diagnosis and Treatment of Giardia lamblia

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Abstract

The Giardia lamblia is a micro parasite of the genus Giardia, known as Giardia duodenalis, Giardia intestinalis, or Giardia lamblia, settles in the small intestine and causes a variety of symptoms, including diarrhea and abdominal pain, particularly in children .This parasite, whose main reservoirs are food, surface water, and excrement, can infect humans as well as animals, including dogs, cats, cattle, and sheep .

Giardia lamblia spreads by hands infected with stool, and then oral transmission happens when infected cysts are consumed either directly or indirectly .Giardia lamblia takes 9 to 15 days to develop after being ingested, during this time its life cycle is made up of the cystic and trophozoite stages .

Contaminated infected cysts are the main sources of infection in the environment; symptoms of the disease can range from none to nausea, vomiting, abdominal pain, and severe watery diarrhea. Giardia lamblia is a parasite that also affects young adults, causes poor absorption and weight loss, and attaches to the mucosal tissue of the lining of the small intestine, causing weakness or lack of intestinal villi and deficiency of digestive enzymes in severe cases. As a result, the parasite prevents food absorption, resulting in weight loss syndrome .

Keywords: cysts, parasite, water diarrhea, weight loss.

Diagnostic Utility of PAX5 in both Hodgkin's and non Hodgkin's Lymphoma

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Abstract

Background: Lymphoma represents a diverse collection of neoplasms that can impact any phase of lymphocyte development. According to their morphological, immunohistochemical appearance, clinical, and molecular features, WHO (2017) modified their classification in the modern era. The aim of this study is to ascertain whether PAX5 expression is associated with clinical factors in both non-Hodgkin and Hodgkin lymphomas (age &site).

Method: From June 2019 to June 2020, a total of 60 lymphoma patients were included in this "prospective prospective-retrospective" case series analysis based on their medical records and the histopathological . PAX5 was used in an immunohistochemical investigation, and the results of the positive PAX5 expression were examined.

Result: 58 out of 60 percent had non-Hodgkin lymphoma, with the nodal site accounting for the majority of cases. The diffuse large B-cell lymphoma subtype accounted for 42 percent of Hodgkin lymphoma cases, while the nodular sclerosis subtype formed in 52 percent of cases. There is no significant association between the site and lymphoma (p-value = 0.0647), but there is a significant association with age (p-value = 0.037). Additionally, the immunohistochemistry analysis shows that 100% of Hodgkin lymphomas and 77% of non-Hodgkin lymphomas exhibited positive PAX5. Additionally there is a significant difference between PAX5 and CD3 expression (P value=0.004).

Conclusion: According to this study, PAX5 is among the most accurate and sensitive immunohistochemical markers for identifying B-cell non-Hodgkin lymphoma and Hodgkin. lymphoma.

Keyword : Hodgkin, Lymphoma, PAX5, CD3 expression, immunohistochemical markers.

The outcome of surgical management of cryptorchidism in terms of postoperative testicular size, position & vascularity

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Abstract

Background: The study was performed to assess the surgical outcome of cryptorchidism in terms of size, position, and vascularity before and after orchiopexy.

Method: We conducted a prospective cross-sectional study at the pediatric surgery department at Basrah Children's Specialty Hospital from October 2021 to October 2022. Patients' demographic data were collected, in addition, to the history of prematurity, any delay in the management and the cause of that delay, associated malformations, and the radiological tests used. Postoperative complications were studied for all patients.

This study enrolled all pediatric patients (below the age of 14 years) who were admitted for the surgical treatment of undescended testicles (orchiopexy) to the pediatric surgery department. Patients who received hormonal therapy, patients who have a previous orchiopexy (i.e., Redo orchiopexy), Patients who had secondary (iatrogenic) UDT, and Patients who were lost from the postoperative follow-up visits were excluded from the study. Patients were categorized into palpable UDT and Non-palpable UDT, both of which were either unilateral or bilateral.

After 4 months of follow-up, a successful orchiopexy is decided when the testicle is found at or below the mid-point of the ipsilateral hemi-scrotum, the testicle has good vascular perfusion on the Doppler ultrasound scan, the testicle shows no sign of atrophy (good size in comparison with preoperative testicular size).

Result: This study enrolled 69 patients suffering from undescended testicles (UDT), 46 patients (66.7%) had palpable UDT while 23 (33.3%) were suffering from nonpalpable UDT. This study showed that most patients (44 patients / 63.8%) were diagnosed after the age of one year, while before the age of one year, only 25 patients (36.2%). There was a significantly lower age of diagnosis in palpable UDT when compared to Non-palpable UDT (P value = 0.031).

There were 56 patients (81.2%), and both palpable and non-palpable UDT patients had the same problem of delay and the most common explanation for the delay was family neglect which was responsible for about 70% of delayed cases.

A successful outcome was reported in 59 patients (85.5%), while 10 patients (14.5%) had less than ideal testicular size, perfusion, and/or scrotal position.

Conclusion: Most of the studied children were diagnosed beyond the 1st year of life, which certainly affects the results of orchiopexy regardless of the surgical approach. The most common cause of delayed management in this study was parents' ignorance and neglect, less commonly, iatrogenic delay due to wrong medical advice. The most associated anomaly reported in this study was inguinal hernias. Postoperative complications were infrequent regardless of the procedure used. The success rate of orchiopexy was high despite delayed presentation.

Keyword: Undescended testicle, orchiopexy, shehata operation, delayed.

Degree of Anxiety among first and final year Pharmacy Students: Results from Mosul College of Pharmacy

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Abstract

Background: Upgrading from high school to university is a critical period for many students. however, the conversion of environment and appearance of new responsibilities will expose university students to extreme stress such as increased academic workloads and involvement in public speaking. This study aimed to assess the prevalence and socioeconomic correlates of anxiety among first- and fifth-year students at the University of Mosul, College of Pharmacy, involving 253 participants.

Method: An online cross-sectional survey was conducted for short period of time from 20th to 27th of January 2024. The data collection form consists of two parts: Socio-demographic assessment, and an anxiety questionnaire from Texas Tech University.

Result: The study revealed a mean total worry score of 23.89±7.06. A significant gender difference was observed, with 28.5% of participants experiencing low worry and 71.5% experiencing high worry. Similarly, the mean anxiety score was 7.85±3.56, with 82.6% showing no tendency toward anxiety and 17.4% having a tendency toward anxiety. Significant gender differences were also noted in anxiety scores. Furthermore, worry and anxiety were positively correlated (r= 0.563, p<0.05).

Conclusion: This study found high worry levels among pharmacy students, with most showing no anxiety tendency. Females exhibited higher anxiety and worry levels than males. Education level did not correlate with worry or anxiety, as shown in statistical analysis.

Keyword: anxiety, pharmacy students, Worry, Mosul.

Exploring interindividual Varilability in Acetylcholinesterase Activity among Diverse Human Groups

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Abstract

This study investigates the interindividual variability in cholinesterase activity among diverse human groups based on age and gender. Cholinesterase levels were measured in a population spanning different age groups, including infants,children, adults, and elderly individuals, with data collected from both males and females. Statistical analysis revealed significant differences in cholinesterase levels across age groups ($F(4, 55) = 12.36$, $p < 0.001$) and between genders ($F(1, 58) = 6.89$, $p = 0.011$). Post-hoc tests indicated that infants exhibited markedly higher cholinesterase levels compared to adults, with males generally showing slightly higher levels than females across all age groups. These findings highlight the influence of age and gender on cholinesterase activity and underscore the importance of considering these factors in health monitoring and risk assessment. Understanding the interindividual variability in cholinesterase activity has implications for personalized medicine approaches and the development of targeted interventions for neurological disorders and pesticide-related health risks. Further research is needed to elucidate the underlying mechanisms driving these variations and their clinical significance.

Keyword: *Acetylcholinesterase, ELISA, Human population*

Analyzing Antihypertension Medications Prescription Trends in Sulaymaniyah City: A Data-Centric Study

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Abstract

Background: Hypertension, characterized by elevated blood pressure, is a pervasive health concern with severe complications. Analyzing prescription patterns is vital to understanding treatment trends, optimizing drug regimens, and enhancing patient outcomes. The main aim of this study is to analyze antihypertensive drugs prescription patterns among diagnosed patients in Sulaymaniyah City, Iraq.

Method: This data centric study, was conducted in Sulaimani City, Iraq. The data collection process started from 1st January until March 5th, 2024. A total of 2750 patient records were initially gathered, with 2500 from Smart Health Tower 250 from Faruk Medical City and 173 from private clinics, though only 500 were ultimately included in the statistical analysis based on specific inclusion and exclusion criteria.

Result: The study delineates the prescription patterns, highlighting that among individuals on a single medication regimen, ARBs emerge as the most prescribed class followed by Beta-blockers, CCBs, and ACE inhibitors. Specifically, Bisoprolol stands out for its efficacy in significantly reducing systolic blood pressure to 124mmHg, while Cilnidipine, was most effective in lowering diastolic blood pressure to 70mmHg. In the dual regimen, CCBs and ARBs combination was the most prevalent. A combination of Valsartan, Nebivolol, and Torsemide was the most prescribed triple regimen. And Sacubitril, Valsartan, Carvedilol, and Torsemide combination was the most effective quadrable combination.

Conclusion: The study identifies effective combinations for reducing blood pressure, emphasizing tailored therapy based on individual profiles and conditions. Underscoring the importance of personalized medicine in hypertension management and showcasing diverse treatment options for optimal outcomes.

Keyword: Hypertension, prescription patterns, efficacy, combination.

Women's Attitudes Regarding Myths and Misconceptions about Contraceptive Methods in Mosul City

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Abstract

Background: Contraceptive use is a critical aspect of reproductive health, yet many women do not use contraceptives due to various barriers, including myths and misconceptions, which can lead to unintended pregnancies and other negative health outcomes. This study aimed to explore women's attitudes towards prevalent myths and misconceptions surrounding contraceptive methods in Mosul City.

Method: Utilizing a cross-sectional, quantitative approach, this study was conducted over a period from October 10, 2023, to March 10, 2024. It involved 121 multiparous women from Mosul City, who were recruited through non-probability convenience sampling at consultation clinics of three local teaching hospitals: Al-Batoul, Al Salam, and Al Khansa. Data was gathered using a structured questionnaire, which was divided into two parts: demographic information, and attitudes towards common myths and misconceptions about contraception, assessed via a 3-point Likert scale.

Result: study results show a majority of respondents agree that contraception can cause health issues (54.5%) and difficulties with fertility in the future (55.4%). However, there is a lack of agreement on the issue of gender responsibility, with most respondents disagreeing (66.1%).

Conclusion: The attitudes towards contraceptive myths and concerns indicate a substantial portion of participants agree with misconceptions about infertility, health risks, and future fertility challenges associated with contraceptive use. These findings suggest a need for improved educational interventions and accessible information to dispel myths and promote informed contraceptive choices.

Keyword: Attitudes, Myths, Misconceptions, Contraceptive.

Evaluation of the Attitudes toward Communicable Diseases Prevention among Health Workers at in Al-sadr Medical City in Najaf Governorate\ Iraq

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Abstract

Background: Communicable diseases are responsible for a heavy burden on human health. Health workers were the front line in preventing these diseases. Wrong or positive attitudes of health workers can reflect negatively or positively on infection control efforts.

The study aimed: to assess levels of attitudes among health workers towards infectious diseases. Also, knowing the relationship between socio-demographic characteristics and attitudes.

Method: A cross-sectional analytical study in Al-Sadr Medical City, from start of December 2021 to the end of May 2022. On 384 health workers who were using a randomly collected self-questionnaire, the data was collected and analyzed using a statistical program.

Result: The results of current study showed that (58.1%) of health workers had positive attitudes. Also, the result indicated that (66.1%) of the participants are females, half of them were hold a bachelor's degree and married, the majority (51.5%) of the age group (20-26) years, (35.9%) of them receive a training course, (66.4%) have less than five years of experience, and in terms of profession, (27.3)% were nurses. In addition results showed no significant relationship between attitudes and socio-demographic characteristics of health workers.

Conclusion: The study concluded that more than half of the health workers had positive levels of attitudes, and therefore these levels need to be raised through continuous training courses on infection control by local officials. In addition, most health workers are young and have a few years of experience in practicing the profession, which found a statistically significant relationship with the educational level.

Keyword: Attitudes, Communicable Diseases, Cross-sectional, Health Workers

Quality indicators of antimicrobial prescribing in Iraq: A narrative review

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Abstract

Background: Antimicrobial resistance has a close relationship with overconsumption, which is considered one of the global public health challenges, notably in the Middle East region, where alarming rates highlight pathogens and antibiotic use. As part of the Middle East region and harmonizing with countries' regions at the socioeconomic level, Iraq is a suitable comparable benchmark to determine the level of Iraq among its neighbors. The Global Point Prevalence Survey is one of the projects pursuing to figure out the status of antimicrobial uses. It offers qualitative indicators to uniformly identify key areas of poor practice and to propose benchmarks for improved antibiotic prescribing for hospitalized patients. Therefore, this review aims to compare the status of antimicrobial prescribing quality indicators in Iraqi hospitals with those in other Middle Eastern countries.

Method: Published articles from January 2016 to March 2024 were searched via electronic databases, including Scopus, Web of Science, PubMed, and EBSCO, about studies that conducted point prevalence surveys to evaluate the inappropriateness of antibiotic uses within the Middle East. Four main quality indicators were adopted to assess the Iraq situation: guideline compliance, stop/review note documentation, parenteral administration, and selection of targeted antibiotics.

Result: Studies' outcomes reported that Iraq's location at the end of the list in terms of guideline availability ranged from 0% to 7%, followed by Egypt with 22.4% and the optimum level in Bahrain at 94.5%. A stop/review documentation about 0.4% compared to the maximum range in Saudi Arabia (33.6%–56.3%), and only 1.2% were targeted antibiotics prescribed exceeding Iran that did not report any targeted antibiotics. As for the parenteral antibiotics, Iraq reported that 89.9% of the used antimicrobials were injectable; the consensus with most comparable countries ranged from 74% to 100%, except for Qatar, which had 58.4%.

Conclusion: there is inappropriate antimicrobial use in Iraqi hospitals. An urgent and necessary intervention is imperative to improve the national records, with continuous follow-up through repetitive prevalence surveys.

Keyword: Antimicrobial Stewardship, Middle East, Point prevalence Survey, Iraq

Factors Influencing Adverse Drug Reactions Reporting Among Healthcare Practioners In Selected Pediatric Hospitals In Iraq

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Abstract

Background: Pharmacovigilance is defined as the "science and activities related to the detection, assessment, understanding, and prevention of adverse effects or any other possible drug-related problems. The principal objectives of pharmacovigilance are to develop patient care and safety in relation to medication use". Aims. To assess the knowledge, attitude, and practice of health care professionals working in selected pediatric hospitals in IRAQ towards adverse drug reaction reporting.

Method: A cross-sectional study design was conducted on a total of 401 healthcare professionals by interview to assess their knowledge, attitude, and practice using a structured questionnaire.

Result: The total knowledge scores were highest among pharmacists (21.0 ± 4.3) compared to nurses (15.0 ± 4.6) and physicians (17.4 ± 4.6) ($p<0.001$). Similar patterns were noted for attitudes and practices.

Conclusion: The finding of this study showed that the knowledge, attitude, and practice of the Healthcare providers towards spontaneous ADR reporting were low. Awareness among Healthcare providers, collaboration among other healthcare professionals and training for healthcare providers were the highly suggested ways to improve ADR reporting.

Keyword: Adverse Drug Reaction reporting, healthcare practioners, Pharmacists, pediatric and Iraq.

Incidence of Unsuspected Prostatic Carcinoma in Transurethral Resection Biopsies

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Abstract

Background: Incidental prostate malignancy can be found in men who are undergoing transurethral resection of the prostate for benign hyperplasia. Consequently, it is crucial to thoroughly assess the transurethral resection specimen for precise grading and staging. **Objectives:** To investigate the frequency of prostate cancer incidentally discovered in transurethral resection specimens, and to ascertain its correlation with clinicopathological factors.

Method: This study included 200 patients who had undergone transurethral resection of the prostate for the treatment of benign prostatic hyperplasia between January 2020 and January 2023. We assessed patients age, prostate-specific antigen (PSA) serum levels, and the resected prostate weight. Additionally, we evaluated tumor stage, Gleason grade group, perineural invasion, and lymphovascular status in the prostate cancer group. We conducted an analysis to investigate the relationship between these parameters and the detection of prostate cancer.

Result: The study revealed an incidental detection rate of prostate cancer at 11.5%. This group exhibited notably higher average ages and PSA levels than the benign prostatic hyperplasia group. Furthermore, the weight of the removed specimen influenced the detection rate of incidental prostate cancer. Out of the 23 identified cases of incidental prostate cancer, 17 (73.9%) were categorized as stage T1b. Statistically significant disparities were observed among the T1 stages concerning PSA levels and the weight of the excised specimen.

Conclusion: This study's findings demonstrate that prostate cancer could be missed in patients with transurethral resection for benign prostate hyperplasia, especially if the entire specimen not examined. Notably, the incidence of prostate cancer has been increasing annually. Therefore, it is advisable to conduct all TURP specimens for pathological processing.

Keyword: Transurethral resection, Benign prostatic hyperplasia, Prostate specific antigen, Incidental prostate cancer.

Updates in Cryopreservation of Embryo,Oocyte and sperm in Assisted Reproductive techniques

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Abstract

Background: To discuss the latest technologies in cryopreservation and assisted reproductive techniques and the efficacy of embryo freezing on the vitality of embryos.

Method: Review of articles.

Result: The exact number of embryos lost to cryoinjury varies, but it is very likely that, in general, freezing will cause a loss of around 20%.studies on those human offspring derived from thawed embryos have not shown any significant increase in abnormalities, when compared to naturally conceived babies. In contrast, several authors have mentioned a correlation between chromosomal abnormalities and embryo freezing

Conclusion: The main concern is the risk of embryo loss and of genetic malformations as a consequence of freezing and thawing. The possible loss of embryos, because of cryoinjury, means that some healthy embryos may not survive the stress of freezing and thawing.

Keyword: cryopreservation,embryo,infertility,IVF.

Laparoscopic appendicectomy should be a standard practice in Paediatric Appendicitis management. Open procedure should be performed only in exceptional circumstances

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Abstract

Background: Over the last decade, laparoscopic appendicectomy has gained a wide acceptance over the whole developed world. It has an improved diagnostic accuracy and less wound complication rate over the open procedure. Despite a breadth of data and widespread adoption of the technique, there continues to be some controversy regarding its advantages especially in the management of the complicated appendicitis. In this study, we have assessed this practice in our centre.

Method: This study involved a retrospective case note review of all patients who underwent appendicectomy over a two-year period (2016-2022) from a tertiary paediatric surgery centre under one surgeon admission. Hospital stay cumulative period in days, histology report and conversion to open surgery was recorded. Results are presented as median with range. Statistical analysis was performed using SPSS with p<0.05 considered significant.

Result: A total of 606 appendicectomies were performed. The median age was 11 ranged (1 - 16) years. Two hundred and fifty six (42.1%) patients had simple inflamed appendix. However, three hundred and thirty five (55.2%) had perforated complex ones. The rest was catarrhal on histology examination. Intraoperative culture swabs were taken in (65.5%) of the cases which were positive in (75.5%) of the patients. Positive growth was a significant adverse factor for complicated appendicitis on histology and longer hospital stay (P<0.05). Conversion to open surgery was performed in only one patient who had extensively dilated bowel loops because of associated intestinal obstruction secondary to delayed diagnosis from the referring hospital. The median hospital stay for all patient was 3 days, ranged (1-14).

Conclusion: Laparoscopic appendicectomy can be offered to all patients with an extraordinary low morbidity. It is safe and effective with low rate of conversion to open surgery. Excellent operating surgeon experience is essential for optimal outcome. Therefore, laparoscopic appendicectomy should become the surgical procedure of choice in appendicitis.

Keyword: Acute appendicitis, Surgery, Laparoscopi

Neuro-protective effect of natural-derived compounds against neurotransmitters abnormalities in SHSY5Y Neuroblastoma Cells

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Abstract

Background: Acetylcholinesterase (AchE) inhibition is one of the promising approaches using in the treatment of neurological disorders. Numerous neurological diseases including Alzheimer disease (AD) and Parkinson's disease (PD) mainly relate to abnormal levels of neurotransmitters-controlled enzymes.

Method: Ethanolic extracts of edible plants which are *Alpinia galanga* leaves (ALE), *Alpinia galanga* rhizomes (ARE), *Vitis vinifera* seeds (VSE), *Moringa oleifera* leaves (MLE), and *Panax ginseng* rhizomes (PRE) were tested for their cytotoxicity on human neuroblastoma (SHSY5Y) cells by 3-(4, 5-dimethylthiazol-2-yl)-2, 5-diphenyltetrazolium bromide (MTT) assay. Neuroprotective effect of the extracts was evaluated throughout AchE activity by Ellman's colorimetric method in both un-differentiated and differentiated SHSY5Y cells. The phytochemical analysis of MLE was determined by Liquid chromatography coupled to quadrupole time-of-flight mass spectrometry (LC–QTOF/MS).

Result: The results showed that MLE has a potential activity against abnormal levels of AchE in both diff. and un-diff. neuron cells due to abundant phenolic compounds, additionally, MTT assay data established that (MLE) represented lowest cytotoxicity in SHSY5Y cells.

Conclusion: Natural derived-phenolic compounds in MLE on inhibition of AchE activity could be one mechanism to prevent the neurological disorders.

Keyword: SHSY5Y, AchE, MTT assay, phenolics.

Bioinformatics Investigation of *Saccharomyces cerevisiae*

Killer Toxin K28

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Abstract

Background: The killer toxin proteins were identified in Saccharomyces cerevisiae and it was found that they have the ability to kill other yeast species and control yeasts that cause the spoilage of beverages and industrial foods (Chessa *et al.,* 2017).This yeast has three different types of toxins, K1, K2 and K28, which are small protein compounds with different molecular weights. Two other types of killer toxins have recently been discovered, but they are less effective at killing than the first three types. The killing effect of K28 is usually obtained by binding to a compound called α-1-3-glucan, which binds to the mannose sugar in the protein present in the sensitive cell wall, allowing this toxin to enter through the Golgi apparatus and the endoplasmic reticulum, and after reaching the cytosol it hydrolyses subunit β into small subunits of type α and enters the nucleus by diffusion into the cell, the killing mechanism of this toxin depends mainly on the inhibition of DNA synthesis (Begum and Mohamudha, 2010). S. cerevisiae has been used in medical applications and its beneficial effect has been noted when given to children with acute diarrhoea, as well as its ability to prevent intestinal infection with bacterial pathogens, particularly Escherichia coli, Salmonella typhimurium, Staphylococcus aureus, Pseudomonas aeruginosa, Proteus vulgaris, Yersinia enterocolitica and Candida albicans (Al-Dulaimi *et al.,* 2020).

Method: Preparation of *S. cerevisiae* filtrate (Al-dulaimi *et al*., 2020)**,** Separate the proteins from the *S. cerevisiae* filtrate by Polyacrylamide gel electrophoresis (SDS-PAGE) method , and using the coomassie blue stain, Detection of protein K28 using a high-performance Liquid Chromatography (HPLC), Use Bioinformatics for results analysis by using A program Pymol analysis .

Results: Protein electrophoresis on a polyacrylamide gel: After the electrophoresis process, of the protein on a polyacrylamide gel SDS-PAGE using Coomassie Brilliant Blue stain, bands appeared on the gel, and the protein was identified based on the molecular weight, which was estimated at 5 kilodaltons, and it was found to be a type of killer toxins secreted by baking

yeast type K28.Extraction of protein : The proteins were extracted from the gel according to the instructions provided in the special kit. Determination of protein type using high-performance liquid chromatography (HPLC):   A high-performance liquid chromatography device was used to confirm the quality and quantity of Killer Toxin type 28 protein, and observed that the curve highest of was at the retention time 1.389 in yeast isolate1, and at 1.481 in yeast isolate 2 , and it belonged to the killr toxin type 28 compared to the standard sample K28, this indicates that it has been completely separated from the first peak and that it has a high molecular weight and high purity. Results: By using the it was noted that it possesses many free terminal ends, that have the ability to bind to receptors on the surface of the target cell to be able to enter the cell and kill it. The crystalline shape of the protein and its three-dimensional structure were also identified, which were determined based on the wrapping pattern in the protein, which is one of its general characteristics, the presence of a large number of disulfide bonds with in the molecule, which is likely to contribute to the extreme thermal stability and the characteristic pH of some toxins. The nucleotide sequence of protein K28 was determined by reverse bioengineering and it was shown that it consists of 2040 nucleotides and is responsible for encoding the formation of the amino acids constituting this protein, as every three nucleotides is a codon that encodes for one amino acid, in addition to translating the sequence Nucleotides to the amino acids that make up the protein.

Conclusion: This research has demonstrated that the yeast Saccharomyces cerevisiae contains the killer toxin protein K38 and the success of bioinformatics technology in determining the sequence of its amino acid components.

Keyword: *Saccharomyces cerevisiae,* killer toxin K28, High-performance Liquid Chromatography.

Obstacles to Efficient Nursing Practices in Neonatal Care at Mosul City Teaching Hospitals

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Abstract

Background: To ensure the health and survival of newborns, neonatal care is essential. The success of the nursing techniques offered, however, might be impacted by several factors. The study aimed to determine the difficulties faced by neonatal nurses and the obstacles they believed stood in the way of providing the best care possible.

Method: A cross-sectional, quantitative design was applied. The study was carried out from October 1, 2023, to March 25, 2024, at the newborn critical care units of four significant teaching hospitals in Mosul City. participating were 125 nurses who directly cared for newborns. Three sections of a pre-tested questionnaire on problems, perceived barriers, and demographics were used to conduct structured interviews and gather data.

Result: Most of the study's participants were young women with one to five years of experience. More than half of the respondents stated that low nurse-to-patient ratios were caused by inadequate staffing levels. Other difficulties were antiquated care practices, a lack of training, and a shortage of materials and equipment. Effective practices were hampered, according to nurses, by understaffing, restricted equipment access, inadequate training, heavy workloads, poor communication, and inadequate neonatal policies.

Conclusion: The results show that weak protocols, inadequate staffing, gaps in training, and a lack of necessary resources all negatively impact the quality of nursing care provided in neonatal units. The provision of newborn care and its results could be improved by addressing these issues through programs including workforce growth, skill upgrades, routine equipment maintenance, and evidence-based reviews of clinical procedures.

Keyword: Obstacles, Efficient, Nursing, Neonatal.

Relationship between Hepcidin and ferritin with insulin in the blood of obese males

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Abstract

Background: this study investigates the correlation between different adiposity metrics, such as total body adiposity (measured by body mass index (BMI) and waist circumference (WC)). with Insulin, Hepcidin, Ferritin, and glucose. Aim of the study the relationships between Insulin with Hepcidin and Ferritin in obese males.

Method: Ninety males were enrolled in the research investigation; forty Subjects were recruited for the study investigation. where have BMI 30 kg/m2 or more , and overweight group with twenty subjects were have BMI between 25-30 kg/m2, and another thirty to the control group were have low BMI<25 kg/m2. The serum Hepcidin, serum fasting insulin, serum ferritin and fasting glucose was evaluated in each of studied groups.

Result: The Obese group showed significant increase of the serum hepcidin concentration compared with the control group (4.65 ± 1.92 vs. 3.43 ± 1.52, $p = 0.015$). No significant variations were observed among the three groups in terms of ferritin and glucose levels. The correlation coefficient (r) showed that Insulin values in obese group had negative association with ferritin level r= 0.61, indicating a high effect size ($p = <.0001$, 95 % Confidence interval = [-.78_ -.38]) no other significant correlation was noted in other groups and parameters.

Conclusion: Investigation of iron regulated cytokine hepcidin can be participated in future as iron deficiency marker in obese subject in conjugation with serum iron and serum ferritin.

Keyword: Obesity, Hepcidin, Insulin resistance, Iron deficiency.

Synthesis, characterization, docking, and antioxidant of new triazole sulfa-drugs based on mannitol

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Abstract

New triazole **5** and **6** were synthesized by many steps, mannitol diacetonide reaction with propargyl bromide to synthesis **1**. Sulfisoxazole reacts with cloroacetyl chloride to synthesize **2** and following react with sodium azide to synthesis new azido sulfa drugs **3**. Primary amine in sulfisoxazole converted at low temperature (0-5) °C to diazonium salt and N2 group substituted with azido group to synthesis **4**.

Finally synthesis of new triazole **5** and **6** by reaction mannitol dipropargyl **1** with **3** or **4** in accordance with the [2 + 3] strategy with a good yields. Docking of compound **5** show very good double interaction with receptors ASN 532 (C), with S= -9.54 and rmsd=2.00 and compound **10** LYS 416 (A), LEU 416, and PRO 535 with S= -11.09, rmsd= 1.20 in breast cancer (protein 6WOK). Inhibitory properties of antioxidant synthetic derivatives using the DPPH assay, compounds **4-6** are shown to have antioxidant activity.

Compound **6** is a very active antioxidants because it's high value of inhibition = 81.233244, the inhibition increased by increase mixing times. The synthesized compounds were identified by FT-IR, HNMR, 13CNMR, and mass spectroscopy.

Keyword: Triazole, Sulfisoxazole, anti breast-cancer, antioxidant

Hematological Parameters and Trace Element Levels in Pregnant Women with Anemia

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Abstract

Background: Anemia is a global public health problem affecting women in pregnancy .The objective of this study was to assess the blood parameters and concentrations of zinc and chromium in pregnant women diagnosed with anemia, and to compare these measurements with those of pregnant women without anemia.

Method: The study sample consisted of 50 pregnant women with anemia and 50 pregnant women without anemia.

Result: The findings indicate that the anemic group exhibited significantly lower levels of red blood cells, hemoglobin, and three indicators of red blood cell size and hemoglobin content compared to the non-anemic group. However, the levels of white blood cells and platelets were similar between the two groups. Furthermore, the anemic group demonstrated significantly lower levels of iron, ferritin, zinc, and chromium in their blood compared to the control group.

Conclusion: These results suggest that anemia during pregnancy has an impact on both the quantity and quality of red blood cells, as well as the status of certain essential trace elements. Consequently, the study recommends regular monitoring and supplementation of blood parameters and trace elements for pregnant women diagnosed with iron deficiency anemia in order to prevent potential complications.

Keyword: Anemia, Pregnancy, Iron, Ferritin, Zinc, Chromium.

Senior Nursing Students Knowledge about the Use of Antibiotics

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Abstract

Background : An international hazard to public health and safety is antibiotic resistance. Clinical antibiotic malpractice may be a result of insufficient clinical antibiotic stewardship education provided in universities, which could have detrimental effects on patient health.Objective: The current study aim to determine the nursing students knowledge of using antibiotics.

Method: A cross-sectional design was used. A total of 250 students from the University of Mosul/ Faculty of Nursing, both genders were asked to complete the Arabic version of the questionnaire "Knowledge of the use, resistance and administration of antibiotics" between September and December 2023. Researchers employed a questionnaire to collect data on the sociodemographic traits of the participants and their knowledge of antibiotic usage; this section contained 21 questions about antibiotic divided in three part (knowledge about antibiotic materials ,knowledge about use and knowledge about resistance). Three categories were used to determine level of knowledge about antibiotics based on total scores of knowledge: Students had not acceptance level of knowledge about antibiotics (0–7), Acceptance (8–14), and Excellent (15–21). SPSS version 25 was used for the data analysis.

Result: Following data analysis, the knowledge levels of nursing students were determined to be as follows: not acceptance (25.6%) , acceptance (69.2%), and excellent (5.2%). Additionally, with a P value of <0.05, The sociodemographic characteristics of nursing students do not statistically significantly correlate with their level of knowledge.

Conclusion: Our survey concluded that nursing students had inappropriate knowledge of antibiotic use. Misconceptions are prominent in certain areas, To increase knowledge levels, new educational activities are therefore required within the existing nursing curriculum. These students need more training and lectures to increase their understanding of antibiotics.

Keyword: senior nursing , knowledge , antibiotics.

Detection and Identification of Bacteria on Mobile Phones Used by Healthcare workers in Mosul City

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Abstract

Background Healthcare workers mobile phones may contain bacteria that can lead to hospital-acquired infections in patients, their families, and the broader community. Therefore, this study aimed to investigate the extent of bacterial contamination on healthcare professionals mobile phones, identify the types of bacteria present, and examine their correlation with the healthcare workers occupations.

Method: The present study examined the microbial contamination of mobile phones from 103 health professionals who were selected through a basic random sampling technique. The participating hospitals were Ibn Al-Atheer Hospital for Children, Al-Jumhuri Teaching Hospital, and Al-Salam Teaching Hospital in Mosul City. Further essential information was obtained through a self-completed questionnaire. A swab specimen was taken from each mobile phone belonging to the healthcare professionals and then sent to the microbiology laboratory for bacterial culture.

Result: Mobile phones showed an overall bacteria contamination rate of 73.8%, with Gram-positive bacteria accounting for 96.1% and Gram-negative bacteria for 3.9% of the isolated strains. The most commonly detected bacteria were S. epidermidis (46.2%), followed by S. aureus (17.4%), Staphylococcus spp. (7.6%), Bacillus spp. (5.3%), E. coli (1.5%), and Klebsiella spp. (1.5%). S. epidermidis was the predominant bacteria among nurses, while S. aureus was more common among doctors. Moreover, Staphylococcus spp. and Bacillus spp. predominated among nurses.

Conclusion: Our research revealed a clear presence of bacteria on healthcare workers mobile phones, most of which belong to the natural flora of the human body. In addition to communication, mobile phones can also transmit harmful bacteria that cause diseases.

Keyword: Mobile phone, Bacteria, Contamination, isolation, health workers, Mosul.

Abuse-deterrent dosage form: formulation and evaluation

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Abstract

Background: Abuse-deterrent formulations (ADFs) are dosage forms designed to deter the misuse of prescription drugs by either minimizing the benefit of manipulating the dosage form or increasing the difficulty of altering it. The objective of this study is to develop tablets with abuse-deterrent properties, utilizing chlorpheniramine maleate as the drug model.

Method: Tablets were made using a direct compression method. Polyethylene oxide (PEO) was employed as a polymer in two concentrations (40% and 80%) and two grades (300,000 and 4,000,000). Moreover, Neusilin (NEU) and Microcrystalline Cellulose (MCC), were included as tablet diluents. Following the manufacturing, the tablets were subjected to an oven set at a temperature of 80 °C. Samples were subsequently collected both before and after the tablets were placed in the oven.The experimental design (DOE) was developed with the Minitab software. The studies were designed using a full factorial design, which is consisted of 16 formulas.

Result: The results indicated that all the tested properties of the tablets are significantly influenced by the grade and concentration of PEO, and placing the tablets in oven. However, altering the type of diluent only impacts some tablet properties, such as hardness.

Conclusion: This study has shown the feasibility of using polyethylene oxide at a different grade in the preparation of abuse deterrent dosage forms. DOE, using a full factorial design, elaborated on the parameters that control the manufacturing process. Furthermore, the utilization of an insoluble diluent during the production of these tablets introduces challenges in terms of syringeability and injectability, hence enhancing the tablets' potential to deter abuse. Finally, hot melt extrusion might be considered as suitable equipment for preparing these tablets without the need for oven.

Keyword: Abuse deterrent formulation (ADF),Polyethylene oxide (PEO),Syringeability, Injectability.

Comparative Analysis of the Histological Changes and Immunohistochemical Expression of Vascular Endothelial Growth Factor in the Placenta in Gestational, Pre-Gestational Diabetic, and Normal Women

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Abstract

Background: Gestational and pre-gestational diabetes mellitus (GDM & PGDM) maternal pose significant risks to both mother and fetus due to complications in the placenta, requiring proper development and function.Aims: This study was aimed at comparing the placental histological features and immunohistochemistry expression of vascular endothelial growth factor (VEGF) in normal pregnant women, GDM, and PGDM.

Method: 44 placentas from non-diabetic pregnant women (the control group), 10 from GDM women, and 10 from PGDM women were taken after written informed consent. Subsequently, sections from the peripheral portions of the placenta were removed and processed for immunohistochemistry to check for VEGF expression, Masson's trichrome stains, Periodic Acid-Schiff (PAS), and H&E.

Result: GDM and PGDM cause severe damage to placental tissue, including increased fibrinoid necrosis, syncytial knots, and crowded villous capillaries, that appeared to be greatly dilated and congested (chorangiosis). These conditions also increase villous density, calcification, and fibrosis. Masson-trichrome staining revealed thick collagen fibers and chorionic villi thickening. The PAS reaction revealed mild thickening of the basement membrane of chorionic villi in GDM patients, while a moderate increase in collagen fiber in the villous stroma was observed in PGDM. VEGF expression is higher in GDM and PGDM groups, but PGDM significantly impacts the placenta's histological structure.

Conclusion: Both GDM and PGDM caused adverse effects on the histological and morphometrical features of the placenta.

Keyword: GDM; PGDM; Histological, Immunohistochemical,VEGF.

Assessing the Efficacy of Salvia officinalis Gel in the Treatment of Periodontitis by Monitoring Gingival Crevicular Fluid Volume and Interleukin 17 Concentration

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Abstract

Background: Phytotherapy involves utilizing plant-derived extracts in pharmaceutical formulations. Numerous studies have demonstrated the efficacy of herbal remedies in the management of periodontal diseases. The determination of gingival crevicular fluid volume and concentrations of certain cytokines is precise and objective in evaluating periodontitis treatment.

Aims of the study: Assess the effectiveness of periodontitis treatment with locally applied Salvia officinalis gel as an adjunct to scaling and root surface debridement.

Method: A randomized clinical trial employing a split-mouth design was conducted with twenty-three subjects diagnosed with periodontitis. A total of forty-six periodontal pockets were carefully selected and randomly assigned as either test sites (treated with scaling, root surface debridement, and Salvia officinalis gel) or control sites (treated with scaling and root surface debridement alone). Additionally, gingival crevicular fluid (GCF) was collected from each site using PerioCol paper strips, and the concentration of interleukin 17 (IL-17) in the GCF was measured using a highly sensitive enzyme-linked immunosorbent assay (ELISA).

Result: After one month of treatment, a statistically significant difference was observed in the mean gingival crevicular fluid (GCF) volume and interleukin 17 (IL-17) concentration in the test group (1.22 ± 0.32 μl versus 1.49 ± 0.29 μl, $P = 0.001$; and 4.42 ± 0.49 pg./ml versus 4.46 ± 0.5 pg./ml, $P = 0.01$ respectively). In contrast, the control group did not exhibit any significant differences. Remarkably, there was a significant positive correlation ($r = 0.372$, $P = 0.01$) between IL-17 concentration and GCF volume.

Conclusion: Salvia officinalis gel is effective in the treatment of periodontitis.

Keyword: Salvia officinalis, Periodontitis, Phytotherapy, Gingival crevicular fluid, Volume, Interleukin 17.

Public awareness toward mental illnesses in Mosul City

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Abstract

Background: Mental health is an integral part of overall health, and mental illnesses (MI) are increasing globally in frequency and severity. For the prevention and control of theses illnesses there should be adequate knowledge and awareness about these illnesses and related elements.

Method: A Cross sectional study was adapted to assess publics' awareness towered MI. Data was collected from 800 participants who agree to participate and visiting different health institutions in Mosul City during data collection period. The data was collected over a period of 4 months from 1st of November 2023 to the 1st of March 2024. Data was collected via a modified standardized questionnaire form by direct interview with each participant.

Result: From 800 participants 33.8% were in the age group of (18- ≤29) years 55.1% females, 83.4% of them from urban regions, 63.9% were unemployed, 53.6% were married, and 37% had a university education. Half of participants (52.0%) considered genetic inheritance was a cause of MI and broken families was rated by 47.6%. Inappropriate behavior and feeling sad were reported as the main signs and symptoms of MI by 48.5% and 47.8% consequently. The highest reported effect of MI was the harmful effects for self or other, fallowed by impairment of education by 47.5% and 45.1% of participants in sequence. Regarding treatment of MI, 76% of study participants thought that consulting a psychiatrist in the main modalities and 32.6% believed that a religious head could treat a mentally ill patient. In general the overall accepted awareness scores were found in 40.4% of study population, which was similar among different socio-demographic strata.

Conclusion: The majority of study population was unaware of the risk factors of MI or its signs and symptoms and their effects; as the majority cannot report them correctly. However good proportion knew that psychiatrist is the right option for the treatment of these illnesses.It is recommended to improve health education and to provide adequate MI treatment and counseling centers that acceptable and accessible to all peoples.

Isolation and Identification of bacterial agents that cause tonsillitis and evaluating the ability of aqueous extracts of beetroot and turnip plants to inhibit them

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Abstract

Background: Respiratory infection is one of the most common causes of death in children around the world, Upper respiratory tract infections involve the tonsillitis, , otitis media and the common cold in our study we exploration the antibacterial activity of beetroot and turnip extract on respiratory tract infections. Aims: To identify the bacteria that cause sore throat and treat them using natural extracts instead of antibiotics .

Method: So ,our study headed towards sample collected from throat infections :11 tonsillar swabs were used to sample collection from children (4 female and 7 male) ,The aged of the children ranged from 8 months – 12 years suffering of acute tonsillitis, shortness of breath and acute bronchitis .

Result: Approximately 25 bacterial isolates were isolated ,10 different isolates were purified bu only 7 pathogenic isolates were diagnosed . The isolates were diagnosed using traditiona methods such as culture on selective media, biochemical tests, microscopic examination and th diagnosis was confirmed by Vitek2-system technique. From the results of isolation an diagnosis, it was found that *Streptococcus throatensis*, *Streptococcus* spp, *A.baumanni Burkholderia cepacia group*, *K.pneumoniae*, and it was found *S.aureus* bacteria were dominan at 28.5% . The resistance of the isolated bacteria to antibiotics was tested, and two differen Species was Multi Drug Resistance(MDR) including *Streptococcus throatensis* that resistan against Tetracycline , Azithromycin ,Ceftriaxone, Norfloxacin, Ceftazidime.

For the first time in our study, extracts of turnip and beetroot were used to inhibit the bacteria that cause sore throat.it was measured minimum inhibitory concentration of both beetroot and turnip extract and showed that Maximum inhibitory effect was seen in beetroot extract, It was found that the highest diameter of inhibition zone was isolate *Streptococcus* spp. with diameter 30 mm at the concentration 100mg while turnip extract exhibited the least antimicrobial activity , but the highest diameter of inhibition zone was isolate *Streptococcus* spp with diameter 23mm at concentration 100mg .

Conclusion: *S.aureus* and *Streptococcus* spp are the most common causes of sore throat *Streptococcus* spp was resistant of antibiotics compared with another bacteria that showed no

resistant to antibiotics. Also we found the beetroot extract was the best type of therapeutic agents for respiratory tract infections.

Estimation of ovary efficiency factor and detected of menopause period

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Abstract

Background : The fertility capacity of women diminishes in parallel with aging. As the level of education of women has increased since the 1960s and they have become more active in working life and have had easier access to contraceptive methods, the need to have children has been postponed to advanced ages by more women. As a result of the postponing of maternal age, the number of patients that are not able to get pregnant within 12 months and apply to artificial reproductive technologies (ART) with a female infertility diagnosis has been increased. Among women, the normal process of reproductive aging has great variations; some women continue to be highly fertile in their 40s, while others lose their fertility in their 30s. The process of reproductive aging in women mostly stems from the changes in ovarian function due to chrono- logical aging. Ovaries are affected by natural aging more than all other tissues. Although the reason is not fully understood, endocrine, paracrine, genetic, and metabolic factors are thought to be affecting the decrease in the quality of the follicular pool and oocytes. Ovarian aging resulting in ovarian failure and menopause is an on-going process. Of the early signs of ovarian aging, failure to adequately respond to ovarian stimulation, followed by menstrual irregularity and the loss of follicle functions, can be listed. In accordance with the 'fixed interval hypothesis' the period between the first menstrual cycle irregularities and menopause is constant-approximately 6 years-and is independent from the age of menopause.

Method: After obtaining the local ethical approval and written informed consent of each patient, demographic characteristics, medical histories, physical and gynecological examination findings including body mass index (BMI), time since menopause of subjects were recorded. Menopause was defined as not having menstruel bleeding more than a year. Patients' serum follicule stimulating hormone (FSH), (25-OH vitamin D levels ,AMH ,LH were measured by ELIISA mehod.

Result: The mean age of the patients was 55,8 years (range, 42 to 65 years). Mean time since menopause for patients was 6,1 years . Vitamin D deficiency was detected in 46 Control befor

and after 46 patients of menopause period of the participants. In the present study, we demonstrated a relationship between serum vitamin D levels AMH and menopauserelated symptoms in postmenopausal women . We were able to show a significant negative correlation between vitamin D levels and MRS total/subscale scores. Our results also represented that symptoms such as hot flushes, heart discomfort, depressive mood, irritability, bladder problems and joint and muscular discomfort in postmenopausal period were significantly severe in women with vitamin D deficiency. We also calculated a 25-OH vitamin D cutoff for women complaining from menopause-related symptoms despite having sufficient vitamin D levels.

Conclusion: AMH,vitamin and hormone assessment using manual enzyme-linked immunosorbent assay (ELISA) has some limitations due to intra-assay/interassay differences and requires careful sample preparation and storage. However, automated AMH assay platforms have greater precision, faster turnaround time, greater sensitivity, and accessibility in many countries and should be used as a standard method for AMH measurement. In conclusion, considering the precise results, the ease of a serum-based test, independent of specific time in the cycle serum, independent of hypothalamic pituitary function and very low inter-observer variability, AMH is the preferred ovarian reserve marker. However, lack of international guideline regarding age-specific AMH diagnostic thresholds for screening functional ovarian reserves or predicting age at menopause could limit the proper interpretation of AMH values in a clinical setting and remain to be addressed in future researches.

Keyword : vitamin D, AMH menopause Hormone .

Genetic study of the parasite *Cryptosporidium parvum* isolated from the lungs of experimentally infected rats

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Abstract

Background: *Cryptosporidium parvum* is a protozoan parasite belonging to the Apicomplexan phylum and represents one of the causes responsible for the outbreak of water- and food-borne diseases over the past 50 years (cryptosporidiosis), The development of detection and diagnostic methods has expanded the range of species present at the present time to no less than 44 species and 120 genotypes, and it is likely that they will be classified as species with the progress of genetic studies. As for the origin of evolution and evolution, things are still unclear and need more studies.

Method: A direct swab was taken from the sample, then diagnosed using modified Ziehl-Nielsen (MZN) stain, and then isolation of the Oocyst parasite was performed using a saturated glucose solution. The PCR reaction was then performed. The master reaction mixture for each PCR reaction was prepared by mixing the DNA sample. of the parasite with the primer for each gene inside a 0.2 ml Eppendorf tube prepared by the English company Bio Laps. Then the reaction tubes were inserted into the Thermocycler device for the purpose of performing the multiple reaction. Then the sample was loaded into the previously prepared agarose gel pits. The gel was then photographed using a gel documenting device.

Result: Appeared in microscopic diagnosis The parasite's oocyst was found by taking a direct swab of rat saliva samples 6 days after the infection occurred, and the sporozoit inside the oocyst appeared in a pink color surrounded by a transparent halo The results of the molecular diagnosis confirmed the occurrence of lung infection in rats, while the first cases of pulmonary infection in animals were recorded in a group of turkey birds that showed signs of coughing and nasal discharge with no signs of intestinal infection

Conclusion: Cryptosporidium is considered one of the diseases spread throughout the world, and medical laboratory workers face difficulty in diagnosing the parasite due to the use of special methods to diagnose it. Most studies recorded infection with the *Cryptosporidium parivum* parasite in the digestive system, while only rare cases of transmission of the infection

to the respiratory system, especially the lungs, were recorded. Therefore, the aim of conducting the current study is to confirm the ability of the parasite to cause infection in the respiratory system and to diagnose it microscopically and molecularly. In order to further understand this disease, as it is a common pathogen, it requires more molecular studies, knowledge of genotypes, and whole genome sequencing to trace the mode of infection and the mechanisms behind host specificity.

Keyword: *Cryptosporidium parvum*, Respiratory infection, Modified Ziehl–Neelsen stain, polymerase chain reaction.

Enhancing Patient Access: IoMT Kiosk Solution for Locating Medicines in Local Pharmacies

Mafaz Kadhim Ahmed

Abstract

Background: In today's fast-paced world, the demand for efficient healthcare solutions is ever-growing. This article introduces an innovative Internet of Medical Things (IoMT) kiosk solution designed to streamline the process of locating medicines in local pharmacies. Deployed as ATM-like devices within pharmacies, these kiosks empower patients to easily search for specific medications and identify the nearest pharmacy where the medication is available. Leveraging cutting-edge technology, including real-time inventory tracking and geolocation services, this solution bridges the gap between patients and pharmaceutical services, ensuring quicker access to essential medications. By enhancing convenience and accessibility, this IoMT kiosk solution not only improves patient satisfaction but also fosters greater efficiency within the healthcare ecosystem.

Method: A technological language is used to link pharmacies' information systems. By entering the name of needed drug, scientific or brand, the pharmacy which have it, is shown with its details and location to the patient.

Result: Saving time and work for patients, more customers for membered pharmacies and encouraging to have a specific system for each pharmacy in addition to use printed prescription by physicians are the results of distributing the device within pointed areas.

Conclusion: Drug Navigation Device contains huge amount of information related to pharmacies organized to the patient to be informed in which pharmacy the indeed medicine is available. Improving country technological development and quality of life for patients are basic results of the device.

Keyword: patient, pharmacies, drug, brand, navigation.

Association Between Pro-Inflammatory Cytokines (TNF-α, IL-1β and IL-6) and Uterine Fibroid

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Abstract

Background: Uterine fibroid is a common benign tumor in reproductive age, the exact etiology and pathogenesis is still unclear in spite of many theories emerged all over the world. Inflammations play a crucial role in its pathogenesis. Many cytokines have been employed to validate this theory. In this study, evaluation the impact of clinically symptomatic uterine fibroid on the pro-inflammatory cytokines (Tumor necrosis factor alpha (TNF-α), Interleukin -1 β (IL-1β) and Interleukin -6 (IL-6)) levels was studied.

Method: This is a prospective case control study of a (90) non pregnant women in their reproductive age was done in Mosul hospitals from 1st March/2022 to31st May/2023. Case group consisted of (60) women who had symptomatic uterine fibroids. Control group consisted of (30) healthy women who had no uterine fibroid. Measurement of pro-inflammatory cytokines levels was done in both groups. The results were analyzed statistically.

Result: The participants aged 24 to 55 years. The mean level of the Pro-Inflammatory Cytokines (TNF-α, IL-1β and IL-6) were higher in the case group with significant statistical difference (p-value=0.002, 0.001 and 0.001) respectively. Most of the symptoms associated with uterine fibroids showed no difference in these cytokines levels. Significant positive correlations between these cytokines with each other's in case group while positive correlation between TNF-α and IL-6 only was reported in control.

Conclusion: Pro-inflammatory cytokines and "inflammation-like" state in women with symptomatic uterine fibroids could played a role in pathogenesis of uterine fibroids .

Keyword: Uterine fibroid, Pro-inflammatory cytokines, (TNF-α), (IL-1β), (IL-6), Pathogenesis.

Analysis of Acquired Antimicrobial Resistance Genes in Genomes of Iraqi Acinetobacter baumannii

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Abstract

Background: The rising levels of antimicrobial resistance is one of the global threats of the current century. The Centers for Disease Control and Prevention (CDC) has reported that antibiotic-resistant infections account for two million illnesses and 23,000 deaths annually in the US, with over 20$ billion as direct health-care costs and 35$ billion in lost productivity. Bacterial strains can be naturally resistant to a particular antibiotic or become resistant through the acquisition of resistance determinants. The problem is further complicated by the lack of new and effective antibiotics under development against multi-drug resistant (MDR) pathogens. One of the ESKAPE pathogens responsible for nosocomial and community-acquired infections is *Acinetobacter baumannii*. The Infectious Diseases Society of America has ranked *A. baumannii* as one of the top priority, antibiotic-resistant pathogens to target.

Method: A total of 41 draft whole genome sequenced strains belonging to *A. baumannii* originally isolated from clinical sources from Iraq that obtained from the PATRIC database (Davis et al., 2020) as of January, 2024 were included in this study. The sequences were downloaded and saved in a fasta-type file for further analysis. The new platform of ResFinder 4.0 tool was used to detect the antibiotic resistance genes in the draft genome sequences. Molecular typing of *A. baumannii* from the draft genome sequences was carried out using the Pasture multilocus sequence typing (MLST) scheme (cpn60, fusA, gltA, pyrG, recA, rplB and rpoB).

Result: The analyses of the whole genome sequences of Iraqi *Acinetobacter baumannii* isolated Iraqi has revealed that many strains were MDR, XDR and PDR. The in silico detection of the genome sequences using the ResFinder bioinformatics tool showed that antibiotic classes such as B- lactams, Aminoglycoside, Tetracycline, Folate, Quinolone, Amphenicol and Macrolides were present in Iraqi *A. baumannii* strains.

The percentage of the detected antimicrobial resistance classes were as follow: B-lactam 80.4% (n=33), aminoglycoside 73.1% (n=30), folate pathway antagonist 60.9%(n=25), and tetracycline. The quaternary ammonium compound resistance genes were 51.2% (n=21). The screened isolates

were also displayed intermediate resistance to aminocyclitole 41.4% (n=17), streptogramin macrolide were 19.5%(n=8), amphenicol 7.3% (n=3) and quinoline 4.8% (n=2).

Conculsion: This study has shown that the restfinder bioinformatics tool can serve as accurate in silico genetic analysis tool to identify acquired AMR genes in the genomes of *Acinetobacter baumannii*. Moreover, this study has shown that fifty-two genes known resistance genes were identified in the forty-one complete WGS of the Iraqi *A. baumannii*. Most strains were displayed emergence to MDR *A. baumannii* and one strain to XDR, this would be worrying. The blaPER-7 ,bla-CARB-2 , blaADC-25 genes were found in most B-lactam class. Sul 1 in folate and qacE gene in quaternary were appeared moderate resistance antibiotic. These genes are contributing to antibiotic resistance and finally the study has appeared that ST unknown and ST 1090 were dominant sequence types in Iraqi *A. baumannii* with high proportions.

Keyword: In silico, Resistance genes, Genome sequences, Acinetobacter baumannii
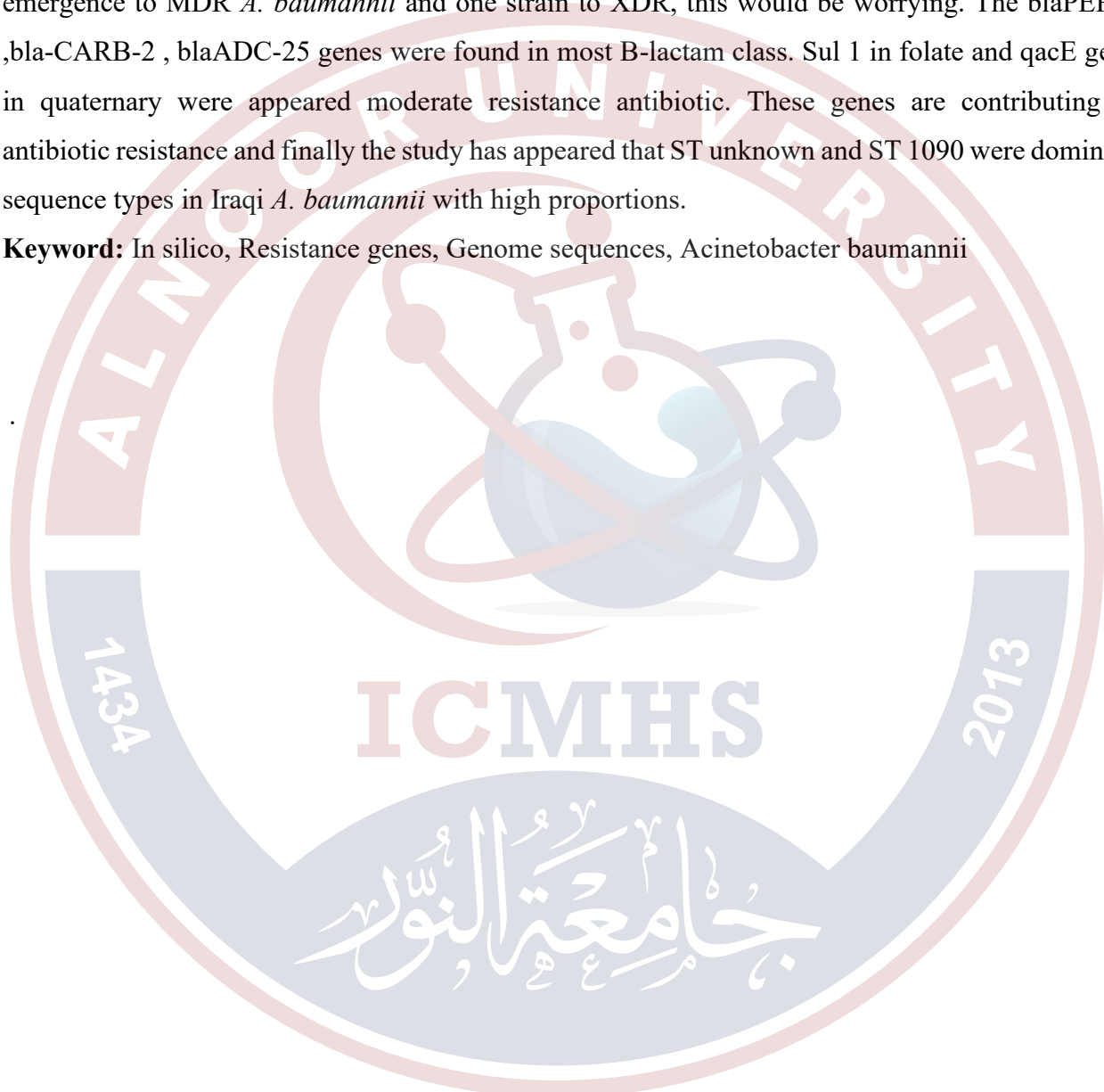
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Calculation of Heavy Metal Concentrations and Their Relationship to Patients with Chronic Renal Failure

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Abstract

Background: Environmental pollution around us causes about 3.7 million deaths annually worldwide. Measuring disease burden is important not only for study but also as a first step towards a full cost-benefit analysis.

Method: In order to prioritize available technological interventions to reduce pollution from industrial power generation sources and automobiles - Blood samples were collected from patients with renal impairment hospitalized in the Medical City hospitals, with ages ranging between 15-60 years. The number of samples reached 50 blood samples collected over the course of 3 months for the year 2023. They were compared with a control group consisting of 50 samples from normal people, with ages ranging between 15 -60 years old .using atomic absorption spectroscopy (AAS).

Result: The study showed a clear relationship between the concentrations of these heavy metals and chronic renal failure in some patients diagnosed with it, where the statistical mean for lead for patients was Pb 2.37 ± 1.02, the mean for cadmium for patients Cd 1.17 ± 0.68 μg/L, mean cobalt for Co patients 4.35 ± 3.33 μg/L.

Conclusion: Through the statistics, the concentration levels of lead, cadmium, and cobalt in patients with renal insufficiency had varying relationships.

Keyword: Industrial pollution, Chronic kidney disease, Effects of (lead, cadmium, and cobalt).

Novel spectrophotometric determination of mesalazin in tablet dosage forms using veladium salt as a reagent

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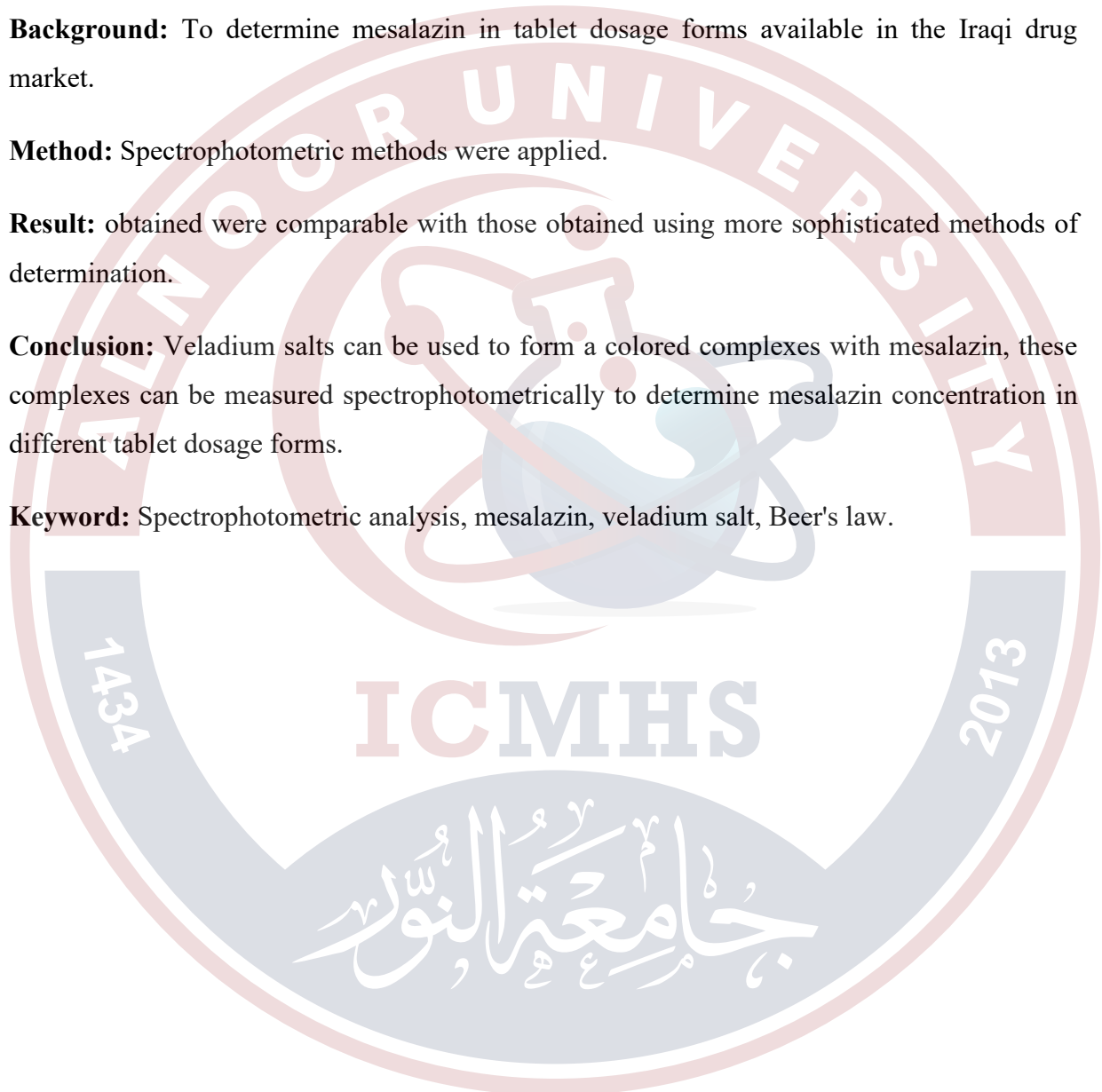
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Abstract

Background: To determine mesalazin in tablet dosage forms available in the Iraqi drug market.

Method: Spectrophotometric methods were applied.

Result: obtained were comparable with those obtained using more sophisticated methods of determination.

Conclusion: Veladium salts can be used to form a colored complexes with mesalazin, these complexes can be measured spectrophotometrically to determine mesalazin concentration in different tablet dosage forms.

Keyword: Spectrophotometric analysis, mesalazin, veladium salt, Beer's law.

Clinical study of serum Spexin and asprosin in obese hypothyroidism female patients

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Abstract

Background: Spexin peptide that is unique and highly stable, regulates obesity, energy balance, endocrinology homeostasis and involve in the regulation of hypothalamic gonadal axis, Asprosin a newly adipokine hormone secreted by white adipose tissue (WAT) as the main source. It was stimulated by fasting state and attracted to the liver. Objectives: The present study aimed to measure levels of Spexin, Asprosin and Thyroid hormones in women suffering from hypothyroidism obese.

Method: This study included 90 participants, 30 control and 60 patient (30 patient hypothyroidism normal weight and 30 patient hypothyroidism obese) aged 35–45 years. 5–7 ml of blood was drawn, and serum was obtained. Spexin, Asprosin and Thyroid hormones tests were performed on all women.

Result: Through investigation of the data when compared the patients group with control group, of this study indicate that levels of Spexin and asprosin increased, a significant increase in (BIM) the levels was also reported. In patients with hypothyroidism, the levels of thyroid-stimulating hormone TSH were considerably greater, while the levels of T3 were significantly greater .The T4 level, however, revealed lower significant differences when compared to the control group. In addition, the level of Spexin and asprosin was found to be high in the hypothyroidism group only in contrast to the control group that involved in this study.

Conclusion: The current study indicates the hormones of Spexin and asprosin could be helpful in early diagnosis in monitoring hypothyroidism patients specially asprosin. Asprosin hormone is a marker of glucose homeostasis, so it may be a new biomarker alternative to all conventional risk factors for diabetic and thyroid diseases.

Keyword: Thyroid hormones, Hypothyroidism, obesity, Spexin, Asprosin.

Serum and Urine Exosomes estimation as biomarkers in bladder cancer patient's diagnosis

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Abstract

Background: bladder cancer (BC) is the most common malignant tumor in the urinary tract Tenth most common malignant tumor worldwide, , with an estimated 4:1 male-to-female ratio. The people most impacted are men. In Iraq, bladder cancer ranks eighth among cancers in women and fourth among malignant tumors in men. Exosomes are 40–100 nm-diameter nanovesicles that are either released straight from the plasma membrane during budding or merged with the plasma membrane by multivesicular bodies. The majority of biological fluids, including tears, bronchoalveolar lavage, amniotic fluid, blood, urine, and ascites, contain these spherical or cup-shaped structures. Objectives: Assessing the proportion of serum Exosomes and urine Exosomes in urinary bladder cancer patients as well as the impact of changes in this nanomaterial on the disease.

Method: From January 2023 to June 2023, a total of 45 samples of blood and urine were collected from individuals diagnosed with bladder cancer at Ghazi Hariri Hospital for Specialized Surgery. These samples included 45 male and female subjects, varying in age, as well as 45 control subjects. The samples were subjected to an ELISA method of analysis to determine the percentage of exosomes present in the serum and urine of the disease-free and affected subjects.

Result: The mean of serum and urine Exosomes in patients' group $(14.18 \pm 2.62, 20.04 \pm 4.67)$ was significantly higher than mean in control group $(8.21 \pm 1.35, 8.94 \pm 1.74)$, p-value < 0.001 and p-value < 0.001, respectively. serum Exosome had significant positive moderate correlation with urine Exosome (r 0.45, p <0.001).

Conclusion: we can use the serum Exosome and the urine Exosome as Bio Marker to detect bladder cancer, and the urine Exosome Biomarker is better.

Keyword: bladder cancer patient, serum Exosome, urine Exo.

Mirabegron Induced Relaxation of Isolated Bovine Coronary Segments: Role of NO and K$^+$ Channel

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Abstract

Background: Mirabegron, the first approved β3-adrenoceptor agonist, has demonstrated positive effects in heart failure. Research indicates that β3 agonists induced prompt relaxation in rat aortic and human coronary vessels through a pathway mediated by NO. This study examined mirabegron's influence on bovine coronary segments' contractility.

Method: Using isolated tissue baths, the impact of mirabegron on bovine coronary artery segments' contractility was assessed. The plasma level of NO was measured with a specialized kit. NO was determined by measuring Plasma Nitrite concentrations by spectrophotometric analysis at 540 nm.

Result: Mirabegron evoked relaxation in bovine coronary artery segments in a dose-dependent manner. However, this effect was inhibited by the presence of potassium chloride (KCl) (70mM) and methylene blue (MB) (30μM). Both the potassium channel and NO pathways were found to play a role in the relaxations induced by mirabegron. Furthermore, mirabegron was observed to enhance in vivo nitric oxide (NO) levels, a crucial signaling molecule maintaining cardiovascular equilibrium.

Conclusion: Collectively, our findings illustrate that mirabegron induces coronary vessel relaxation through the activation of both NO and K$^+$ channels. These findings emphasize the need to consider these mechanisms when translating mirabegron's effects to clinical applications.

Keyword: Mirabegron, coronary, relaxation, K$^+$ channels, NO.

Effect of Curcumin on expression levels of Carbapneam Resistance Genes in *Proteus mirabilis* Isolated from Clinical Samples from Baghdad Hospitals

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Abstract

Background: *Proteus mirabilis* is opportunistic pathogens that infect humans with a variety of illnesses including, infections of the respiratory system, ear and others. The present research aims to assess the effects of curcumin on the expression of carbapenemase genes in *Proteus mirabilis.*

Method: A total of 250 clinical specimens were collected from several hospitals in Baghdad for a period 5 months (Teaching Laboratories Institute, Al Kindy Teaching Hospital, and Ibn Al- Baladi Hospital, AL-Imam Ali General hospital). The Minimum Inhibitory Concentrations (MICs) of curcumin against isolated bacteria was estimated with the microdilution broth method at the range 8-1024 µg/ml. The fold change in the carbapenemase genes (*bla*OXA-23, *bla*OXA-58, and *bla*OXA-48) in *P. mirabilis* resistant isolates (treated and untreated with curcumin) was determined using relative quantification (RQ).

Result: The results showed that the local isolate P15 had the lowest value of gene expression fold for the *bla*OXA-23 gene (0.12), while the local isolate P43 had the fold gene expression for the *bla*OXA-58 gene (treated with curcumin) with a fold of 0.65, followed by isolate P61 with a fold of 0.53 for the *bla*OXA-48. In comparison to the control samples, the gene expression results were calculated at 1.

Conclusion: It was concluded that the resistance of *P. mirabilis* to curcumin was related to the genes *bla*OXA-23 and *bla*OXA-58 and *bla*OXA-48 but the main role may be due to *bla*OXA-23. The presence of three genes decrease the resistance of this species to curcumin.

Keyword: *Proteus mirabilis*; gene expression; Curcumin; *blaOXA*

Occurrence of Methicillin-Resistant *Staphylococcus aureus* (MRSA) in different clinical isolates in three hospitals in Baghdad province

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Abstract

Background: MRSA is a serious problem that threatens public health and should be tracked periodically and regularly for the complicated process of their treatment.

Method: One hundred fifty (150) of *Staph. aureus* clinical isolates of different sources were collected from three governmental hospitals in Baghdad. Genomic identification of MRSA among those isolated was conducted by detection of three genes *mecA*, (533bp), *fem A,* and *fem B* genes (509bp and 651bp) respectively. For the antimicrobial susceptibility test, the choice of antibiotics used in this study was based on the recommendation of the CLSI (CLSI, 2020). All the genomic-confirmed *S. aureus* isolates were subjected to eleven antibiotics belonging to six different classes of antimicrobial.

Result: Of the study isolates, (82%) were positive for *mecA* while the presence of *femA* gene was investigated in all *Staphylococcus* isolates (100%), and *femB* was detected in 98%. For the antibacterial susceptibility test, the results were as follows: Penicillin G (84%), Amoxicillin-Clavulanic acid (84%), Imipenem (8%), Meropenem (4%), Cefoxitin(80%), Ceftriaxone (90%), Tetracycline (24%), Chloramphenicol (28%) Azithromycin (66%), Gentamicin (36%), and Trimethoprim-sulfamethoxazole (6%).

Conclusion: On a regular basis, MRSA should be detected in clinical isolates of *Staph. aureus,* in hospitals. Our results, although they appear to be high, are not significantly different from similar studies conducted in other provinces within the country. The high prevalence of MRSA among *Staph. aureus* isolates always refer to the random uncontrolled usage of antimicrobial agents.

Keyword: *Staphylococcus aureus*, MRSA, Antimicrobial Susceptibility, clinical isolates.

Enhancing Infection Control Knowledge: A Training Program for Surgical Department Nurses in Mosul Hospitals

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Abstract

Background: Nurses have a critical responsibility to implement effective infection control measures to ensure patient safety and minimize the spread of healthcare-associated infections. However, suboptimal training, inadequate knowledge, and limited resources make it challenging to adhere to the best practices. Infection control practices in surgical departments are particularly important to enhance patient safety and improve healthcare outcomes. This research implements a training program for surgical department nurses in Mosul hospitals to improve their knowledge and commitment to infection control practices. The program aims to enhance patient outcomes and the overall quality of healthcare delivery in the surgical setting.

Method: A quasi-experimental design was used to assess the effectiveness of a training program in improving infection control practices among surgical department nurses in Mosul hospitals. The training program was developed using WHO guidelines and included educational sessions and workshops on key topics. Data was collected through a structured questionnaire on demographics and knowledge evaluation.

Result: The study assessed the impact of an intervention on knowledge scores in an experiment and control group. In the experiment group, the intervention led to a significant increase in knowledge scores from 13.7 ± 5.1 before the intervention to 20.1 ± 5.2 after the intervention ($t=-15.543$, $p<0.001$). This indicates that the intervention had a positive and significant effect on improving knowledge in the experiment group.

Conclusion: The results suggest that the intervention had a significant positive impact on improving knowledge scores in the experiment group compared to the control group, as evidenced by the significant increase in knowledge scores in the experiment group after the intervention.

Keyword: Infection Control, Program, Nurses, Mosul.

Five Years Survival Rates of Breast Cancer Patients in Nineveh

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Abstract

Background: Breast cancer is the leading cause of cancer death for women worldwide. Breast cancer now occupies the number one position in all countries of the Arab world. In Iraq, 46%of women with this type of cancer were in their premenopausal age, whereas 35% were diagnosed at the age of 45-54 years.

Method: The sample of the present study included all breast cancer patients registered at the Mosul Cancer Registry center and the related hospitals. This study aims to show the survival rates of breast cancer patients in Nineveh province for the period 2010 – 2014. Observed survival rates are estimated by using the actuarial method to create the necessary life tables. Greenwood's formula is used to calculate 95% confidence intervals.

Result: The total number of breast cancer cases (1680) during each year of the period 2010-2014, according to age and stage of extension of cancer. The results show, that the proportion of patients aged <55 years was relatively high, and cancers of the breast showed a strong regional stage. Breast cancer survival rate declined from 71.5% in the ≤54 age group to 32.6% among those aged ≥70 years. There was a greater difference in survival rates between stages, which were 89.6% for the local stage, 73.2% for the regional stage, and 12.3% for the distant stage.

Conclusion: The greatest decline in survival rate over the age span and extent of the stage were observed clearly.

Keyword: Observed Survival Rate, Breast Cancer, Women, 5-Year Survival Rates.

Doctors Adherence to the guidelines in Managing Patients in the Coronary Care Unit

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Abstract

Background: Cardiovascular diseases are the first leading cause of morbidity and mortality. They account for approximately one third (30%) of death worldwide. Following the guidelines in managing patients with cardiac problem is crucial to make proper decisions, deliver effective therapies to enhance patients' well-being and thus reducing adverse outcomes and mortality. Aim: this study aims to assess a doctor's adherence to guidelines in managing patients in the CCU in Mosul City.

Method: A case series study was adopted to carry out this research among doctors who work in the CCU in three major hospitals in Mosul city: Ibn Sina teaching hospital, Al-Salam teaching hospital, and AL-Mosul General hospital. A total of 50 doctors who agreed to participate in the study were involved in this research regardless their degree of specialty. Direct interview was performed with them over a period of three months since Dec. 2023. The questionnaire form was adopted from the international guidelines and approved by a pilot study. The study utilized statistical analysis with SPSS, using descriptive statistics and the Fisher exact /Chi-square test to measure associations between variables at a significance level of $p \leq 0.05$.

Result: regarding the Ethical considerations in dealing with patients, doctors had generally good dealing in all ethical aspects but least regarding the respect of patient autonomy especially among seniors (p=0,001). For patients with acute coronary syndrome, all doctors prescribe medications immediately and promptly. However, the use of automated external defibrillator pads and the safety measures applications were variable performed by the doctors being least among seniors. On the other hand, management of arrythmias and cardiac arrest was also good regarding the prescription of medications and CPR, but the use of defibrillation is variable among doctors being best by seniors.

Conclusion: adherence of doctors to guidelines was proper in many aspects of managing patients with acute coronary syndromes, cardiac arrest, and arrythmias. However, there was a

shortage in some aspects especially the use of defibrillator. So, it is recommended to adhere to the guidelines more promptly to reduce mortality and enhance patients' outcomes.

Public acceptance, attitude and perception toward covid-19 vaccination in Mosul City, Iraq

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Abstract

Background: The recent COVID-19 pandemic represents the most serious health and life threat globally. Vaccination against the disease considered the cornerstone for controlling the disease. The aim of present study is to explore public attitudes, perception towered vaccination against COVID-19 infection.

Method: A cross-sectional study was conducted by using a questionnaire form which transformed into a Google form. The form was disseminated to the population online using different platforms in Mosul City over a period of one month during November 2021 and the participation was voluntary for every individual above 18 years old.

Result: The number of respondents was 816, from them 52.3% was in the age group (18-30) years. Females form 54.6%. About two third with university education, 42.89% of them were employed and 51.59% were married. At time of data collection it was found that more than half of participants (54.29%) had been infected by covid-19-virus. About two third (63.85%) were vaccinated against covid-19-virus. The majority of study population (81.74%) considered the doctor's recommendation is an important factor in vaccination decision-making. However, the majority of participants (83.33%) were suspicious about the vaccine's side effect. On other hand, half of them (50.25%) thought that COVID-19 pandemic cannot be eradicated with preventive measures only. More than half (56.37%) thought that the vaccines may contain heavy metals or odd materials. While, 25.37% of them believed that it may cause autism, and 44.36% assumed that it may cause infertility.

Conclusion: The participants of this study had fears about the safety of the vaccine although about half of them realized that the disease cannot be eradicated with preventive measures only. Also considerable proportions of participants believed the myths that related to the presence of heavy metals in the vaccine or it may cause autism or infertility. It is recommended to improve health literacy of the general public by developing a health education programs.

Keyword: covid-19 vaccination, vaccine acceptance, attitude, perception.

Methionine Sulfoxide Reductase, Some Enzymes of the Neural Pathways,and State Of Oxidative Stress in Down syndrome Patients

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Abstract

Background: Down syndrome (DS) is a genetic disorder that arises when a third chromosome 21 is found in either some or all cells of the body contributes to complex conditions involving intellectual disability and learning inability. Oxidative stress has been correlated, which plays an important role in rapid aging, how antioxidants utilize in treating cognitive defect, oxidative damage of biomolecules in DS, also disruption of some neurotransmitters level in the neurons has been observed.

Method: We were conducted this study measures in serum for (20) DS individuals of methionine sulfoxide reductase (MsrA), senescence marker protein-30(SMP-30), thioredoxin (TRX), glutamate decarboxylase 67 (GAD67), Serotonin N-acetyltransferase (AANAT), Catechol O-methyltransferase (COMT), Methionine S-adenosyltransferase (MAT), monoamine oxidase A (MAOA) in addition to peroxynitrite ($ONOO-$) and malondialdehyde (MDA) against (25) of control by using spectrophotometric methods, with exception of GAD67, AANAT and COMT were determined by ELISA kit from ELK Biotechnology.

Result: Decreased levels for DS in the activity of MsrA, SMP-30 and TRX were observed while GAD67, AANAT and peroxynitrite show significantly higher levels in comparing with control group. There are no alteration in COMT, MAT, MAOA and MDA. Good positive correlation between MsrA, peroxynitrite and MAT, without relation with GAD67, AANAT in which ($ONOO-$) may trigger MsrA that will provide the substrate for MAT.

Conclusion: Higher oxidative stress represented by lower levels of antioxidants related to senescence may indicate that there are accelerated aging in the patients. Higher concentration of GAD67, AANAT may influence on the GABA neuron level and the N-acetyl-serotonin, respectively.

Keyword: Methionine sulfoxide reductase, Aging, Oxidative stress, Down syndrome, Neurotransmitters, Antioxidants.

A Clinical Study of Asprosin and its Relation with Oxidative Stress in Metabolic Syndrome

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Abstract

Background: Asprosin is a protein hormone that is important in regulating appetite, glucose and lipid metabolites are secreted during fasting .The aim of the present study is to compare changes in asprosin and oxidative stress in MetS.

Method: The study includes (171) blood samples of persons aged 35–65 years divided into a control group consisting of 75 samples and a Patient group consisting of 95 samples who were attending the Ibn Sina Teaching Hospital in Mosul, Iraq. Venous blood samples (5 ml) were collected after overnight fasting. To conduct Clinical analyses and oxidative and antioxidative factors.

Result: The findings revealed a significant increase in the levels of asprosin hormone in MetS , but a significant decrease of antioxidative (glutathione, total antioxidant capacity and arylesterase) also a significant increase in peroxidase, lactoperoxidase, and the concentration of malondialdehyde. Asprosin hormone shows a relation with oxidative and antioxidative factors.

Conclusion: These findings demonstrate that asprosin is a reliable index for the identification of MetS and it is linked to oxidative stress.

 Keyword: Asprosin Hormone; Oxidative Stress; Metabolic Syndrome; Insulin Resistance.

Risk and Protective Factors in Alzheimer's Disease: A Review

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Abstract

Background: Alzheimer's disease (AD); the most frequent cause for dementia; is a progressive neurodegenerative disorder recognized by cognitive and memory deterioration. AD associated with the presence of two abnormal protein clumps in the brain: phosphorylated tau and amyloid-β that causes synapse degradation, neuronal loss, and leads to brain atrophy. This review aims to provide risk and protective factors for AD.

Method: A PubMed and Google Scholar databased search were done for related articles published through the years 2022-2024. Mainly, papers that published in high quality publications within the field were chosen.

Result: AD appears to have a complex causes that include: - A non-modifiable risk factors: as aging, female gender, family history of AD, "epsilon 4 allele of the apolipoprotein E", "amyloid precursor protein" and "presenilin". - Modifiable risk factors: cardiovascular risk factors (e.g. hypertension, diabetes, dyslipidemia, obesity and sedentary life), smoking, heavy drinking, dysbacteriosis, viruses as COVID-19 infection and *Herpesviridae* viruses reactivation, traumatic brain injuries, loneliness, depression, impairment of hearing, low education, inadequate sleep and air pollutants as inhalation of NO2 and particulate matters. Increased cognitive and physical activities, antioxidant and MIND diet are considered to be a protective factors.

Conclusion: AD is a complex multifactorial illness, with several recognized protective and modifiable risk factors. The current absence of effective AD managements makes it a serious public health concern. So, it is crucial to focus on managing these factors to avoid or delay AD development and enhance patients' quality of life.

Keyword: Alzheimer's Disease, pathophysiology, risk factors, protective factors.

Role of oxidative stress Nitric oxide in Detection *Echinococcus granulosus* Patients

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Abstract

Background: Echinococcosis is a zoonotic parasitic disease with a global distribution that threatens human health and adds to the enormous economic burden on society, thus making echinococcosis a serious public health issue. Echinococcosis is caused by the larval stage of the echinococcus.

Method: The study was conducted in Al-Ameen Center for Research and Advanced Biotechnology / Imam Ali Holy Shrine. Three ml blood samples obtained from fiftey recurrent Echinococcosis patients. This study was aimed to estimate the prevalence of Echinococcosis infection and associated risk factors among patients in Al-Najaf Province and to investigate whether there is a relationship between this infection and one of oxidative stress marker level (nitric oxide (NO).

Result: A total of 50 serum samples were collected from patients with Echinococcus granulosus and 38 serum samples from healthy human were taken from the Al-Furat AL-Awsat Hospital, Maternity and Children Teaching Hospital and Al-Diwaniyah Teaching Hospital in Al- Diwaniyah and from Specialized Hospital for Gastroenterology and Hepatology in AL-Najaf for the period from November 2022 to April 2023.Three ml blood samples obtained from fiftey recurrent Echinococcosis patients. A total of 50 serum samples were collected from patients with *Echinococcus granulosus* and 38 serum samples from healthy human. The test was performed on 3 ml of venous blood, which were collected from each sample to detect the positivity of oxidative stress Nitric oxide (NO). The clinical assessment of the 50 patients (The estimation of NO marker level in patients and 38 healthy women (control group) was revealed that the frequency of distribution of patients according to sex were (74%) females and (26%) males. The differences between females and males were statistically significant ($P < 0.05$, P-value= 0.001). The estimated incidence of Echinococcosis increased in the 21-40 years age group, with a

significant difference (P < 0.05) in comparison with the other groups. The Distribution of Hydatid Cysts according to the site of the infection was the high rate of infection in liver compared with another organ. The concentration level of NO is decreases in patients compared with the control with significant difference at (P ≤ 0.05). While the concentration level of NO was decreases after the surgery compared with the before surgery and after surgery with significant difference at (P ≤ 0.05).

Conclusion: The prevalence rate of Echinococcosis is significantly higher among the 21-40 years age group.The prevalence of hydatidosis was higher in female than male. The hydatid cysts were mostly observed in liver rather than another organ.

Keyword: Cystic echinococcosis, *Echinococcus granulosus* , NO, Biochemical.
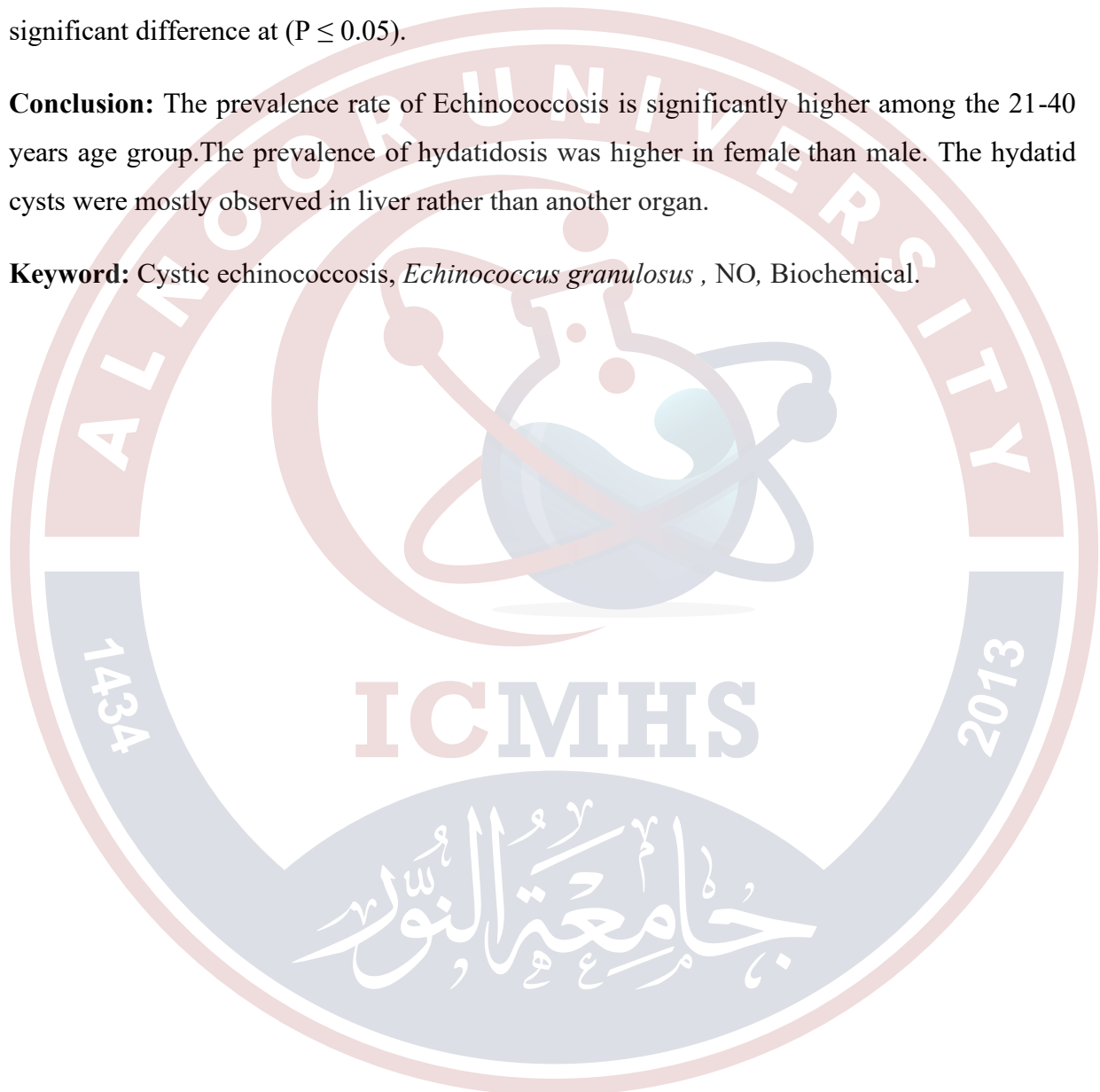
The synergistic effects of Urtica dioica and vitamin E on hyperglycemia, oxidative stress and histological changes in diabetic rats

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Abstract

Background: Diabetes mellitus is a chronic metabolic disorder characterized by elevated blood sugar levels, with oxidative stress playing a significant role in its pathogenesis and progression. Antioxidants have garnered attention for their potential to mitigate oxidative damage associated with diabetes.

The aim : of this study is to investigate the combined effects of Urtica dioica (stinging nettle) extract and vitamin E on body weight, fasting blood glucose (FBG) levels, antioxidant activity, and histological changes in diabetic rats.

Method: Three extraction methods were employed to obtain Urtica dioica extract, followed by a toxicity test to ensure safety. Male albino rats were induced with diabetes and divided into six groups: control, diabetic, diabetic treated with metformin, diabetic treated with Urtica dioica, diabetic treated with a combination of Urtica dioica and vitamin E, and diabetic treated with vitamin E alone. Changes in body weight, food, and fluid intake were monitored, along with FBG levels. Antioxidant activity was assessed through in vitro and in vivo methods, including measurement of malondialdehyde (MDA) levels and total antioxidant status (TAOS). Histological examinations of pancreatic tissue were also conducted.

Result: indicated that Urtica dioica and vitamin E combination treatment showed promising effects on body weight, FBG levels, and antioxidant activity compared to individual treatments. The combination group exhibited improved body weight, reduced FBG levels, and enhanced antioxidant activity, as evidenced by decreased MDA levels and increased TAOS in both pancreas tissue and blood serum.

Conclusion: the combination of Urtica dioica extract and vitamin E demonstrates potential as a complementary therapy for managing hyperglycemia and oxidative stress in diabetes.

Keyword: Diabetes mellitus, oxidative stress, Urtica dioica.

Comparative Study Between Multiple Insulin Doses Regimen Versus Twice Daily Regimen In Children And Teenagers With Type One Diabetes In Mosul City

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Al Khansa'a Teaching Hospital

Abstract

Background: To evaluate the glycemic control and to identify the possible side effects of multiple insulin regimen versus twice daily regimen among patients visited to endocrine consultation unit at Al Khansa'a Teaching Hospital in Mosul during 1st of January 2023 to the end of December 2023.

Method: this is a cohort comparative study. Patients' case sheets were reviewed to acquire the mandatory information. The questionnaire was composed of two parts, the first included demographic information of the patients and the second covered specific diabetes mellitus information.

Result: Sixty-nine children with type 1 diabetes were included in the study, with (52%) males and (48%) females. Two third of the studied sample were on multiple daily injections of insulin and one third were on twice daily dosing. HbA1c mean was dropped from 10.8 ± 1.7 at baseline to 8.5 ± 1.5 ($p < 0.001$) in BID group, while it dropped from 11.3 ± 1.7 at baseline to 8.1 ± 1.0 ($p < 0.001$) in MDI group, which make MDI regimen had trend toward statistical significance in comparison to BID. There was no significant difference in reported hypoglycemia between the two groups: MDI group reported hypoglycemia in 29 out of 43 (67%) compared to 16 out of 26 (62%) in BID group.

Conclusion: It has been demonstrated that multiple insulin regimen improves children and teenager's glycemic control, we recommend ministry of health to provide rapid-acting insulin (Aspart) and long-acting insulin (glargine) in hospital and centers dealing with diabetes as its price is not affordable to all patients' families.

It has been demonstrated that multiple insulin regimen improves children and teenager's glycemic control, we recommend ministry of health to provide rapid-acting insulin (Aspart) and long-acting insulin (glargine) in hospital and centers dealing with diabetes as its price is not affordable to all patients' families.

Keyword: Diabetes Mellitus, Pediatrics, Mosul city.

The Antibacterial Effects Boiled Aqueous And Chemical Extracts Of Selected Medicinal Plants From Iraq On Some Bacterial Species In vitro Using Disc Diffusion

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Al Noor University

Abstract

Background: Punicum granatum, Myrtus comminies ,Thymus officinalis , Rhus coriares has been widely cultivated in Iraq . It contains some active chemical constituents , such is (polyphenolic , fatty acid , steroids, flavones ,the prevalence of multidrug-resistant bacteria and their contribution to increased morbidity and mortality due to the difficult-to-treat diseases caused by these bacteria, has demonstrated a need to develop and use alternative antimicrobial agents to control multidrug-resistant bacteria. There has been a growing interest in medicinal plants and herbs and their extracts for the discovery of new natural therapeutic alternatives. Therefore, this current study aimed to know the antibacterial activity of aqueous and alcoholic extracts of some medicinal plant. now days, it is necessary to discover new and efficient antifungal or antimicrobial drugs because of increasing drug resistance organisms. Using medicinal plants for natural treatment of diseases caused by bacterial origin has mainly been considered.Objectives: The aim of the study was to investigate the antimicrobial activity of five medicinal plants extracts from medicinal plants used in folk medicine on three species of bacteria (Proteus mirabilis, Echerichia coli, Staphycococus aureus)these plant extracts on three species of bacteria also comparing effect inhibitory with five kinds of antibiotic ((Cefotaxime, , ceftriaxone,Ampicillen, Suprodar and meropenem).We here report a comparative study on the antimicrobial properties of extracts obtained by two different methods in order to choose that which gives the most ancient antimicrobial compounds ,the lacked of knowledge especially regarding the consistency of in vitro results and mechanisms of action of various compounds for plants lead to a lot researches for these plants.

Method: In this study was conducted in 2020 which include the effects of ten plants extracts divided in two equal and alcohol groups, five samples extracts of aqueous extracts and five samples extracts of alcoholic extracts

Result: alcoholic extract of Punica granatum showed the highest effect on all species of bacteria in the alcoholic and aquatic extracts just Staphycococus aureus, also the aquatic

extract of Punica granatum showed different effect on species of bacteria , Echiratia coli , protus mirabilis sp , Staphycococus aureus.

Conclusion: from the result of this study it can be conclude that the high effect on bacteria in Punica granatum extract.

Keyword: Alcoholic ,Aquatic Extract, antibacterial , Medicinal plants, Staphylococcus aureus.

Survey for etiologic agents causing superficial mycoses from populations in the Kurdistan region of Iraq,using phenotypic and molecular Techniques

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Abstract

Background: Skin diseases are a global health concern. They are the sixth most common reason for outpatient visits to medical facilities in developing nations, and they have a high incidence in the general population. Superficial fungal infections are in some cases merely annoying, but in older or immunocompromised individuals, they can have a serious negative impact. The exterior layers of the skin, hair, and nails are typically the only areas where superficial mycoses occur; they do not penetrate living tissues.

Method: Samples of hair, nails, and skin were collected from 350 patients with suspected superficial fungal infections attending the Khabat Skin Center in Sulumani and from the Zakho refugee camp in Zakho City. All the specimens were subjected to direct microscopic examination and isolation on culture media. Genomic DNA was extracted from the mycelia of selected isolates and was amplified using the ITS1/ITS4 primer set and sequenced. All the sequences were deposited in GenBank.

Result: Tinea corporis was the most common clinical type (27.6%), followed by T. ungiuum (18.8%), tinea pedis (15.2%), and then tinea capitis and candidiasis (12%) for each. While the lowest rates of infection were tinea cruris, tinea manuum, and tinea faciei which were 9.2%, 3.6%, and 1.6% respectively. Among dermatophytes, 3 species from 2 genera were identified, Nannizzia fulva was the most commonly isolated etiologic agent accounting for (50%) of the total, and Trichophyton verrucosum was ranked second in frequency (37.5%), followed by Trichophyton eriotrephon (12.5%). Three species of Candida were identified from skin and nails including; C. albicans, C. tropicalis, and Meyerozyma guilliermondii (C. guilliermondii. Other

non-dermatophytic moulds in descending order were Auxarthron alboluteum (2.5%), Chrysosporium shanxiense (10%), Fusarium spp. (5%) and other moulds (27.5%).

Conclusion: The dermatophytic species Trichophyton eriotrephon has been reported for the first time in Iraq as an etiologic agent of superficial infections. Chrysosporium shanxiense isolated from the nails represents a new record for Iraqi mycobiota. We report a rare case of non-dermatophytic onychomycosis of the big toenail caused by Auxarthron alboluteum in a 63-year-old Iraqi female with a history of diabetes.

Keyword: Candida, Dermatophytic species, DNA sequences, phylogenetic tree.
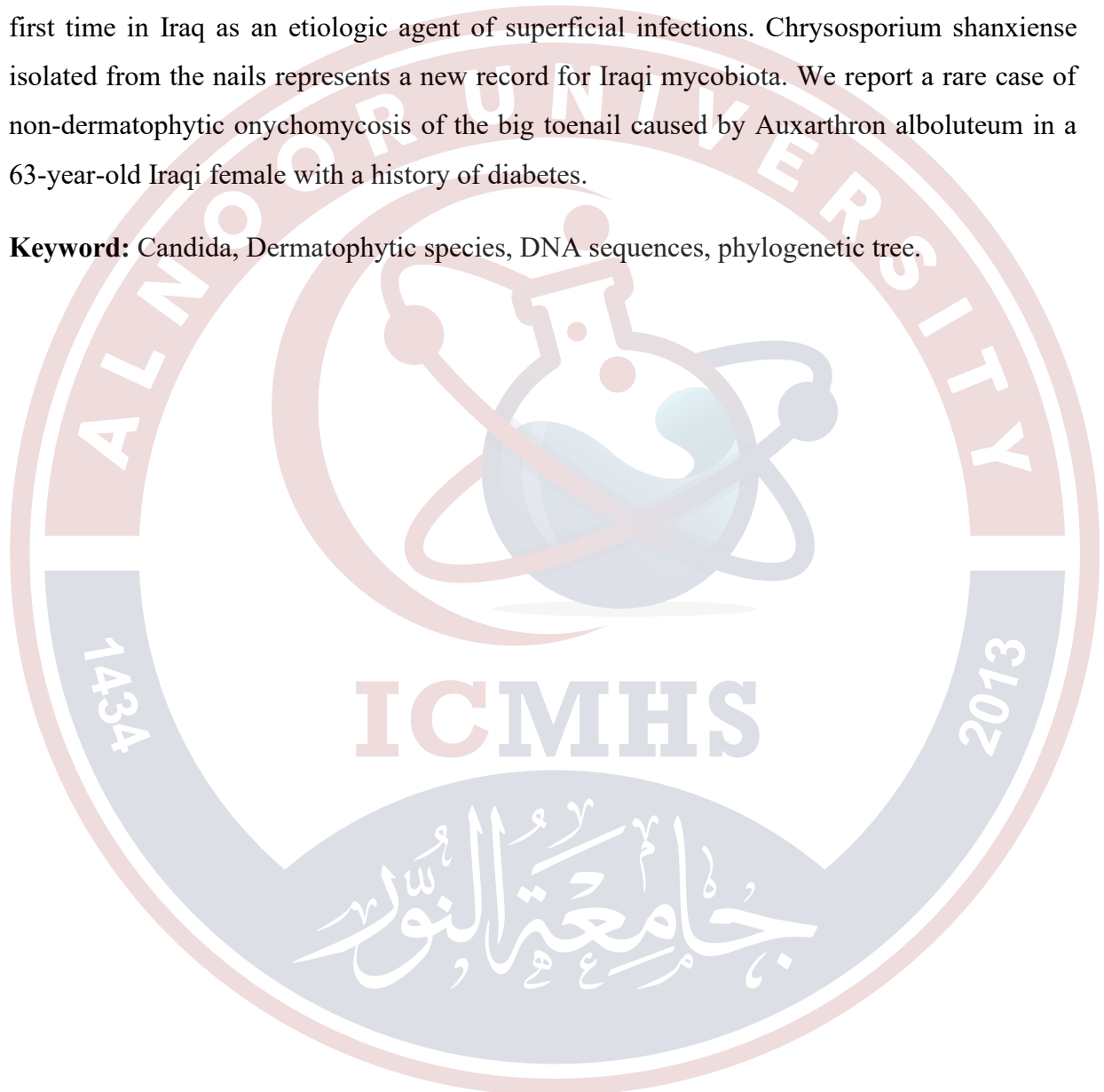
The Effect of Vitamin D deficiency on Central Obesity and Fatty Liver in Female within Reproductive Age

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Abstract

Background: The complications associated with central obesity and the rapidly increasing burden have become important health issues. Vitamin D is an essential micronutrient perform many biological processes. There is inverse relationship between the status of vitamin D and obesity, Vitamin D deficiency a risk factor for the development of Nonalcoholic fatty liver disease (NAFLD). As vitaminD deficiency related to visceral adiposity vitamin D deficiency was associated with atherosclerotic cardiovascular disease (CVD) and its complicated dyslipidemia profile. It's important to investigate the level of vitaminD in women with central obesity, to decrease the occurrence of complication that associated with central obesity and its consequence of vitamin D deficiency. The aim of the study is to assess the level of vitamin D in young female with central obesity, assess the prevalence of complication of central obesity and its association with vitaminD deficiency.

Method: This study was based on a case control trial with a representative sample of young females' aged from14-45 years, considered the sample size of (80). The females participate in study were single and married but not pregnant. The females involved in this study divided in to 2 groups' forty females having central obesity and forty females did not have central obesity, the parameter measured vitamin D3 level by i-chroma-1, BMI (kg/m^2) and waist-hip ratio. Fatty liver diagnosed by liver ultrasound .The differences in parameter measured between females with central obesity and female don't have central obesity were analyzed.

Result: Eighty females divided into two groups: 40 with central obesity and 40 without central obesity, the median of vitamin D_3 (10.6) was significantly low among female with central obesity, significantly higher, the medians of BMI (30.0) and WHR (0.95) among the central obesity group were significantly high. The incidence of fatty liver within central obesity group was significant. Positive family history among female with central obesity group were significantly differed from these among controls group, while marital status showed no

significant differences. The correlation of vitamin D₃ with BMI, WHR and fatty liver were weak and indirect and significant at (p=0.012) , (p=0.015) and (p=0.012) respectively.

Conclusion: There is a positive correlation between vitamin D deficiency and the pathogenesis of central obesity in young female regarding the development of fatty liver.

Keyword: Vitamin D, central obesity, Body mass index, waist hip ratio, Nonalcoholic fatty liver disease.
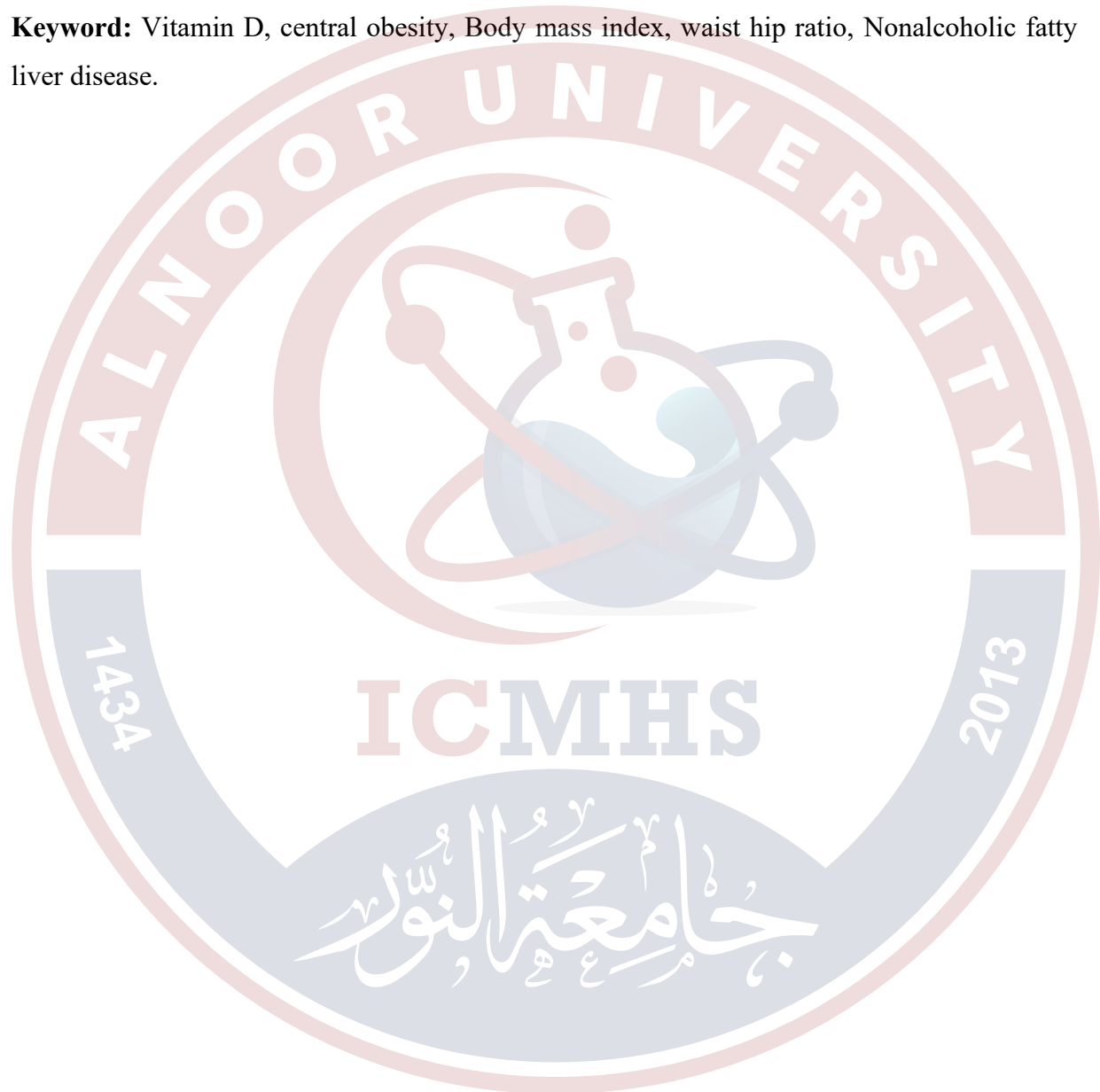
Assessment of appetitive traits among Iraqi population

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Abstract

Background: Appetitive traits (ATs) are the possession of an obesity-promoting group of stable tendencies towards food including responsiveness to food stimuli, hunger, and satiety responsiveness which are associated with overeating and weight gain. Early assessment of ATs might provide better management of weight as it might predict obesity before it is clinically evident. Aims: To assess the ATs profile of a sample of the Iraqi population.

Method: A cross-sectional study used a self-administered, web-survey of the Adult Eating Behavior Questionnaire between the 1st and the 30th of March 2023.

Result: 1112 subjects participated in this study. Among the measured ATs, the highest mean score was for enjoyment of food (22 ± 3), while the lowest was for food fussiness (10 ± 2). Two distinct clusters were identified with significant differences in the mean score of ATs. Cluster I (gourmet eaters) tended to have higher mean scores in food approach traits while cluster II (fussy eaters) had higher mean scores in food avoidance traits. Statistically significant differences in demographic characteristics were found between the two clusters with cluster I tending to have higher BMI, younger in age, and having more frequent meals/day. The in-depth analysis found significant differences in the means of several ATs between gender groups and the number of meals/day. Age was negatively correlated with slow eating while BMI was positively correlated with emotional over-eating.

Conclusion: Programs for behavioural changes could promote better balance between food approach and food avoidance traits thereby enhancing healthy eating habit and preventing obesity.

Keyword: Appetitive traits; obesity; Behaviour; BMI.

Survey On Surgical Treatment and Complications of Paediatric Hydatid Cysts in Mosul City

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Abstract

Background: to investigate the clinical profile and epidemiology of hydatid cysts among patients admitted to the surgical unit at Al Khansa'a Teaching Hospital in Mosul during 1st of July 2017 to the end of December 2020.

Method: a retrospective case-series analysis, the patients case sheets were reviewed to acquire the mandatory information. The Questionnaire was composed of two parts, the first included demographic information of the patients and the second covered specific Hydatid cyst information.

Result: the study sample was 24 patients, of whom 11 (46%) were male and 13 (54%) were female. From the sample studied, the age group of (5-10) years was more frequently affected than other. The majority were from rural areas (58%), with liver being the predominant site in (58%) of patients. systemic symptoms were present in (88%) of the patients. Complications were present in quarter of patients with rupture rate and secondary bacterial infection was occurred in (17%) equally. Just above half of the patients had positive animalscontact, with above two thirds were from camp residency.

Conclusion: health education should be provided to all society members regarding the disease. Washing vegetables and proper cooking are very important steps to eliminate the parasite. Proper inspection on the hygiene of butcher shops, slaughterhouses, and meat sales is very important. Massive campaigns are highly recommended to get rid of animals that spread the disease.

Keyword: Hydatid disease, Pediatrics, Mosul city.

The enzymatic and Non-Enzymatic Effects of Secretion Phospholipase A2 and Relationship with Some Anti- Oxidant and Vitamin D3 in Asthma Patients

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Abstract

Background: Phospholipases A2 (PLA2s: 3.1.1.4) are an important enzyme which lead to asthma, through two pathways, which includes; enzymatic mechanism which release arachidonic acid from phospholipid. Arachidonic acid (AA) aids in the synthesis inflammatory compounds including leukotrienes, thromboxane, prostaglandins. While, the second mechanism is not related to enzymatic activity, through which it is linked of enzyme (sPLA2) to the M-type receptors, located on the cell membrane. This spur the inflammatory cells to excretion two types of cytokines, interleukin-6 (IL-6) and tumor necrosis factor-α (TNF-α). IL-6 stimulates interleukin-13(IL-13) which increases the secretion of mucus. While, TNF-α stimulates of epithelial cells to produce inducible nitric oxide synthase (iNOS) which act on liberation nitric oxideNO which plays an important role in the onset of symptoms of asthma.

Method: This study involved 80 participants, with 40 of these patients suffering from asthma, 40 healthy individuals were also involved from different age groups. A variety of tests were performed using ELISA and Spectrophotometry, included (total IgE, TNF-α, IL-6, sPLA2-X, sPLA2-llA, Superoxide dismutase (SOD), iNOS, Catalase (CAT),Malondialdehyde (MDA), calcium, and vitamin D3) By the SPSS statistics program.

Result: The observed data indicated a positive relationship between the level of IgE and the level of sPLA2-X (r = 0.535). There is also a positive correlation between IgE and TNF-α (r = 0.255), while, an inverse relationship between IgE and vitamin D (r = -0.5). The study also showed a positive relationship between the level of IgE and the level of (iNOS, and CAT) (r = 0.542, r=0.46,) respectively. The data also showed a positive correlation between the level of sPLA2-X and the level of cytokines (TNF-α, IL-6) (r = 0.235 , r = 0.565) respectively.

While, the study indicated an inverse relationship between sPLA2-X and vitamin D (r = -0.49). There is also a positive correlation between the level of sPLA2-X and the level of the iNOS, and CAT (r=0.416,r=0.392)respectively.

Conclusion: Through this study can be considered both IgE, TNF-α IL-6, iNOS and sPLA2-X important inflammatory marker of the asthma patients, as the reduction levels of (TNF-α, IL-6, IgE, iNOS) Can help treat asthmatic patients, making it a good therapeutic goal for researchers to

find a drug that works to lower levels of (IgE, TNF-α, IL-6, iNOS), And also it pointed to the importance of enzyme sPLA2-X and the great role played by this enzyme in the emergence of symptoms of asthma through two mechanisms; The first is the enzymatic mechanism by which fatty acid is released and is considered the basis in the formation of LTs that cause the symptoms of asthma, The second is the non-enzymatic mechanism through which the sPLA2-X is associated with M-type receptors on the inflammatory cell wall, which in turn releases inflammatory cytokines, the most important of which are IL-6 and TNF-α, which play a role in asthma symptoms, Which makes this enzyme is an important therapeutic goal of the chemists seeking to find a drug works on the inhibition of these two mechanisms, which works through the enzyme, which helps in the treatment of patients with asthma

Keyword: Asthma, sPLA2-X, sPLA2-IIA, serum IgE, IL-6 , TNF-α, iNOS,D3, SOD, CAT, MDA, Calcium.
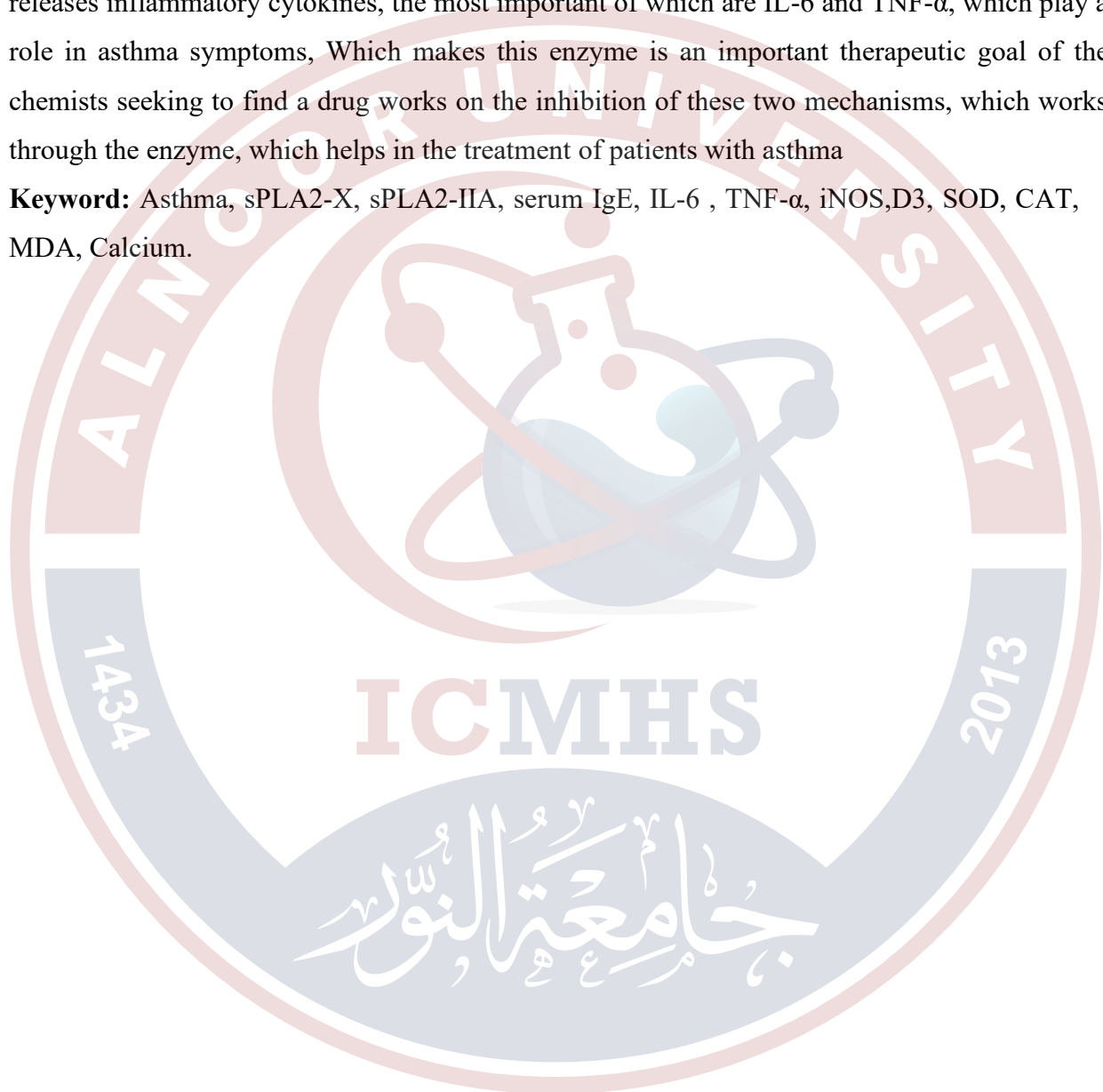
Role of rehabilitation in Rheumatoid arthritis

Anas Falah Jebur AL-Zihayme

Istinye University

Abstract

Background: The role of physiotherapy and rehabilitation in treating Rheumatoid arthritis.

Method: VAS scale , ROM tests , Manual muscle testing (MMT).

Result: Improvement of range of motions , Improvement of strengthening and extensibility of joints.

Conclusion: Physiotherapy can play an important role in treating Rheumatoid arthritis especially early stages.

Keyword: Physiotherapy , Aquatic therapy , Exercise .
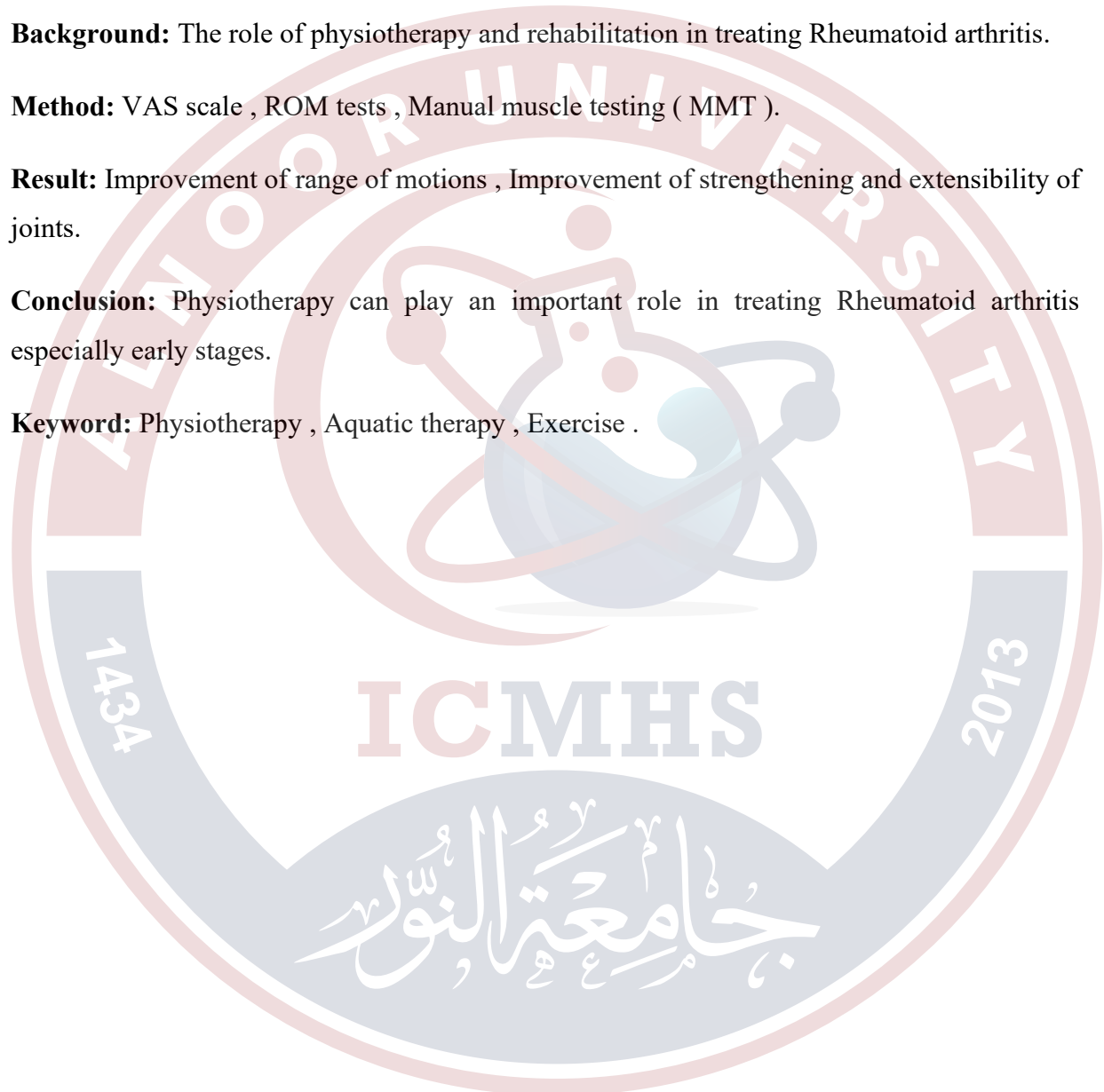
The development of nano-lipidic formulation of a phytochemical, apigenin

Bahjat Alhasso

Alnoor University ,Pharmacy Departrment

Abstract

Background: Apigenin, a phytochemical flavonoid, is widely distributed in a variety of fruits and vegetables such as orange and onion, as well as folk medicines. The promising anti-cancer and anti-inflammatory activities of the compound has increased the interest of developing this compound. However, the low water solubility of apigenin limited its clinical applications. To overcome this problem, a nano drug delivery system based on lipid nanoparticle (SLN) was developed in order to improve the bioavailability of apigenin. SLNs investigated in this study composed of biodegradable solid lipids which could be used orally or parentrally. This study aimed to formulate and evaluate the SLN with and without apigenin for potential in anti-cancer application.

Method: The preparation of SLN ± apigenin was carried out using solvent evaporation and hot homogenisation technique using three different lipid matrices; Glyceryl mono-, di- and tristearate (GMS, GDS and GTS).

Result: An average diameter of SLN (-/+) apigenin (E-SLN and SLN-AP), respectively was measured as E-GTS: 89.9 ± 3.6; E-GDS: 120.6 ± 8.5; E-GMS: 111.1 ± 5.47; GTS- AP: 92.99 ± 6.8; GDS-AP: 144.7 ± 9.7; GMS-AP: 136.86 ± 2.8. In addition, the polydispersity index (PDI) of all formulations was measured as <0.266. GTS based SLN was chosen for further investigations. The entrapment efficiency and drug loading percentage of apigenin were $95.1 \pm 1.4\%$ and $1.7 \pm 0.04\%$, respectively. Differential Scanning Calorimetry (DSC) and X-Ray Diffraction (XRD) suggested the amorphous state of apigenin within the formulation and confirmed the incorporation of apigenin inside the lipid matrix. The in vitro release kinetics under sink condition exhibited a biphasic release pattern. A low percentage of apigenin released over 24 h showed the ability for prolonged release.

Conclusion: It is concluded that the solvent evaporation and hot homogenisation are an efficient method of formulating apigenin in SLNs. The SLNs were considered to be a promising

carrier for sustained release and targeting system for apigenin. The tristearin form of the lipid was chosen as the best lipid matrix for apigenin SLN formulation. This is due to its multiple stearate chains which exerted a significant influence on the SLN size reduction, entrapment efficiency and sustained release of the drug.

Survey of some immunological and bacteriological parameters in Iraqi women infected with PCOS

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University of Mosul college of science biology department

Abstract

Background: Aim of this study to detect and analyse the microbium component of vagina in PCOS women and to determine serum IL-6.

Method: Sample Collection And Processing , This study was conducted in Nineveh Governorate, and the number of samples was (120) blood samples and (60)vaginal swabs. 60 blood ,vaginal swab samples were collected from women with polycystic ovary syndrome in hospitals in the city of Mosul (Al-Khansa Teaching Hospital and Al-Salam Teaching Hospital). While (60) blood samples were collected from healthy women and used as a control group, without vaginal swab, for the period between 10 November 2023 to 20 February 2024 in hospitals of Mosul City (Al-Khansa Teaching Hospital and Al-Salam Teaching Hospital). Included different age groups ranging from (18-45) years. Anticoagulant tubes and gel tubes were used to collect blood samples. 2ml from the blood was placed in tube treated with the anticoagulant substance EDTA(ethylene diamine tetra acetic acid) after being shaken kindly to prevent blood clotting and used to perform Complete blood counts(CBC), 3ml of blood added into gel tube to obtain serum to measure level of IL-6. Amies transport medium was used to collect vaginal swab samples by specialized gynaecologist from the lateral posterior vaginal fornix. Then, the samples were directly transported to the microbiology laboratory in the Mosul university following the standard laboratory procedures. Freshly prepared media (Nutrient agar, MacConkey agar, Blood agar, Chocolate agar) were prepared for isolation and identification of bacteria; the medium was inoculated with the swab and incubated aerobically and anaerobically at 37∘ C for 24 hours. All isolates were purified by sub-culturing and then Gram stain was applied for differentiation between isolated bacteria under oil immersion (100X). the isolated and purified bacteria was identified according to the bacterial morphology and colony characters. then, all isolated bacteria were identified by the VITEK-2 Compact bioMérieux, VITEK-2 cards were inoculated following the manufacturer's instructions and the freshly bacterial culture were used which have less than 18hrs age.

Result: The results of our study agreement with previous studies in close proportions such as local and international studies. IL-6 is a pleiotropic signalling inflammatory marker present in all cell types (Mukherjee et al., 2023). This cytokine modulates corpus luteum activity and influences the development of the fetus and sex hormone production (Graham et al., 2023). Increased IL-6 concentrations in serum were observed in PCOS patients causing IR. It has been explored that androgens elicit immune responses in obesity-related PCOS females (Mukherjee et al., 2023). A study explained that IL-6 poses adverse effects and is higher in PCOS women with infertility than in healthy controls (Kim et al., 2019). Elevated IL-6 levels are linked to IR and androgens, but not to BMI (Altonen et al. 2020). Our study's findings are in close agreement with earlier research, including both local and international studies like (Ibraheem et al., 2022 and Khadheir et al., 2023).

Conclusion: here is a diversity of microbiome of the high vaginal swab , as well as significant differences in interleukin -6 levels between the PCOS women and control group.

Keyword: polycystic ovary syndrome ,Interleukin -6, Vaginal swab .

Estimation of Serum Magnesium to Calcium ratio in Pregnant Women with Iron deficiency anemia

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[2]Al-Noor university College , Department of physical Therapy
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Abstract

The results of this research showed a decrease in serum magnesium and calcium levels (SMgL, SCaL) in the blood of pregnant women with iron deficiency anemia (IDA) in all stages of pregnancy, especially in the 3rd stage, compared to the corresponding stages in normal pregnancy, as well as a decrease in (SMgL.SCaL) in the blood of healthy pregnant women compared to the healthy group of non-pregnant women. The SMg/Ca ratio is significantly lower in the 1st, 2nd and 3rd trimesters of group II than in-group I (p < 0.001). The ratio is lower in the third trimester than it is in the second, which is lower than it is in the first, according to a comparison of the first, second, and third trimesters within group II. In comparison to the pregnant control group, the SMg/Ca ratio is greater in the first, second, and third trimesters of group III. Comparing the ratio between group III as a whole and group II as a whole, a significant difference is seen (p < 0.001). Within group III, a comparison of the ratios for the first, second, and third trimesters of pregnancy reveals that the third trimester has a lower ratio than the first. In comparison to non-pregnant women, the serum magnesium to calcium ratio (SMg/Ca) decreased in healthy pregnant women at all stages of pregnancy.

The study's findings revealed a substantial positive link between hemoglobin level and (SCal), (p<0.001), whereas there was a significant negative relationship with level of (SMgL), (p<0.001), in the second trimesters of normal pregnancy. Aim of this study: In women with iron deficiency anemia, this study intends to correlate blood magnesium and calcium levels with body composition and metabolic characteristics. The results of measuring the levels of these elements and the ratio of Mg/Ca can be used as additional laboratory tests to assess the anemia and its consequences for the fetus and newborn caused by iron deficiency in women during the period of time Pregnancy.

Keyword: Magnesium, Calisium, Pregnancy, IDA.

Exploring Attitudes of Undergraduate Nursing Students toward the Nursing Profession: A Qualitative Study at Mosul University

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Abstract

Background: The nursing profession has a vital role in healthcare delivery, and it's crucial to understand the attitudes of undergraduate nursing students. This understanding helps in effective recruitment, education, and retention of the future generation of nurses.

Purpose: This study aimed to explore the attitudes of undergraduate nursing students towards the nursing profession at Mosul University.

Method: A qualitative phenomenological design was implemented between 12, December 2023, and 25, February 2024. The methodology used a qualitative approach, which included in-depth interviews and thematic analysis for data collection and analysis. To select participants, a purposive sampling technique was employed, targeting undergraduate nursing students from Mosul University. Semi-structured interviews were conducted with a total of 25 participants, exploring their perceptions, beliefs, and attitudes toward the nursing profession. The data collected from the interviews were transcribed verbatim and subjected to thematic analysis.

Result: Nursing students expressed altruism, a desire to make a positive impact on others, and viewed nursing as a rewarding profession. Effective communication, building therapeutic relationships, and empathy were highlighted as important. However, they also expressed concerns about challenges such as long working hours and emotional burdens.

Conclusion: The study suggests that students have a positive view of the nursing profession. They see nursing as a rewarding and purposeful career path motivated by a desire to assist others. However, there are concerns about the difficulties and obligations associated with the profession. Additionally, social and cultural factors play a role in shaping the attitudes of nursing students, such as societal beliefs and stereotypes about nursing.

Keyword: Attitudes, Nursing, Students, Profession, Qualitative.

# The impact of VDR gene and biochemical indicators in osteoporosis

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Abstract

Osteoporosis is a disorder is caused by a bone remodeling imbalance in which bone resorption outpaces bone production, resulting in weaker bone structure. Factors such as heredity and insufficient calcium and vitamin D consumption.the current study aimed to show the impact of VDR gene and biochemical indicators in osteoporosis patient women in Mosul city.

Keyword: osteoporosis, VDR gene, calcium, sequencing and biochemical test.
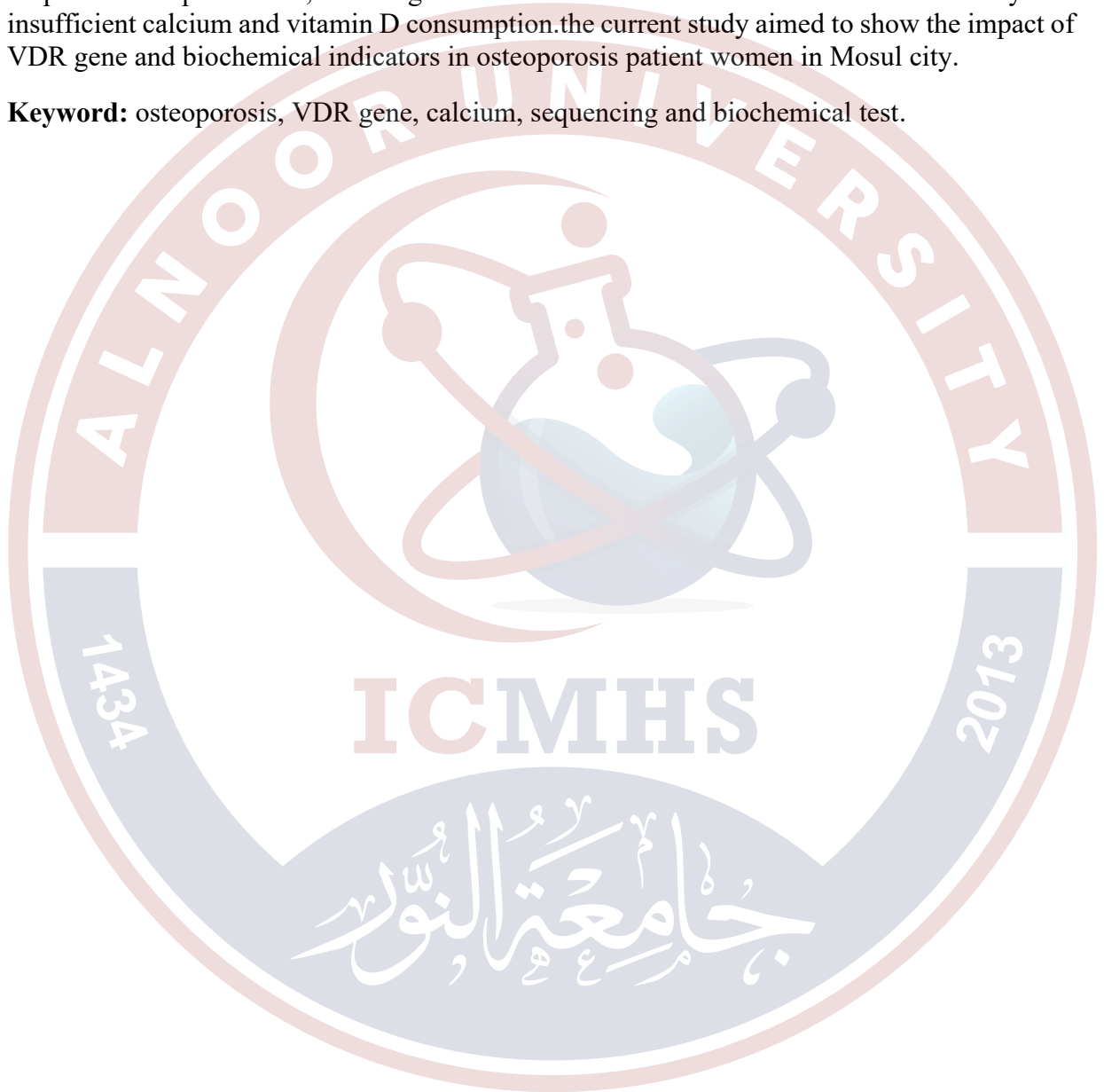
Exploring the Association of *Campylobacter jejuni* with inflammatory bowel diseases: insight from a clinical study

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Abstract

Background: Inflammatory bowel disease (IBD) is a class of chronic inflammation of the intestinal mucosa conditions and has idiopathic etiology. The IBD disease categories are Crohn's disease (CD) and ulcerative colitis (UC), both are distinct in some clinical and pathological characteristics and overlaping in others.

This study aimed to demonstrate a possible association between *Campylobacter jejuni* and IBD Iraqi patients.

Method: The study involved two groups. The IBD patient group consisted of 90 participants. This group was further classified into two subgroups: Crohn's disease (n) and Ulcerative colitis (n). The control group consisted of 90 healthy participants who had no history of IBD. Age and gender distributions in the IBD patient and control groups were computed.

Result: The association between IBD and *C. jejuni* was determined by identifying the bacterial infection using various detection methods, including culturing, biochemical tests and real-time PCR. The association was further assessed by comparing the symptoms of IBD patients and *C. jejuni* positive samples. Finding of the conventional identification showed 5% prevalence of *C. jejuni* among IBD patients whereas the real-time PCR results showed significantly higher prevalence. Based on real-time PCR results, a significant association was found between *C. jejuni* infection with IBD and UC patients (P value= <0.001). No significant differences observed in detection of IBD (UC and CD) using conventional and molecular methods.

Conclusion : The study provides valuable insights into a possible association between C.jejuni and IBD disease.

Keyword: C. jejuni, IBD, Iraqi, Culturing, Biochemical test, Real time PCR.

Clinical Learning Obstacles of Nursing Students at the University of Mosul: A Qualitative Study

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Abstract

Background: Clinical learning is a crucial component of nursing education, as it provides students with the opportunity to apply their theoretical knowledge in real-life healthcare settings. However, nursing students often face obstacles during their clinical experiences that can hinder their learning and professional development. The study aim to explore the obstacles that nursing students confront during clinical training.

Method: A qualitative phenomenological study design was used to reach the study's aim. The study was conducted in Mosul city and included 20 nursing students who were selected purposefully. A semi-structured interview with open-ended questions was used to collect the data, and content analysis was used to analyze the data.

Result: Three themes were extracted from participants that represent the main obstacles to effective clinical training for nursing students: inadequate clinical supervision, inadequate readiness of students, and an inappropriate clinical environment.

Conclusion: Overcoming these obstacles requires collaborative efforts from nursing education institutions, clinical instructors, healthcare facilities, and nursing students themselves. Strategies such as improving supervision and mentorship programs, increasing patient exposure opportunities, providing cultural competency training, implementing stress management techniques, and creating supportive learning environments can help address these challenges.

Keyword: Clinical learning; Obstacles; Nursing; Qualitative.

The hispathological changes in the lung tissues of Quail induced by Malathion

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Abstract

Background: The math is common Organophosphate pesticides are toxic agricultural chemicals that are applied to improve the agriculture productivity and kill various insecticides in the worldwide. The exposure of animals to math can often result in respiratory disorder and death (1)

The math can irreversible inhibit the Ach enzyme activity, binding with the serine hydroxyl and the enzyme is phosphorylated. The phosphorylated enzyme cannot hydrolyze ACh, resulting in the aggregation of Ach in synaptic cleft and death(2)math was splashed in a lot of cities to turn west virus(3) math applied over the last pair of pact on a steady basis to inhibite mosquitoes during some months of the year (4).

Veterinary use , Recent reports, citing effective control of poultry lice and mites obtained with math, indicate a need for further investigation of this promising compound (5)(6) It is supposed to kill the adult lice and the eggs, (8) The study was aimed at assessing the toxic effect of locally applied Malathion on histology in the lung tissues of common Quail.

Method: Experimental Quails:eighteen standard Quails (Coturnix coturnix) were taken from the market in Mosul, weighting between 200-300 g, housed of Exp. Research unit in the University of Mosul in the college of veterinary Medicine, below light , normal temperature and gived with food and fresh tap water. Every group were lived in hygienic cages of 1×1×1miter.The used of Malathion insecticide is Diluted 100g of Malathion with 900g of coal fertilizer and diffuse the mixtures under the winged between the feathers by rate 5g of Malathion to two wings was obtained from VAP Malathion -50 WP, Vapco, made in Jordon .

Expernmintal design: After 2 weeks of, surrounded environment and housing, the experimental Quail divided into three equals collection randomly with 6 birds for each: Group one: as a control group. Group tow: applied malation one day every week for 28 days.Group three: applied malation one day every two week for 56 days.

Result :1- Group one (Control Group). gross examination The lung was the size was normal and appearance and pink in color ,

2- Group tow :(treated every week for twenty eight days). visual examination The lung enlargement in size and dark red in color. Histological finding of lung histopathological changes as showed bronchial inflammatory exudate severe inflammatory hemorrhagic exudate in the alveoli , and necrosis in the bronchiole (fig.1), necrosis in the respiratory epithelium and severe inflammatory hemorrhagic exudate in the lumen of alveoli (fig.2,3),

Group three :(treated every tow week for fifty sex days),visual examination The lung enlargement in size and appeared deep gray in color .Histological finding of lung

Necrosis of the bronchial epithelial cells and severe inflammatory hemorrhagic exudate in the alveoli lumen (fig.4) severe inflammatory hemorrhagic exudate in the alveolar lumen with Infiltration of inflammatory cells with thickened the interstitium , hemosiderin-containing macrophage and emphysema (fig.5) (fig.6)(Figure .2) picture of Quail lung of group tow showing necrosis in the respiratory epithelium(black arrow) and severe inflammatory hemorrhagic exudate in the lumen of alveoli (blue arrow)(figure.1) picture of Quail lung of group tow showing bronchial inflammatory exudate (green arrow) severe inflammatory hemorrhagic exudate in the alveoli (blue arrow) , and necrosis in the bronchiole(black arrow).

Conclusion: Group tow showing histopathological changes as effective by the show of bronchial inflammatory exudate severe inflammatory hemorrhagic exudate in the alveoli , and necrosis in the bronchiole this result of there research similar to that reported by(9)

Necrosis in the respiratory epithelium and severe inflammatory hemorrhagic exudate in the lumen of alveoli this result of there research similar to that reported by (9) (10) group three showing Necrosis of the bronchial epithelial cells and severe inflammatory hemorrhagic exudate in the alveoli lumen hemosiderin-containing macrophage and emphysema severe inflammatory hemorrhagic exudate in the alveolar lumen and congestion of blood vessels with distention of alveolar space there research is similar to that reported by .severe inflammatory hemorrhagic exudate in the alveolar lumen(green arrow) and congestion of blood vessels with distention of alveolar space there research similar to that reported by(10).

Effect of Green Tea on Blood Pictures and Liver Functions in Male Quails Exposed on Stress

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Abstract

The current study is designed to investigate the impact of overcrowding alone and overcrowding with a Green Tea extract, on various physiological aspects of Japanese quails. To achieve that a total of 45 six-weeks-old male quails were used and divided into three main groups, the first control group was bred under normal conditions with a stocking density of (15 birds/1m), while the second group which had 15 birds divided in to three replicates (3*5) and subjected to abnormal stocking density of (75 birds/1m), the third group also had 15 birds divided in to three replicates (3*5) and also subjected to a same abnormal stocking (75 birds/1m) but supplemented with a Green Tea water extract as a drinking water. The breeding continued for 30 days before conducting a several analysis included body weight, liver weight, and a numerous serum and blood parameters as well as livers functions. The results revealed a negative effect of overcrowding on lymphocytes, bodyweight, total protein, albumin, and globulin as well as many hematological a parameters (Hb, PCV, RBCc , WBCc, MCHC), other parameters were increased in the overcrowding state like heterophil, basophil, liver weight, ALT, AST, MCV and NCH. While the treatment with Green Tea extract increased each of lymphocyte ,basophil, neutrophil, and monocyte, it also elevated the values of body weight ,total protein, globulin, and the majority of hematological parameters (Hb, PCV,RBCC, WBCC, MCHC), other were decreased like heterophil, ALT, MCV, and MCH.

Key word: Green tea, Overcrowding, Quail birds, stocking density

Association between the ABO blood group and hepatitis B virus infection among blood donors At the main blood bank in Mosul and accepted to published in the Malaysian Orthopaedic Journal

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Abstract

Background: Hepatitis B is a viral infection that specifically targets the liver and has the potential to result in both short-term and long-term illness. Even though there are sensitive screening tests that can detect the hepatitis B virus surface antigen (HBs Ag), PTH (post-transfusion hepatitis) does happen every once in a while .Amis of Study : The purpose of this study was to determine whether or not Donors with good health conditions who tested negatively for (HBsAg and anti-HCV also had HBV-DNA) in their serum samples. In order to determine if anti-HBc could be used to screen donated blood, we conducted an evaluation. Objectives: The purpose of this study was to determine how often healthy blood donors who tested negative for (HBs Ag and anti-HCV antibodies) in serum samples from the Nineveh Central Blood Bank in Iraq tested positive for anti-hepatitis B core (anti-HBc) and had HBV DNA in their bodies.

Method: Given that Iraq mandates (anti-HBc) detection. In order to determine whether there was an anti-HBc antibody I conducted this research examined (2,000) serum samples taken from (healthy blood donors) that were negative for HBs Ag and anti-HCV. Enzyme immunoassays (EIAs) were used to determine the titres of anti-HBc, anti-HBs, Hbe Ag, and anti-HBe antibodies in all samples that tested positive for anti-HBc antibodies. In addition to checking for HBs Ag, we used polymerase chain reaction (PCR) to check for HBV-DNA in any sample that came back positively for (anti-HBc) on its own or in combination with other markers for serology .

Result : Out of (2,000) blood samples, 20 (or 1% of the total) tested positive for anti-HBc. Out of 20 specimens tested positive for anti-HBc, 16 (or 80%) tested positive for HBV DNA. The average viral load was 3500 copies/millilitre. Out of the samples that tested positive for anti-HBc, 50% had Anti-HBs Ag, 25% had HBe Ag, and 30% had Anti-HBe Ag. Except for four out of sixteen individuals who tested positive for HBV-DNA, all of the liver function tests

came back within normal limits. The average levels of alanine aminotransferase (ALT) in (HBV-PCR) positive participants were (14 IU/l), whereas the levels of aspartate aminotransferase (AST) were (23.7 IU/l).

Conclusion : It is recommended that blood donors who volunteer regularly undergo testing for anti-HBc antibodies. If the test results are positive, it does not matter what the anti-HBs titer is. the blood donated should be destroyed.

Keyword: AST , ALT ,Hepatitis B virus, anti-HBc, , HBs Ag, HCV, RCR , blood bank.

Metabolic Outcomes in Samples of PCOS Reproductive Aged Iraqi Women Reversed by Oral Combined Metformin and Spironolactone Treatment

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Abstract

Background: One of the key factors in diagnosing polycystic ovarian syndrome (PCOS) women of reproductive age is the clinical metabolic outcomes value of LH, FSH, LH/FSH ratio, and Prolactin (Pr) after an average treatment time of three months with combined Metformin and Spironolactone.

Method: A retrospective observational study was conducted on 30 reproductive-aged women diagnosed with PCOS who underwent enzyme-linked immunosorbent assay tests of FSH, LH, and Pr before and after therapy. Women with elevated blood Pr, thyroid disease, Cushing's syndrome, and adrenal hyperplasia were excluded. We investigated patients, Pre-therapy and Post-therapy, regarding Metformin 500mg q.i.d/day and Spironolactone 50mg/day treatment.

Result: LH and Pr showed a significant decreased after combined treatment with Metformin and Spironolactone when compared with Pre-therapy (P = 0.0001, 0.0004), respectively, Menstrual Cycle/Year showed a significant increase in Post-therapy (P = 0.0001) and no significant change in body mass index and FSH parameter when compared Post-therapy with Pre-therapy (P = 0.297, 0.296) respectively, and a significant decreased and improvement in hirsutism and acne symptoms in Post-therapy when compared with Pre-therapy (P = 0.0001, 0.0073) respectively.

Conclusion: The metabolic outcomes and symptoms associated with PCOS, including LH levels, LH/FSH ratio, Pr levels, menstrual irregularities, hirsutism and acne, can be effectively normalised through a three-month combined Metformin and Spironolactone treatment regimen rather than prolonged administration. This complementary approach demonstrates significant efficacy in reversing these indicators to their normal physiological levels within a shorter timeframe.

Keyword: luteinizing hormone; metformin; polycystic ovary syndrome; prolactin; spironolactone.

Detection of IMP and VIM genes and evaluation the antibacterial activity of some ethanolic plant extracts in Carbapenem-resistant *Pseudomonas aeruginosa* isolated from burn infections .

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Abstract

Background : Carbapenem-resistant *Pseudomonas aeruginosa* has emerged as a life-threatening infectious agent worldwide and the most common cause of morbidity and mortality in burn patients. Carbapenemase genes are reported to be some of the most common mechanisms for carbapenem resistance in *P. aeruginosa*. Because of these concerns, it is increasingly necessary to find an effective and natural alternative treatment. Including the use of plant extracts to combat carbapenem-resistant *P. aeruginosa*.

In this study, the presence of metallo-beta-lactamase (MbL) genes of VIM family and IMP in carbapenem-resistant *P. aeruginosa* isolated from burn patients were determined and also the antibacterial activity of five ethanolic plant extracts were investigated.

Method: twenty carbapenem-resistant P. aeruginosa isolates were obtained from Mosul Specialized Center for Burns and Plastic Surgery . They were subjected to antimicrobial susceptibility testing by disc diffusion test.

Subsequently, MβL was detected by imipenem-EDTA combined disc test and PCR.Then evaluation of ethanolic plant extract by well-diffusion method and MIC by serial dilution method

Result: revealed that among 20 *P. aeruginosa* isolates, 17 (85%) were imipenem resistant. Among them , 11 (55%) isolates were positive for the imipenem-EDTA combined disc test. Seven (35%) isolates were positive for the VIM gene; No one (0%) isolate was carrying the IMP gene. None of the imipenem sensitive isolates carried the VIM or IMP gene. Evaluation of ethanolic extracts of *Punica granatum, Syzygium aromaticum*, *Rhus coriaria* L, *Thymus vulgaris* and *Curcuma longa* by well-difuision method revealed potentially effective with variable efficiency against the tested *P. aeruginosa* isolates. *Syzygium aromaticum* extract were the most effective and showed bacteriostatic and bactericidal activities with MIC's of 125mg/ml while *Rhus coriaria* L showed MIC reached to 200mg/ml, *Punica granatum* showed MIC 250mg/ml.

Conclusion: These plant extracts which proved to be potentially effective can be used as natural alternative treatment to eradicate Carbapenem-resistant *P. aeruginosa*.

Keyword: Carbapenem resistance, IMP gene, *Pseudomonas aeruginosa*, VIM gene, Antibacterial activity.

Dry eye syndrome : causes, symptoms and treatments available among different age groups in Iraq

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Abstract

Background: Dry eye is currently one of the most common ocular diseases. It can lead to ocular discomfort and even cause visual impairment, which greatly affects the work and quality of life of patients. Aims: To estimate the prevalence of dry eye syndrome (DES) among different age groups in Iraq.

Method: An online questionnaire contains 15 items was designed and included yes/no questions and short answers questions. Data was collected via sharing on instagram pages and telegram groups for three days.

Result: With 157 responses (80.3% females and 19.7% males), most of them are university students 45.9%, A large percentage (63.1%) of people felt poor vision, (82.2%) suffered from burning and itching in the eyes and (70.7%) were evaluated by a doctor. (64.3%) do not protect themselves from dry air.

Conclusion: The lifestyle is different from previous centuries, and this has led to the emergence of many diseases, including dry eyes. The most important causative factors are dry air, cigarette smoke, and electronic devices. It is possible to avoid these diseases by educating people through influential television programs, workshops, publishing posters, etc.

Keyword: Dry eye syndrome , visual diseases, Iraq , DES, lifestyle, students.

The curative potential of Petroselinum crispum seed aqueous extract on experimental pyelonephritis caused by Escherichia coli in Albino rats

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Abstract

Background: Urinary tract infection (UTI) is the most common nosocomial infection and the second common community acquired infection. Most UTIs are not sever, but the infection of kidneys is a serious problem that can damage kidney tissues. Uropathogenic Escherichia coli (UPEC) is responsible for 30% of nosocomial UTIs and 80% of community acquired UTIs. Due to the increase of antibiotic resistance in UPEC and increasing of chronic UTIs, many patients tend to use medicinal plants that have activity against UTIs.

The aim of the research is to assess the curative, nephrotoxic potential and renal histopathological effect of Petroselinum crispum seed aqueous extract in comparative with Ciprofloxacin to treat experimental UPEC pyelonephritis in rats.

Methods: 20 female rats were used in this study, UTI was induced by injection E. coli in the bladder and let them for 48 hr to ensure infection then treated for five days as follow: Group (1) was not infected nor treated as zero control. Group (2) was infected with E. coli as negative control. Group (3) was infected and treated orally with 500mg/kg animal body weight / twice daily of Petroselinum crispum seed aqueous extract. Group (4) was treated orally with 7.5 mg/kg animal body weight / twice daily Ciprofloxacin. Finally the rats were scarified to obtain kidneys and blood. The bacterial count in kidney homogenate was determined. The serum level of urea, creatinine, alkaline phosphatase and acid phosphatase were evaluated. The renal histopathological changes were also assessed.

Results: Treatment of animal models challenged with experimental E. coli pyelonephritis with Petroselinum crispum seed aqueous extract produce a reduction in the bacterial load of kidneys homogenates by 25.6% compared with Ciprofloxacin 33.5%. nephrotoxicity studies showed evidence of mild nephrotoxic effect as acid phosphatase was increased after the treatment. The renal histological analysis indicates little histological changes.

Conclusion: Petroselinum crispum seed aqueous extract was effective in treating experimental pyelonephritis in rats with the dose of 500mg/kg animal body weight orally / twice daily for

five days.

Keyword: Petroselinum crispum, Escherichia coli, pyelonephritis, nephrotoxicity.

Coexistence of Atopic Allergy and Mycoplasma pneumoniae

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Abstract

Background: Allergens are common harmless environmental antigens that cause hypersensitivity reactionsmediated by IgE antibody (Type1 allergy),The overuse of macrolides is largely to blame for the rise in macrolide-resistant M. pneumoniae pneumonia (MRMP). The treatment of severe complex MRMP with corticosteroids does not necessitate changing the antibiotic. In children with mild to moderate CAP, empirical macrolide therapy may not give additional benefits over -lactam therapy and may raise the risk of MRM .

So the current study aimed to clarify the relationships between immune response to common allergens used in this study, and the correlation between M. pneumoniae infections and Atopic allergy in Mosul/ Iraq and to screen its sensitivity to antibiotics which used in treatment and comparison between serological diagnosis and cultural methods.

Method: Isolation and identification of M. pneumoniae:- Patients who showed immediate hypersensitivity reactions (Atopic) were subjected to Prick skin tests by using common and standard allergen solutions (ALK - Prick Test allergen/Turkey).The total IgE level and specific IgM of Mycoplasma pneumoniae(M. pneumoniae) were carried out.

Result: The Geometric mean of total IgE level was (117.6 ±125.46) I.U/ml. Overall 16 atopic patients were cultured positive (seronegative) and 15 were seropositive (culture negative) for M.pneumoniae, all patients had elevated serum total IgE level over the cut off by 10 I.u/ml. It was concluded that M. pneumoniae infection caused significant difference at $P>5\%$ in total serum IgE level in atopic patients in comparison to non-atopicpatients.

Conclusion: Relationship between allergy and M. pneumonia Percentage of infection with M. pneumoniae in patients positive to Prick Skin Test according to Sex, Residence, Occupation, smoking, Family history and Infection with Asthma.The females are more affected by allergy due to their stay at home for long periods of time which consist of smallclosed environment and they deal more with children whom are more affect by this type of bacteria. There is no significant difference between male and female in infectivity, as well as in children under the age of five years.

Keyword: Allergy, Mycoplasma pneumonia, Atopic, IgE ,IgM and IgG .

Association of oral and arterial microbiota in atherosclerosis using molecular diagnostics

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Al Noor University

Abstract

Background: Numerous studies have shown the presence of bacterial pathogens in atherosclerotic plaque. Pathogens can lie dormant or grow in cells like macrophages, causing a prolonged inflammatory response. On the other hand, individuals with cardiovascular disease may have similar periodontal pockets and atheromatous plaques in terms of microbial diversity. Microbial diversity differed significantly between the two settings.

Method: samples were taken from patients who underwent PCI (18 balloons samples during angioplasty, 18 saliva samples) after being diagnosed by a cardiologist at Mosul Center for Cardiology and Cardiac Surger based on chronic coronary syndromes (CCS) guidelines, from the direct DNA extraction of the sample.

Result: DNA was extracted directly from 24 balloon (12), and saliva (12) samples special primers were used to detect the relationship between oral and dental health and atherosclerosis, In the designed research, the primers mentioned a product size of 376 base pairs, but what we observed was a size of 476 base pairs, after comparing the results with strains present in the global strain bank, the following results were taken obtained, and all samples were given a positive and identical result between saliva samples and The balloon, percentage of matching was 100%, and the isolates were.

Conclusion: The association of bacteria with Atherosclerosis. Bacteria isolated from saliva can be an indicator of cardiovascular disease, and Atherosclerosis, especially those related to the two genera of Helicobacter, and Campylobacter, as both genera are also associated with diseases of the digestive system. Detection of several types of bacteria that affect the development of Atherosclerosis and its clinical complications, and this is evidence that they are linked to bacteremia.

Keyword: atherosclerotic plaque; cardiovascular disease;periodontal.

Study of Fungal contamination of some medicinal plants and food covered for Mosul

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Abstract

Background: study of Fungal contamination of some medicinal plants and food covered for Mosul.

Method: 1.Isolation and diagnosis of fungi isolate and diagnose fungi from juices :In the case of liquid juice, 1 cm3 of it is taken and added to 9 cm3 of distilled water in a glass bottle to get relief 10-1 and continue to dry up to 10-4.1 cm3 is taken From dilutions 10-3 and 10-4 to petri dishes and p.D.A. environment casting, incubating dishes at 25 om temperature for 7 days and observing the growth of yeasts and molds. In the case of dried (7)

2. Isolating and diagnosing fungi from red, white and fish meat:Weigh 1 g of meat or fish sample.Place the weighted sample in an electric mixer and add 9 cm3 of distilled water and then mix for 5 minutes to get suspended with a dilution of 10-1 and be afraid using a sterile absorbent by transferring 1 cm3 of suspension to a glass tube containing 9 cm3 of distilled water sterilized to get relief 10-2 and continue to scare until dilution 10-3. Detection of the presence of yeasts and chastity: By transferring 1cm3 of dilutions 10-2 and 10-3 to petri dishes and pouring the P.D.A environment and incubating the dishes at a temperature of 25 OM for 7 days and observing the growth of yeasts and molds.

3.Isolating and diagnosing fungi from rice and some legumes: Rice and some legumes (chickpeas, beans, lentils) were taken and planted on the center of P.D.A. and incubated at 25 OM temperature for 7 days and observed the growth of yeasts and molds.

4.Isolation and diagnosis of fungi from medicinal herbs and tea: Samples of some types of medicinal herbs found in the local market have been sampled and planted on the center of P.D.A. and incubated at 25 OM temperature for 7 days and observed the growth of yeasts and molds.

Result: plants, spaghetti, pasta, anddomy, pistachios, currants and almonds collected from local markets in Mosul were the most isolated fungi from juices: yeasts and Penicillium spp fungus (25%) in both Saudi Captain juice and Jordan's Rowan. In Moroccan tank juices, Penicillium sp fungus were isolated by 12.5%, penicillium roqueforti fungus were isolated from Turkish Levance juice by 12.5%, while Yemeni-made quality juice, Kuwaiti Dalia juice and Jordanian Zaki juice were isolated. No type of fungus was isolated from it and the fungus was isolated from some types of frozen red and white meat and the results showed that both yeasts and Penicillium sp. fungus are the most isolated fungi, they were isolated by 33.33% of Turkish chicken meat, Penicillium spp fungus were isolated from fish meat by 16.66 percent, cladosporium spp fungi were isolated by 16.66 percent of roast meat, while the rest of the meat (Saudi kebabs, sausages and humberkers) were not isolated from them. From the isolation of fungi from pasta, spasket and andomi, the results showed that the highest isolation rate was (66.66%) for both Alternaria sp fungus and Penicillium spp fungi in Saudi-made anddomy, while Aspergillus spp fungus were isolated by (33) 33% of the spaghetti is Turkish-made, but pasta has not isolated any type of fungi, and from the isolation of fungi from pistachios, currants and almonds, the results showed that the highest isolation rate was for both yeasts and afan, which amounted to (50%) in pistachios. Internal and currants, The isolation of fungi from rice and some legumes has shown the results to be the highest insulation rate for both A.niger fungi, Penicillium sp. Fusarium sp., Bacillus sp. reached (100%) of rice, chickpeas Rhizopus spp, Fusarium spp. and A.niger were isolated by 75%), Rhizopus sp mushrooms were isolated from lentils by (25%), beans were isolated from yeasts, advan and A.niger mushrooms by (75%),Fungi have been isolated from some types of medicinal plants all showed different types of isolated fungi, where both rhizopus sp mushrooms and Penicillium sp. A.niger has the highest isolation rate (18.75%) in corn, thyme and mirmian sycathing, fungi have been isolated by (12.5%) in other plants. In chamomile A.niger and Gliocladium spp were isolated. In the pond grain, Mcur spp and A.niger mushrooms were isolated and A.niger sheep were isolated from saffron, and isolated Yeasts and coriander abscesses Rhizopus spp and Fusarium spp were isolated from tea, while the lowest isolation rate was (5.88%) where Rhizopus spp fungi were isolated from the ring. Mucor spp were isolated from the strong and mountain mint, while in the Marmki plant, penicillium spp fungi were isolated.

Conclusion: The isolation of fungi from food is evidence of food contamination of these fungi, some of which may be the product of toxins on human health, and the supply and storage of food, especially spices, may be the main reason for providing the right conditions for contamination of moisture and heat.

Phenotyping and molecular identification of some uropathogenic bacteria isolated from pregnant women in Mosul ,Iraq

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Abstract

Background : Recently, the world's problem has become in the spread of microbes and the extent of their impact on public health, especially the problem of urinary tract infections (UTIs). Therefore, the purpose of the study was to clarify the extent of infection at pregnant women of the urinary tract and the extent of development of these microbes in resistance to antibiotics (antibiotic susceptibility pattern).

Method: all isolates were diagnosed based on the cultural and phenotypical characteristics of the bacterial colonies on agar media and also by using biochemical tests. Then confirmed using the Vitek-2 system and molecular techniques based on 16S rRNA.

Result: 30 urine samples were collected from pregnant women in the different months of pregnancy, 22 women were infected with bacterial pathogens, while 8 women had no infection. among Gram-negative bacteria, the most common isolated bacteria were E. coli (50.0%) followed by Klebsiella pneumonaie (41.6%), and between isolated Gram-positive bacteria Staphylococcus aureus (70%) was the predominant bacterium. Five types of antibiotics were used in this study Cefotaxime, Ceftazidime, Norfloxacine, Ciprofloxacin, and Trimethoprime.

In gram-positive and negative bacteria Cefotaxime, Ceftazidime was the highest resistance with 50%,45.4% respectively.while Trimethoprime show the lowest resistance with 9%.

Conclusion: different bacterial species contribute to UTIs, almost of them poses resistance to most common antibiotics, makes it difficult to treat UTIs .

Keyword: UTIs,Pregnants, Antibiotic susceptibility.

Study of oxidative stress in patients with neurological diseases in Mosul City

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Abstract

Background: The central nervous system is very sensitive to the oxidative stress process due to the low levels or capabilities of antioxidant enzymes and the consumption of oxygen in high quantities, especially in the brain, which makes it more susceptible to oxidative stress and that this increases the compounds resulting from harmful oxidative processes and toxicity, which makes the use of the GST enzyme in high quantities and its level rises, and that the different levels of this enzyme and its changing functions have been studied in many diseases such as Alzheimer's disease, Parkinson's disease, epilepsy and stroke. The research included studying the levels of some oxidants and antioxidants in the serum of patients with neurological diseases in Mosul city such as Alzheimer's, Epilepsy and Migraine, which include of these enzymes : antioxidants and oxidants parameters for Glutathione, ceruloplasmin, malondialdehyde, and peroxynitrite were measured in the male patient group who suffered from neurological diseases in Mosul city.

Method: Determination some oxidants and antioxidants levels in serum of Alzheimer's, Epilepsy and Migraine, which include: Glutathione, ceruloplasmin, malondialdehyde, and peroxynitrite in the male patient, Samples reached (144), which included group of male patients (97) and a group of normal persons who were in numbers (47).

Result: When study of oxidant and antioxidants case for patients showed a significant decrease in the level of glutathione level and a significant increase for the parameters malondialdehyde, peroxy nitrite for Alzheimer's, epilepsy and migraine patients when compared with the control group, Beside of significant increase ceruloplasmin in Epilepsy patients and no significant difference in Alzheimer's and Migraine patients.

Conclusion: The study showed that there was an increase in the levels of oxidant compounds and a decrease in the levels of antioxidants in patients with neurological diseases, which may

constitute one of the causes of the occurrence of neurological diseases, especially in patients with Alzheimer's and epilepsy, respectively, in the city of Mosul.

Hydrogen Sulfide and Cystathionine γ – lyase with Oxidants and Antioxidants Levels for Patients with Epilepsy Diseases

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Abstract

Background: Hydrogen sulphide(H_2S) is endogenous gaseous signal molecule in organisms is the 3rd endogenous gasotransmitter followed by NO and CO is primarily produced by cystathionine γ-lyase(CSE), play important roles in both pathological and physiological effects. Epilepsy (EP) is one of the most prevalent and serious brain disorders. Over 70 million people worldwide suffer from epilepsy. Oxidative stress plays an essential role in various types of neurological and non-neurological diseases.

Method: Determination H_2S and CSE with some oxidants and antioxidants levels in serum of EP patients which include: malondialdehyde(MDA) , peroxynitrite ($ONOO^-$), glutathione(GSH) ,total billirubin (TB), albumin (Alb) and uric acid (UA),were measured in the patient group who suffered from EP disease, Samples reached (116), which included: (56) samples for EP patients group and (60) for control group, using spectrophotometric methods.

Result: Showed there was a significant decrease in the levels of H_2S, CSE, GSH and TB and a significant increase in the levels of MDA, ONOO-, Alb and UA in serum for EP patients when compared with the control group.

Conclusion: H_2S produced within the body and CSE suffer from low levels within the body, and they also decrease with the increase in the duration of the disease as a result of their use as protective functions in the body against epilepsy disease and developing it, by observing the levels of oxidants and antioxidants compounds, and stimulating the body to increase their levels (H_2S, CSE) in various ways can lead to improving the health condition of EP patients.

Keyword: Epilepsy disease, Hydrogen sulfide, Cystationine γ –lyase, Oxidative stress, Antioxidants.

Variations in plasmid content and antibiotic resistance in *Escherichia coli* isolates from the normal human intestinal flora and clinical sources.

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Abstract

Background: The current study was conducted with the aim of investigating variations in plasmid content and antibiotic resistance in *Escherichia coli* isolated from the normal flora of the human intestines of newborns children and adults, compared with pathogenic bacteria isolated from clinical sources.

Method: The bacteria were isolated and diagnosed from stool samples using phenotypic methods (microscopic, cultural and biochemical) and the diagnosis was confirmed with the VITEK system.

Result: showed that all studied normal flora isolates possessed plasmids, with variation in the number of plasmid bands ranging between (1-4) bands compared to pathogenic isolates, which some of them did not possess plasmids (4 isolates), while the rest of the isolates possessed plasmids with plasmid bands ranging between (1-3) bands. The results of the antibiotic susceptibility test showed that both groups of bacteria, (normal flora and pathogenic), have high and multiple resistance to most of the studied antibiotics.

Conclusion: We conclude from this study that normal flora of *E. coli* , whether isolated from newborn children or adults, possess the same risk and pathogenic importance compared to pathogenic bacteria isolates if an opportunistic condition is present in the same person or when they reach other people.

Keyword: *E. coli* , normal flora, plasmids , antibiotics.

Determination of the Laboratory Tests and Clinical Characteristics among End-Stage Renal Disease Patients at Dialysis Units

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Abstract

Background: Hemodialysis treatment is necessary for patient survival. This imposes a considerable burden on both patients and their families. Which can also be worsened by several other complications. The study aimed to assess the laboratory tests and clinical characteristics of end-stage renal disease in Dialysis Units.

Method: A descriptive study design was selected. The study started on the 15th of October 2022 and ended on the 20th of April 2023. A purposive sample of 200 patients participated. A study was conducted in three Mosul City hospitals. Data was collected through a questionnaire, which was prepared, and analyzed by the Statistical Package for Social Science Version 26.

Result: The current study found that blood sugar, serum creatinine, and blood urea nitrogen are higher than the normal limit (52.5%), 96%, and 85.5%), respectively. While the hemoglobin is less than the normal range (87%), an increase in cases of renal failure, swelling of the feet, loss of appetite, problems urinating, nausea, vomiting, and muscle aches are common symptoms.

Conclusion: Laboratory tests of kidney function are higher than the normal limit. There is a statistically significant relationship between the number of dialysis times, marital status, and smoking concerning demographic variables. The study recommended adherence to preventive measures to prevent the diagnosis of new cases continuous follow-up of patients, and monitoring of their health status.

Keyword: Laboratory Tests, Clinical Characteristics, Hemodialysis, End-Stage Renal Disease.

Potential risks of nitrate and fluoride ions to human health: A case study of drinking waterfor some neighborhoods on the left side of Mosul city

Qamar mohmmed   Al_zuhairy , Yusra M. S. Al-Shaker , A.Y.T. Al-Saffawi

Abstract

The current study aims to evaluate the potential health risks to humans resulting from the presence of levels of fluoride and nitrate ions in the drinking water supply of Al-Andalus, Alsherta and Mohandessin districts in the left side of Mosul city. 30 sites were identified to collect 180 water samples for the period from July 2023 to January 2024, to measure the concentrations of both nitrate and fluoride ions, the chronic daily intake (CDI) and its risk quotient (RF) were calculated to evaluate the health safety of drinking water for age groups: (infants, children, adolescents, youth, pregnant women in the first months, and elderly females and males). The results of the study indicated that the concentration levels of nitrates and fluorides ranged between (2.923 ± 0.736 to 3.932 ± 1.406) and (0.357 ± 0.070 to 0.428 ± 0.071) ppm, respectively. As for the results of the Nitrate Pollution Index (NPI), the values did not exceed (-0.612), thus the quality of the water studied is clean water.

Fortunately, all the risk quotient values for nitrates and fluorides were within safe levels (less than 1.0) for all age groups, as the risk quotient values for nitrates and fluorides were high for 3-month-old children, reaching (0.3682 and 0.0572), followed by infants, reaching (0.3200 and 0.0500). Then children aged 6-12 months, reaching (0.2954 and 0.0462), respectively. While the Teenagers group was less affected than the rest of the age groups studied, as the values did not exceed (0.0802 and 0.0125), and as for the elderly, females were more affected than males, with the risk quotient values reaching (0.1036 and 0.0170), while the values did not exceed (0.0978 and 0.0160) for males, respectively. In general, the studied drinking water does not have negative health effects on the age groups mentioned. These results help in developing appropriate strategies for the comprehensive management of water resources, by providing scientific data to the competent authorities for decision-making and management of water resources for use in drinking water supplies.

Effect of Atorvastatin on Indomethacin-Induced Gastric Ulceration in Rats: Role of NO and Gastric Motility

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Abstract

Background: Gastric ulceration is considered the major side effect of NSAIDs by inhibition of prostaglandin synthesis, prostaglandins enhance circulation in the mucosal layer and inhibit smooth muscle hypermotility, Studies have shown that indomethacin could induce GIT ulceration not only by inhibiting protective mechanism but also by enhancing gastric motility. Atorvastatin is commonly used hypolipidemic agent, in addition to its therapeutic use for hypercholesterolemia, it has many beneficial pleiotropic effects actions like anti-inflammatory and antioxidant action, it may also have smooth muscle relaxant effect. **Aim:** The present study was designed to examine the gastroprotective effect of atorvastatin in rats pretreated with indomethacin.

Method: forty-five rats weighing between 25-40 g were used and treated as follows. First group solvent for 5 days and the last day saline as a control, second group solvent for 5 days and the last day indomethacin, third group simvastatin 5 days and last day saline, fourth group atorvastatin 5 days, and the last day saline, fifth group simvastatin 5 days and the last day indomethacin, sixth group atorvastatin 20mg for 5 days and the last day indomethacin, seventh group atorvastatin 40mg for 5 days and the last day indomethacin. All results were analyzed by Two-Way ANOVA. Data is presented as mean ±SE. When result is significant post hoc test Bonferroni was performed.

Result: Showed that indomethacin induced ulceration with increased malondialdehyde (MDA), decreased in NO and enhanced gastric motility. By contrast, atorvastatin dose dependently reduced indomethacin ulceration enhanced NO level, decreased malondialdehyde (MDA) and inhibit gastric motility.

Conclusion: Atorvastatin protect inhibit indomethacin induced gastrin ulceration by enhancing NO level and secondary to inhibit gastric motility.

Keyword: Gastric ulceration, indomethacin, Atorvastatin, gastric motility, Nitric oxide.

Exploring the Relationship Between Demographic Characteristics and Adults' Knowledge about Hypertension in Sinjar region

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Abstract

Background: Hypertension is considered one of the most serious diseases in the world, due to its widespread and severe consequences. A person's knowledge about this disease plays an essential role in its prevention and control. This cross-sectional study was conducted to measure adults' knowledge about hypertension disease in Sinjar region for period from 20 of March 2023 to 7 of September 2023.

Method: The study included the use of a convenient sample of 180 adults attending Sinjar General Hospital. The data was collected by adopting the hypertension knowledge test scale (HK-LS), and by using the interview method.

Result: Based on the study's results, the majority of participants (55.6%) were male, with a mean age of 42.09 ±13.83 years. 41.7% of the participants had hypertension, and more than 61.7% of them had a family history of this medical condition. Lastly, the study demonstrates that there was a highly significant link (p<.05) between participants' awareness of hypertension disease and their educational background (48%), employment position, and family history of hypertension (60.5%).

Conclusion: The current study concludes that majority of persons in the Sinjar region had a family history of hypertension and were jobless. An individual's educational background, career, and family history of hypertension are positively connected with their degree of hypertension knowledge.

Keyword: Hypertension, Knowledge, Adult, Relationship, prevention.

Phytochemical screening , antimicrobial activity, and antioxidant efficacy of alcoholic extract of Saussurea costus roots

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Abstract

Background: Diseases in their essence are non-curable and the underlying pathogenesis is bidirectional of inflammation and oxidative stress. Fighting oxidative stress and inflammation should be the target for any first-line therapy perhaps via chemical or herbal therapy.

Aim In the present study, we aimed to identify the antioxidant and antibacterial activity of Saussurea costus roots.

Method: To do so, alcoholic extract of Saussurea costus roots was tested for their antioxidant activity using diphenyl picrylhydrazyl (DPPH) and antibacterial effects on a few common bacterial species ("Staphylococcus aureus, Escherichia coli, Pseudomonas aeruginosa, and Proteus spp.").

Result: The results confirmed that extracts of Saussurea costus roots have antioxidants and antibacterial activity and the outcome confirmed that principle compounds could be separated and/or synthesized to be antibacterial activity.

Conclusion: the Saussurea costus roots could be a source for the discovery of the nucleus of new antibacterial drugs for clinical use.

Keyword: Saussurea Costus, Saussurea Lappa, FTIR, DPPH, Antibacterial.

Mother's Information About Dangerous uses Herbal Sagwa in Mosul City

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Abstract

Background: About 28% of all deaths in children under the age of five are related to gastroenteritis. Herbal medicine, known as "Sagwa" in Iraq, is one of the methods used to cure gastroenteritis in our nation, primarily in rural regions. to compare the mothers' demographic information with the information on sagwa usage and misuse in instances of acute diarrhea at Ibn Al-Atheer Teaching Hospital for Children.

Method: The design (descriptive study) was carried out to Assessment of mothers' knowledge about the use of Sagwa in children in Ibn Al-Atheer teaching Hospital. The study started from 1st January to 1st May 2023. The data were gathered between February 2 and February 27, 2023, and the spss26 analysis program was used to enter and statistically evaluate the samples.

Result: mother age (29-19) are more than other ages, respectively NO, % (49, 32.7%) While the mother occupation housewife (103,68.7%), and mother marital status married (123,82%). In our study shows that highly significant relationship (p-value=0.001) between mother education levels and total score.

Conclusion: There is a very high lack of knowledge about the use of wrong substances in the treatment of acute diarrhea among mothers in the city of Mosul.

Keyword: Mother, Knowledge, Sagwa, Children.

Prevalence of Obesity and Overweight Among Elementary School Students in Mosul City

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Abstract

Background: Obesity is a major public health problem all over the world. It has become a global epidemic in both industrialized and developing countries. The dramatic increase in the prevalence of obesity among school children is associated with significant health and financial burdens, warranting strong and comprehensive prevention efforts.

Aim: This study aimed to determine the prevalence of overweight and obesity among secondary school students in the city of Mosul.

Method: A cross-sectional study was done on secondary school students in Mosul City, Iraq for studying the prevalence of overweight and obesity. Total Purposive sample (424) students were collected from 4 randomly selected secondary schools in Mosul city for a period between 15th of December 2022 to 15th February 2023. Weight and height were measured for all students and (BMI) was calculated for each one. Data about age, gender, family history of obesity, number of daily meals, and hours of TV watching were collected by a special questionnaire paper.

Result: The prevalence of obesity in this study was 17.4%, overweight 11.8%, underweight 5.9%, and normal weight found in 64.9% of the study sample.

Conclusion: Most of the participants in this study were 13 - <15 years of age with a rate of forty-two percent.

Recommendation: Educational sessions in health centers for families to explain the risk of obesity, healthy diet programs and the benefit of daily exercise.

Keyword: Prevalence, obesity and secondary school.

Biogenic synthesis, characterization, along with investigated Cytotoxicity and antibacterial activities of silver nanoparticles using twigs of *Polyalthia Sclerophylla*

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Abstract

Background: Due to the unique properties that possess by silver nanoparticles (AgNPs), and one of the most important of these properties is the high effectiveness against bacteria, which encouraged researchers to find easier and non-toxic ways to prepare it. Nonetheless, the current investigation assessed the chemical, physical, and biological characteristics of AgNPs produced by biogenic synthesis.

Method: The twigs of polyalthia sclerophylla (P. sclerophylla) was used as an initiator, and silver nitrate (AgNO3) as a reducer. The prepared samples were named as AgNPs-a and AgNPs-b. Physical-chemical approaches were employed to characterise the produced samples. AgNPs were tested for cytotoxicity against fibroblast cell line L929 using the Alamar blue assay, while the evolution of the antibacterial activities was against gram-positive Lactobacillus and Bacillus, gram-negative Salmonella and Shigella.

Result: According to the data, AgNPs-a had a wavelength of 434 nm, and AgNPs-b had a wavelength of 454 nm. SEM and STEM pictures revealed that the prepared samples had spherical forms. AgNPs-a and AgNPs-b had different diameter sizes: 47 nm to 77 nm for AgNPs-a and 40 nm to 90 nm for AgNPs-b. After 24 hours, prepared samples revealed that over 89% of the Mg-63 cells were available for all concentrations. When compared to both bacteria, AgNPs-a demonstrated more significant suppression of bacterial growth.

Conclusion: The current research showed that produced, non-toxic samples might function as antibacterial agents at nanoscales that are safe for application in the biomedical and medical domains.

Keywords: *AgNPs, Polyalthia Sclerophylla, twigs, Biogenic method, Cytotoxicity study, antibacterial.*

Correlation of D-dimer with the Severity of COVID-19 in a Sample of Iraqi Patients in Diyala Governorate

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Abstract

The novel coronavirus disease (COVID-19) is an infectious disease that results in acute respiratory infection or the so-called novel coronavirus (SARS-CoV-2). At the end of 2019, the Corona virus spread rapidly in almost all countries, which led to the imposition of measures of complete distancing and social distancing.

Activation of intravascular coagulation is a common feature of disseminated intravascular coagulation in patients with covid-19. To find out if there is a clot inside the blood vessels (DIC) or if there is a clot inside the lung (pulmonary embolism) of the affected person, this is done by detect level of (D-dimer) in the serum of patients.

This study was conducted to investigate the relationship between D-dimer and disease severity in Iraqi patients infected with (SARS -CoV-2) . Samples were collected from Baladruze General Hospital / Diyala and the confirmed epidemiological hall (Al-Shaheed Mortada). The total number of the sample is (100) samples, 50 of which are from people in critical condition in quarantine halls and 50 samples are from healthy people not infected with covid-19 to determine the level of D-dimer.

The results of the statistical analysis showed a significant difference in the level of (D-dimer) between infected and non-infected peoples, that the mean D-dimer was $3,0977 \pm 2,81828$ in the infected peoples, and mean D-dimer among non- infected people, 0.2560 ± 0.13611 with high significant ($p < 0.0001$). It was concluded that there is a relationship between (D-dimer) and disease severity, and it can be used as an indicator of disease progression, taking into account some cases in which the D-dimer level is elevated.

Keyword: D-dimer, COVID-19, fibrinolysis.

Separation and Identification of phenolic compounds in Aleppo Oak -Nut Gall (apple) and study its effect on types of Bacteria and Candida

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Abstract

Background: This study investigated the phytochemical screening and antibacterial activity against various microorganisms including E. coli, Staphylococcus aureus, Klebsiella pneumoniae, Enterococcus faecalis, and Candida albicans. Active compounds were isolated and identified from Aleppo Oak Gallnut, obtained from the Iraqi plant Quercus Infectoria L.

Method: Plant extracts were prepared using a continuous extraction apparatus, Soxhlet, with a successive solvent system based on polarity differences, including petroleum ether (60-80°C), ethanol (78°C), and hot aqueous extracts. Acid hydrolysis was performed on the raw ethanol and hot water extracts to obtain free phenolic compounds, including Gallic acid, Apigenin, Rutin, Kaempferol, Chlorogenic acid, and Caffeic acid, using high-performance liquid chromatographic (HPLC) technique.The inhibitory activity of Aleppo Oak Gallnut extracts (Ethanol and Hot Aqueous) after acid hydrolysis was tested using four concentrations (25%, 50%, 75%, 100%) against various microorganisms.

Result: The Ethanol extract exhibited a significant inhibitory effect on Enterococcus faecalis. The Hot Aqueous extract showed a modest inhibitory effect on Enterococcus faecalis. The Ethanol extract demonstrated strong inhibition against Klebsiella pneumoniae. The Hot Aqueous extract at 100% and 75% showed high inhibition. The Ethanol extract exhibited significant inhibitory effects against Staphylococcus aureus at 100%. The Hot Aqueous extract at 75% and 100% demonstrated weaker inhibition against Staphylococcus aureus. The Ethanol extract demonstrated weaker inhibition against E. coli, and the Hot Aqueous extract showed no effect at 50% and 25%, and slight inhibition at 100% and 75%. For Candida albicans, the Ethanol extract showed minimal inhibition at all concentrations and no effect at 25%. The Aqueous extract had a slight effect at 100% and no inhibition at 75%, 50%, and 25%.

Conclusion: Aleppo Apple (Nut Gall) constituents has the most astringent non-poisonous features of plant byproduct, it seems that it didn't take its chance in further studies. Being a safe self-defence naturally secreting substance .

MicroRNA-155 and cancer metastasis: Regulation of invasion, migration, and epithelial-to- mesenchymal transition

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Abstract

Background: Among the leading causes of death globally has been cancer. Nearly 90% of all cancer-related fatalities are attributed to metastasis, which is the growing of additional malignant growths out of the original cancer origin. Therefore, a significant clinical need for a deeper comprehension of metastasis exists. Beginning investigations are being made on the function of microRNAs (miRNAs) in the metastatic process. Tiny non-coding RNAs called miRNAs have a crucial part in controlling the spread of cancer. Some miRNAs regulate migration, invasion, colonization, cancer stem cells' properties, the epithelial-mesenchymal transition (EMT), and the microenvironment, among other processes, to either promote or prevent metastasis. Tiny (19–25 nt) non-coding single-stranded RNAs called microRNAs (miRNAs) control target genes' expression through imperfectly attaching to their 3′ untranslated region (UTR) . Given that a single miRNA might target hundreds of genes and that a single target gene typically has a large number of miRNA binding sites, it is believed that over sixty percent of all human genes are directly regulated by miRNAs.

Method: Quantitative real-time polymerase chain reaction RT.PCR was performed to the expression level of miR-155 and EMT-related gen

Result: Expression of miR-155 in different tumor tissue. The type was increased significantly compared with adjacent normal tumorous tissues. It has been discovered that altered miR-155 expression is connected to several physiological and pathological processes, including metastasis. miR-155-mediated signalling pathways were identified as possible cancer molecular therapy targets. The current research on miR-155, which is important in controlling cancer cells' invasion, and metastasis as well as migration, will be summarized in the current work.

The crucial significance of the lncRNA/circRNA-miR-155-mRNA network as a crucial regulator of carcinogenesis and a player in the regulation of signaling pathways or related genes implicated in cancer metastasis will be covered in the final section. These might provide light on the creation of fresh treatment plans for controlling cancer metastasis.

Conclusion: The crucial significance of the lncRNA/circRNA-miR-155-mRNA network as a crucial regulator of carcinogenesis and a player in the regulation of signaling pathways or related genes implicated in cancer metastasis will be covered in the final section. These might provide light on the creation of fresh treatment plans for controlling cancer metastasis. Its oncomiR function makes it a desirable therapeutic target, as downregulating the overexpressed miRNA has more therapeutic potential comparing to enhancing an overexpressed miRNA.

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