المملكة العربية السعودية
وزارة التعليم
جامعة أم القرى
كلية العلوم الطبية التطبيقية

تقرير النشر العلمى بكلية العلوم الطبية التطبيقية للأعوام الأكاديمية 1432- 1433 الى 1436 - 1437

إعداد

لجنة الأبحاث والمؤتمرات
كلية العلوم الطبية التطبيقية
جامعة أم القرى

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رؤية وأهداف كلية العلوم الطبية التطبيقية للبحث العلمى فى المجالات الطبية

مقدمة

أنطلاقا من أيمان الحكومة الرشيدة بقيادة خادم الحرمين الشريفين بأهمية البحث العلمى لتقدم وأرتقاء الأمم والشعوب فلقد أوكلت لمدينة الملك عبدالعزيز للعلوم والتقنية وضع الخطة الأستراتيجية للمملكة لتطوير البحث العلمى فى المجالات المختلفة ومن ضمنها القطاع الصحى والطبى. وبناء علية فلقد تبنت كلية العلوم الطبية التطبيقية هذه الخطة فى رؤيتها ومهمتها فى مجال البحث العلمى وخدمة المجتمع الأنسانى عامة والسعودى والأسلامى خاصة وبدعم كامل وتوجيهات معالى مدير الجامعة وبمساندة سعادة وكيل الجامعة للدراسات العليا والبحث العلمى وسعادة عميد البحث العلمى وطاقم العمل فى وحدة العلوم العلوم والتقنية بالجامعة.

رؤية الكلية للأرتقاء بالحث العلمى:

البحث العلمى هو من أهم ركائز التطور البشرى والداعم الحقيقى لأقتصاديات الدول. وبهذا الصدد يعد المجال الطبى والصحى محور أساسى وفعال للوقاية من الأمراض المختلفة وتوفير رعاية صحية فعالة مما يخدم المجتمع الأنسانى.

أهداف كلية العلوم الطبية التطبيقية فى مجال البحث العلمى:

- تشجيع كافة أعضاء هيئة التدريس بمختلف دراجتهم العلمية بالمشاركة الفعالة فى مجال البحث العلمى فى العلوم الصحية والطبية لتلبية أحتياجات المجتمع السعودى خاصة والأنسانى عامة.
- تأمين مصادر تمويل للأبحاث العلمية الطبية بالكلية بشكل سنوى.
- أعداد الأجيال القادمة وتزيدهم بالأدوات اللازمة لتطوير البحث العلمى فى المجال الصحى بالمملكة.
- المشاركة وعرض نتائج البحث العلمى الصادر من جميع أقسام الكلية فى الدوريات العلمية ذات معامل تأثير والمؤتمرات المحلية والدولية المرموقة ذات الصلة.
- أعداد بنية تحتية بمواصفات جودة عالية وتزويد المختبرات البحثية بالتقنيات والأجهزة الحديثة لضمان أستمرارية أجراء الأبحاث العلمية للأجيال القادمة.

السياسات البحثية لكلية العلوم الطبية التطبيقية:

- تتمركز الأوليات البحثية فى الكلية على التوصيتات الموضوعة من قبل مدينة الملك عبدالعزيز للعلوم والتقنية فى الخطة الأستراتيجية للمملكة فى المجال الطبى والصحى.
- يجب على كل عضو هيئة تدريس بداء من أستاذ مساعد وبدوام كامل أن يشارك على أقل تقدير كباحث رئيس/مشارك فى أحد المنح البحثية الممولة من أحدى جهات تمويل البحث العلمى الوطنية المرموقة والمعترف بها.
- يجب على كل عضو هئية تدريس بداء من أستاذ مساعد وبدوام كامل أن يعرض نتائج البحث العلمى على أقل تقدير فى دورية علمية مرموقة ذات صلة وبمعامل تأثير ويجب أدراج أسماء المعيدين أو المحاضرين المشاركين فى البحث ضمن قائمة المؤلفين أو فى قائمة الشكر بناء على كم مشاركتهم فى النتاج البحثى
- يجب على كل عضو هئية تدريس بداء من أستاذ مساعد وبدوام كامل أن يشرف على أعضاء هيئة التدريس بدرجة محاضر/معيد لضمان نقل الكفاءة والخبرة العلمية للأجيال الصاعدة وكذلك يجب أن يشارك العضو فى الأشراف على الأقل على أحد أبحاث التخرج لطلبة البكالوريوس بقسمه وذلك لتوكيد وضمان تطوير الطاقة البشرية للأبحاث العلمية بالمملكة فى المستقبل.
- على الكلية توفير التجهيزات و المتطلبات المعملية المطلوبة للمختبرات البحثية بالأقسام المختلفة كما يتوجب على كافة أعضاء هيئة التدريس بالكلية وضع المعدات والأجهزة التى حصلوا عليها من خلال منح تمويلة لأبحاثهم داخل المختبرات البحثية للكلية لضمان جاهزية تلك المختبرات لأنتاج المزيد من الأبحاث فى المستقبل.
- تخصص نسبة 25% من زيادة الرواتب السنوية الأستثنائية لأعضاء هيئة التدريس بالكلية بناء على تحقيقهم سياسات الكلية البحثية السالف ذكرها.

قائمة الأبحاث المنشورة من قبل أعضاء هيئة التدريس بكلية العلوم الطبية التطبيقية بين الأعوام الدراسية 1432-33 الى 37-1436

قائمة الأبحاث المنشورة 1432-1433

[الأجمالى 26 ورقة علمية]

1. **Abdelghany HA and Header EA**, Seham A Khedr and **Bukhari HM** (2012). Hepatorenal protective effect of yoghurt pillared with propolis on normal and diabetic rats. J home economics, Minufiya University. (Non-ISI).

2. Bukhari SZ, Hussain WM, Banjar AA, Fatani MI, Karima TM, and **Ashshi AM** (2012) Application of ventilator care bundle and its impact on ventilator associated pneumonia incidence rate in the adult intensive care unit. Saudi medical journal; 33: 278-283. (**ISI; IF = 0.62**; Cited 4).

3. **Ashshi AM** (2012) Detection of occult hepatitis B virus in anti-HBc positive/anti-HBs positive blood donors in Saudi Arabia. Res J Med Sci; 6: 61-65. (Non-ISI; Cited 1)

4. **Ashshi AM** (2012) Is Rotavirus Infection Still Responsible for Acute Gastroenteritis and Severe Diarrhea among Children in Holy Makkah? Research Journal of Medical Sciences; 6: 170-174. (Non-ISI)

5. **Azzeh FS** (2012). Camel Milk as Functional Food: Review Paper (In Arabic). Arab Journal of Food and Nutrition; 29: 94-111. (Non-ISI)

6. **Azzeh FS** (2012). Relationship between Vitamin D and Rheumatoid Arthritis Disease: Review Paper. Pakistan Journal of Nutrition, 11(3): 293-300. (**ISI**; NO IF)

7. **Bukhari HM, Abdelghany HA, Nada IS** and **Header EA** (2012). Effect of yoghurt pillared with propolis on hyperglycemic rats. Egyp J Hospit Med, 49:691-704. (Non-ISI)

8. **Bukhari HM, Nada IS** and **Header EA** (2012). Effect of obesity and dietary factors on bone mineral density levels among female students in Umm Al-Qura University. Egyp J Hospit. Med; 49:678-690. (Non-ISI)

9. **Bukhar HM, Bakri EH,** Ali H, **and** **Header EA** (2012). Hepatorenal Protective Effect Of Yoghurt Pillared With Propolis On Normal And Hyperglycemic Rats. Home Econ. J.; 22. (Non-ISI).

10. **Ebid AA, El-Shamy SM, Thabet AA** (2012). Effect of Posterior Tibial Nerve Stimulation and Trospium Hydrochloride in Treatment of Overactive Bladder Syndrome: a randomized controlled study. Indian Journal of Physiotherapy and Occupational Therapy; 6: 36-41. (Non-ISI)

11. **Elmadbouly MA and Abd Elhafez AM** (2012). Assessment of Nutritional Status of Hospitalized Elderly Patients in Makkah Governorate. Pakistan Journal of Nutrition, 11: 984-990. (**ISI**; Cited 2).

12. **Kensarah OA and Azzeh FS**. (2012). Vitamin D Status of Healthy School Children from Western Saudi Arabia. Pakistan Journal of Nutrition, 11: 288-292. (**ISI**, NO IF; Cited 3).

13. **Kensarah OA and Azzeh FS** (2012). Implementing High Vitamin C Treatments to Decrease Blood Uric Acid Levels in Hyperuricemic Saudi Patients. Journal of American Science; 8: 462-467. (Non-ISI).

14. **Kensara OA**, **ElSawy NA**, and **Header EA** (2012) Aqueous Extract of Thymus Vulgaris-induced Prevention of Kidney Damage in Hypertensive Adult Male Albino Rat: Biochemical and Ultrastructural Study. Pakistan Journal of Nutrition; 11: 367-374. (**ISI**)

15. **Bukhar HM, ElSawy NA,** and **Header EA** (2012) Biological effect of high energy drink on normal and hyperglycemic rats. Pakistan Journal of Nutrition; 11: 301-309. (**ISI**; Cited 1)

16. **El-Shemi AG** and Faidah H (2011). Synergy of daptomycin with fusidin against invasive systemic infection and septic arthritis induced by type VI group B streptococci in mice. Afr. J. Pharm. Pharmacol. 5:1125-1131 (Non-ISI)

17. **El-Shemi AG**, Basalamah MA, **Kensara OA, Ashshi AM** (2011). Interleukin-22 therapy attenuates the development of acute pancreatitis in rats. J. Clin. Med. Res. 3:82-88 (Non-ISI; cited 4)

18. Sheweita SA, Yousef MI, Baghdadi HH, **Elshemy AG** (2012). Changes of drug metabolizing enzymes in the liver of male sheep exposed to either cypermethrin or dimethoate. Drug Metab Lett. 6:2-6 (**ISI**; cited 3)

19. Thabet AA, **Helal OF,** El-Shamy SM **(2012).** Efficacy of Low-Intensity Pulsed Ultrasound on Bone Mineral Density in Osteoporotic Postmenopausal Women. Indian Journal of Physiotherapy & Occupational Therapy; 6: 238-242. (Non-ISI)

20. El-Shamy SM, Abdelaal AAM and **Helal OF (2012).** Ventilatory response to aerobic exercise in obese children. Bioscience Research 9(1): 35-40. (Non-ISI)

21. Elsayed GM, **Ismail MM**, and Moneer MM (2011) Expression of P-glycoprotein, Cyclin D1 and Ki-67 in Acute Lymphoblastic Leukemia: Relation with Induction Chemotherapy and

Overall Survival. Indian Journal of Hematology and Blood Transfusion; 27: 157-163. (**ISI**; Cited 1)

22. Mohamed A, Abou Elella G, Nasr E, and Soliman Y (2012) Evaluation of Fibronectin-Binding Protein Ag85-B as Target for Serodiagnosis of Swine Mycobacteriosis in Living Animals. J Mycobac Dis S; 2: 2161-1068. (Non-ISI)

23. Mohamed A, Abdel-Rady A, Ahmed L, and El-Hosary A (2012) Evaluation of indirect TaSP enzyme-linked immunosorbent assay for diagnosis of tropical theileriosis in cattle (Bos indicus) and water buffaloes (Bubalus bubalis) in Egypt. Veterinary parasitology; 186: 486-489. (**ISI**; Cited 2).

24. Ali MME, El-Megeid AAA and **Mostafa RAA** (2012). Effect of some levels from ginseng, barley and carob on lipid profile and kidney functions of rats fed on high fructose diet. Journal of American science; 8: 152-162. (Non-ISI).

25. Refaat B and Ledger W (2011) The expression of activins, their type II receptors and follistatin in human Fallopian tube during the menstrual cycle and in pseudo-pregnancy. Human reproduction; 26: 3346-3354. (**ISI**; Cited 5)

26. Refaat B, Simpson H, Britton E, Biswas J, Wells M, Aplin JD, and Ledger W (2012) Why does the fallopian tube fail in ectopic pregnancy? The role of activins, inducible nitric oxide synthase, and MUC1 in ectopic implantation. Fertility and sterility; 97: 1115-1123. (**ISI**; Cited 9)

ملخص الأبحاث المنشورة 2011-2012:

1. Abdelghany HA and Header EA, Seham A Khedr and **Bukhari HM** (2012). '*Hepatorenal protective effect of yoghurt pillared with propolis on normal and diabetic rats*.' **J home economics, Minufiya University**.

https://www.researchgate.net/publication/269764098_HEPATORENAL_PROTECTIVE_EFFECT_OF_YOGHURT_PILLARED_WITH_PROPOLIS_ON_NORMAL_AND_HYPERGLYCEMIC_RATS

(***Laboratory Medicine & Clinical Nutrition Departments***)

ABSTRACT

Many preventive and therapeutic effects of yoghurt have been mentioned. propolis is a resinous material collected by honey bees and it has antimicrobial, anti-inflammatory properties. Liver and kidney are affected by diabetes mellitus which may be induced by streptozotocin. This work aimed to study the hepatorenal protective effect of yoghurt pillared with propolis on normal and hyperglycemia rats. Thirty-six rats (Male Sprague-Dawley) of 12 wk old, weighing 140-180g were used in this study and fed basal diet for 1 week for adaptation. The rats were divided into two groups (18 normal and 18 diabetic rats). Diabetes was induced in one group (18 rats) via intra-peritoneal injection of by 65

mg/kg of streptozotocin (STZ). One normal and one diabetic group fed on basal diet while other groups of rats were fed on basal diet + 10% of yoghurt pillared with 10% and 25% propolis. At the end of experiment period 6 weeks, blood samples were collected and liver and kidney of each rat was removed rapidly and weighted separately. Normal and streptozotocin-induced diabetic rats were used and examined for serum level of liver enzymes and serum level of urea and creatinine. Histopathological examination was done for specimens of the liver and kidney of both normal and diabetic rats. Streptozotocin-induced diabetic rats showed increased levels of liver enzymes together with derangements of hepatic cells and sinusoids. There were increased levels of serum urea and creatinine with disturbances of glomerular cells and fragmentation of the renal tubules. Yoghurt pillared with propolis reverse these effects with lowering of the serum levels of liver enzymes and urea and creatinine and reversal of the damage of the liver and kidney. The study also showed that yoghurt with propolis had a hypoglycemic effect.

2. Bukhari SZ, Hussain WM, Banjar AA, Fatani MI, Karima TM, and **Ashshi AM** (2012). '*Application of ventilator care bundle and its impact on ventilator associated pneumonia incidence rate in the adult intensive care unit*.' **Saudi medical journal**; 33: 278-283.

http://www.ncbi.nlm.nih.gov/pubmed/22426908

(***Laboratory Medicine Department***)

ABSTRACT

Objective: To reduce ventilator associated pneumonia (VAP) incidence rate, lessen the cost of care, and correlate VAP bundles compliance with VAP incidence rate. **Methods:** This study was a prospective longitudinal study conducted on adult intensive care unit (ICU) patients at Hera General Hospital, Makkah, Kingdom of Saudi Arabia from January to December 2010. The following Institute for Healthcare Improvement VAP prevention bundle was applied: head-of-bed elevation; daily sedation-vacation along with a readiness-to-wean assessment; peptic ulcer disease (PUD) prophylaxis; and deep venous thrombosis (DVT) prophylaxis. **Results:** Among a total of 2747 patients, the bundle compliance rate in January 2010 was 30%, and reached to 100% in December 2010, while the overall rate was 78.9%. The individual bundle compliance rates were as follows: head-of-bed elevation - 99.9%; daily sedation vacation - 88.9%; PUD prophylaxis - 94.9%; and DVT prophylaxis - 85.7%. At the beginning, VAP rate was 2.5/1000 ventilator days, and reduced to 0.54 in the next month. The overall VAP incidence rate in 2010 was found to be 1.98 with a reduction of 1.41 by comparing with the same data of year 2009 collected retrospectively. The total reduction cost in one year was $154,930. A significant correlation was found between the VAP rate and its bundle compliance (p=0.001). Most frequent pathogens found were Pseudomonas aeruginosa (30.8% of all isolates) followed by Acinetobacter baumannii (27.7%), and methicillin-resistant Staphylococcus aureus (15.4%). **Conclusion:** Application of VAP prevention bundle reduced the VAP incidence rate and lowered the cost of care.

3. Ashshi AM (2012). '*Detection of occult hepatitis B virus in anti-HBc positive/anti-HBs positive blood donors in Saudi Arabia*.' **Res J Med Sci**; 6: 61-65.

http://www.medwelljournals.com/abstract/?doi=rjmsci.2012.61.65

(***Laboratory Medicine Department***)

ABSTRACT

Despite the progress made in the prevention of transfusion transmitted infections, transmission of Hepatitis B Virus (HBV) from donors with Occult Hepatitis B virus (OHB) still poses a challenge to the safety of blood donation. The presence of OHB in anti-hepatitis B core antigen (anti-HBc) positive/anti-hepatitis B surface antigen (anti-HBs) negative blood donors has recently been documented worldwide however, its prevalence in anti-HBc positive/anti-HBs positive donors remains obscure. Therefore, this study was aimed to evaluate the presence of OHB among anti-HBc/anti-HBs-positive blood donors. To meet these objectives, a total of 1000 serum samples of consenting blood donors negative for Hepatitis B surface Antigen (HBsAg) were collected at the Hera'a General Hospital, Makkah Al-Mukaramah, Saudi Arabia and screened for anti-HBs and anti-HBc antibodies. According to their serological status, the samples were classified into anti-HBc negative/anti-HBs negative; anti-HBc positive/anti-HBs negative and anti-HBc positive/anti-HBs positive donors. Samples that showed positive reactivity for both anti-HBc/anti-HBs antibodies were then selected for quantitative detection of HBV DNA by using RT-PCR. Results showed that of the 1000 HBsAg-negative donors, 12 (1.2%) were anti-HBc positive/anti-HBs negative and 63 (6.3%) were anti-HBc positive/anti-HBs positive. Additionally, among these 63 anti-HBc positive/anti-HBs positive blood donor population HBV DNA was detected in two of them (3.2%). In conclusion, the results showed the presence of HBV DNA in the sera of anti-HBc positive/anti-HBs positive blood donors in Saudi Arabia. Overall, these results can raise an important public health issue that an anti-HBc positive/anti-HBs positive serum is not a sign of total HBV eradication and in turn, highlight the need for a stringent and better screening system to prevent post-transfusion HBV infection.

4. <u>Ashshi AM</u> (2012). 'Is Rotavirus Infection Still Responsible for Acute Gastroenteritis and Severe Diarrhea among Children in Holy Makkah?' **Research Journal of Medical Sciences**; 6: 170-174.

http://www.medwelljournals.com/abstract/?doi=rjmsci.2012.170.174

(***Laboratory Medicine Department***)

ABSTRACT

Acute gastroenteritis and severe diarrhea is a leading cause of preventable death in infants and young children worldwide. It ranks second to neonatal deaths as the major cause of childhood mortality. In this regard, rotavirus infection is the most important microbial causative agent, particularly in developing countries. Coherently, this study was designed to assess the prevalence of rotavirus infection among young children with acute gastroenteritis and severe diarrhea in Holy Makkah, Saudi Arabia and evaluate the specificity of Latex Agglutination Test (LAT) in detection of rotavirus infection in comparison with Reverse-Transcription Polymerase Chain Reaction (RT-PCR). During the period from March to September 2011, stool samples were collected from 100 children (of both sex and under 5 years of age) with acute gastroenteritis and severe diarrhea and admitted to the pediatric wards at the Garwal Hospital in Holly Makkah. For detection of rotavirus infection, the samples were first examined by LAT and then by RT-PCR using specific primer sequences for human rotavirus VP4 and VP7 genes. Sixteen samples of these 100 samples (16%) were positive for rotavirus by LAT. However, the genetic materials of rotavirus (VP4 and VP7 genes) were only detected in 4 samples of these 100 samples (4%) by RT-PCR amplification. The samples that tested negative with LAT were also negative with RT-PCR. Overall, this study indicated that rotavirus infection still

responsible for acute gastroenteritis and severe diarrhea among children in Holy Makkah with a prevalence of 4%. In turn, this may help in assessing the success of the rotavirus vaccine in the future. In addition, this study reflects the low specificity of LAT than RT-PCR for detection of rotavirus infection.

5. Azzeh FS (2012). '*Camel Milk as Functional Food: Review Paper*.' (In Arabic). **Arab Journal of Food and Nutrition**; 29: 94-111.

http://ageconsearch.umn.edu/bitstream/159395/2/Camel%20Milk%20Technology%20Development.pdf

(***Clinical Nutrition Department***)

ABSTRACT

None

6. Azzeh FS (2012). '*Relationship between Vitamin D and Rheumatoid Arthritis Disease: Review Paper*.' **Pakistan Journal of Nutrition**, 11: 293-300.

https://www.researchgate.net/publication/230895990_Relationship_Between_Vitamin_D_and_Rheumatoid_Arthritis_Disease

(***Clinical Nutrition Department***)

ABSTRACT

Rheumatoid arthritis is a chronic inflammatory disease in which the synovial membrane of the joint becomes inflamed, resulting in a swelling, stiffness, pain, limited range of motion, joint deformity and disability. Vitamin D is the "sunshine vitamin" which is converted in the body to a hormone 1, 25-dihydroxyvitamin D3 by the photolytic action of ultraviolet light on the skin. Vitamin D plays an important role, along with the essential minerals calcium and phosphorus, in the maintenance of healthy bones and teeth. An inverse association between vitamin D intake and rheumatoid arthritis was found in some prospective studies. Although vitamin D has been implicated in a decreased risk of autoimmune diseases such as type 1 diabetes and multiple sclerosis, its role in decreasing the risk of rheumatoid arthritis remains equivocal. This scientific review is written to illustrate the possible relationships between rheumatoid arthritis and vitamin D.

7. **Bukhari HM, Abdelghany HA, Nada IS** and **Header EA** (2012). '*Effect of yoghurt pillared with propolis on hyperglycemic rats.*' **Egyp J Hospit Med**, 49:691-704.

http://www.oalib.com/paper/2801375

(***Laboratory Medicine & Clinical Nutrition Departments***)

ABSTRACT

Dietary supplementation of yoghurt with plants rich in antioxidants such as propolis which is an adhesive resinous material collected by honey bees is recently recommended. This study aimed at investigating the protective effect against the hyperglycemia and hyperlipidemia. The study showed that yoghurt with propolis had a hypoglycemic effect together with reduction of the serum levels of cholesterol, low density and very low density lipoproteins with elevation of high density lipoproteins. The atherosclerosis indices were affected with reduction of low density lipoproteins-cholesterol/high density lipoproteins-cholesterol and elevation of the high density lipoprotein-cholesterol/total cholesterol. This was attributed to the reduction of glucose absorption and inhibition of α-glucosidase together with the antioxidant activity with regain of the pancreatic β-cell function. The hypolipidemic effect and consequently protective effect against atherosclerosis was attributed to the binding, breakdown and reduction of absorption of cholesterol together with the antioxidant activity of both yoghurt and propolis. Down regulation of the expression of the angiogenic gene factors which have a role in the pathogenesis of atherosclerosis may play a role. Thus, this dietary supplementation may be manufactured and used for its value in reducing hyperglycemia and hyperlipidemia in cases of diabetes mellitus.

8. **Bukhari HM, Nada IS** and **Header EA** (2012). '*Effect of obesity and dietary factors on bone mineral density levels among female students in Umm Al-Qura University.*' **Egyp J Hospit. Med**; 49:678-690.

http://egyptianjournal.net78.net/49_13.pdf

(***Clinical Nutrition & Laboratory Medicine Departments***)

ABSTRACT

Background: Nutrition is one of the most important factors influencing human health. Also, nutrition plays a role in the etiology of osteoporosis disease. This disease is a serious metabolic bone disorder that often results in hip fracture and is usually asymptomatic in its initial stages. **Objective:** Assess the prevalence of osteoporosis among female university students. Methods: A cross sectional study was carried out during the period from 1/1/2010 to 30/6/2010 among a random sample of (257) university female students were chosen from Umm Al Qura of Makkah. The age of sample from 19-24 years old. Data were collected through an interview with case by using a special questionnaire; bone mineral density (BMD) and body composition have also been measured. **Results:** Osteoporosis was present in 7% of cases while, osteopenia was current in 32.3% of cases. Moreover there was a highly positive significant relationship at level (1%) between osteoporosis induced and each of body fat %, fat weight, and BMI. **Conclusion:** The prevalence of osteoporosis among university students was positively and significantly associated ($p<0.001$) with increased body fat. The study results suggested that inevitable decrease in body fatness and weight with less consumption of carbonated beverages, taking into consideration variety and balanced diets and increasing nutrition education programs will improve bone health and nutritional status.

9. Bukhar HM, Bakri EH, Ali H, **and Header EA** (2012). '*Hepatorenal Protective Effect Of some legumes On Normal And Hyperglycemic Rats.*' **Home Econ. J.**; 22.

(***Clinical Nutrition Department***)

ABSTRACT

Diabetes mellitus is a chronic disease that has affected humankind throughout the world. The records of the ancient civilizations of Egypt, India, Japan, Greece, and Rome described the symptoms of the disease. The use of traditional plant for diabetes mellitus is widely practiced in Middle East countries. This investigation aimed to study hepato-protective effect of (lupines, fenugreek, and snap beans) on hyperglycemic rats. Forty eight male white albino rats weighing 165.5±2.5g were used in this study and fed basal diet for 1 week for adaptation, 42 of rats injured by diabetes with a single intraperitoneal injection of alloxan at dose level of 150 mg/kg body weight. Rats divided into 8 groups (6 rats/each group). Six normal and 6 diabitic rats fed on basal diet, while other 6 diebtic groups fed on 15 or 25 % lupines, fenugreak or snap beans diets. At the end of experiment period 45 days, the weight gain was calculated, blood samples were collected and liver of each rat was removed rapidly and weighted separately. Blood samples were used for estimation of fasting serum glucose, fasting serum ALT, AST and ALP and serum lipid profile. Data arrived at showed that serum AST and ALT levels declined significantly ($p < 0.05$) in all treated groups that fed on 15% and 25% (lupines, fenugreek, and bean) when compared with diabetic control positive group. Oral administration of plant decreased histopathological changes in the giver. Lupines, fenugreek, and bean appear to improve not only the hyperglycemia but also associated dyslipidemia and seem to have a hepatoprotective effect in alloxan-induced diabetic rats.

10. Ebid AA, El-Shamy SM, Thabet AA (2012). '*Effect of Posterior Tibial Nerve Stimulation and Trospium Hydrochloride in Treatment of Overactive Bladder Syndrome: a randomized controlled study.*' **Indian Journal of Physiotherapy and Occupational Therapy**; 6: 36-41.

http://www.i-scholar.in/index.php/ijpot/article/view/48396

(***Physiotherapy Department***)

ABSTRACT

Objective: To compare the effects of long term posterior tibial nerve electrical stimulation and trospium hydrochloride on urodynamic parameters, bladder diary and severity of urgency in patients with overactive bladder syndrome. **Design:** Randomized controlled trial. **Subjects:** Thirty-seven patients were divided into either posterior tibial nerve electrical stimulation (Group 1) or trospium hydrochloride (Group 2). **Main outcome measures:** All patients were assessed at the beginning of the treatment, at week 12 (end of treatment), 18 and 24 according to urodynamic parameters, voiding diary parameters and severity of urgency (visual analogue scale VAS). **Results:** Statistically significant improvements were observed in both groups according to some urodynamic parameters, voiding diary parameters, VAS urgency severity at the end of the treatment. During the 24-week follow-up period, deteriorations were observed in many parameters in both groups although improvements in the volume at first desire to void, frequency of urgency and VAS urgency severity in group 1 persisted. Significant differences were not detected between groups at the end of the treatment or during the post treatment follow-up controls. **Conclusion:** No difference was detected in long term of posterior tibial nerve electrical stimulation and trospium hydrochloride in the treatment of patients with overactive bladder syndrome. Discontinuation of both treatments caused deterioration in most of the symptoms of overactive bladder syndrome.

11. Elmadbouly MA and Abd Elhafez AM (2012). '*Assessment of Nutritional Status of Hospitalized Elderly Patients in Makkah Governorate*.' **Pakistan Journal of Nutrition**; 11: 984-990.

http://www.pjbs.org/pjnonline/fin2410.pdf

(***Clinical Nutrition Department***)

ABSTRACT

A cross sectional study was conducted to assess the nutritional status of a sample of 102 recently hospitalized elderly patients in general hospitals at Makkah Governorate by using the Mini Nutritional Assessment (MNA) tool. Among the studied patients, 22.6% were classified as malnourished, 57.8% were at risk of malnutrition and 19.6% were as well nourished. Low body mass index, history of weight loss during the last 3 months, living independently, taking > 3 prescription of drugs per day and presence of neuropsychological problems were associated with malnutrition ($p<0.05$). The elderly classified as malnourished and those at risk of malnutrition and well-nourished differed significantly in all dietary assessment variables of the MNA score ($p<0.05$). It is concluded that malnutrition is a common problem among older people. MNA test should be performed for elderly upon admission to hospitals and more attention need to be paid to this vulnerable group of people.

12. Kensarah OA and Azzeh FS. (2012). '*Vitamin D Status of Healthy School Children from Western Saudi Arabia*.' **Pakistan Journal of Nutrition**, 11: 288-292.

http://connection.ebscohost.com/c/articles/77665697/vitamin-d-status-healthy-school-children-from-western-saudi-arabia

(***Clinical Nutrition Department***)

ABSTRACT

This study was conducted to evaluate vitamin D in healthy school children from Makkah area. A total of 148 healthy school children (87 boys and 61 girls) were included in this study. Vitamin D as 25-hydroxyvitamin D [25 (OH)-D] was measured as indication of vitamin D status. Serum 25 (OH)-D less than 20 ng/ml was considered as vitamin D deficient subject. Other biochemical indicators were also measured as calcium, phosphorus, alkaline phosphatase and parathyroid hormone. The mean age of the subjects was 10.1 years. Overall serum vitamin D was 10.5 ng/ml, which was significantly higher in male group than female. About 96.7% and 78.2% of females and males were deficient in vitamin D, respectively. No sufficient vitamin D female subject was recognized. The prevalence of vitamin D deficiency in children school from Makkah was very high and the deficiency was higher in females than males. The main reason for vitamin D deficiency was the restriction to sunlight exposure.

13. Kensarah OA and Azzeh FS (2012). '*Implementing High Vitamin C Treatments to Decrease Blood Uric Acid Levels in Hyperuricemic Saudi Patients*.' **Journal of American Science**; 8: 462-467.

https://www.researchgate.net/publication/230562792_Implementing_High_Vitamin_C_Treatments_to_Decrease_Blood_Uric_Acid_Levels_in_Hyperuricemic_Saudi_Patients

(***Clinical Nutrition Department***)

ABSTRACT

This study was conducted to determine the effects of high vitamin C intake from diet and supplements on serum uric acid concentrations during 2 months. A group of 30 Saudi adults, non-smokers, hyperurecemic, from both genders and aged between 20-70 yrs. Participants were divided into 3 groups; control group (low purine diet with normal vitamin C intake), high dietary vitamin C with purine restricted diet and high vitamin C supplements with purine restricted diet. The high vitamin C dose was 500mg/day. All participants have been followed-up for two months and reviewed at least two times a week. Uric acid, creatinine and estimated glomerular filtration rate were measured before and during the study. The overall mean reduction of uric acid for dietary treated group was -0.77 mg/dl and for supplemented group was -0.28 mg/dl. In the control group, the average uric acid was incremented after 2 months by0.51 mg/dl. Reduction in serum uric acid was statistically significant for dietary treated group but not for supplemented one. This study suggests that inclusion of 500 mg/day of vitamin C for 2 months reduced risk factors associated with hyperuricemia. Dietary treatment was more effective in reduction serum uric acid than supplements.

14. Kensara OA, **ElSawy NA**, and **Header EA** (2012). '*Aqueous Extract of Thymus Vulgaris-induced Prevention of Kidney Damage in Hypertensive Adult Male Albino Rat: Biochemical and Ultrastructural Study*.' **Pakistan Journal of Nutrition**; 11: 367-374

http://www.pjbs.org/pjnonline/fin2269.pdf

(***Clinical Nutrition & Laboratory Medicine Departments***)

ABSTRACT

Different metabolic disorders including hypertension cause renal damage. The aim of this study was to study the effect of Thymus Vulgaris (TV) on kidneys of induced hypertensive rats through biochemical and ultrastructure examination. Thirty three adult male albino rats were divided into 3 groups 11 animals each (control, untreated and treated). The first (control) group was fed and followed up for 8 weeks by measuring the systolic BP. In the second group, hypertension was induced by ligation of left renal artery to have systolic BP >150 mmHg and was followed up till the end of study. The third group in which hypertension was induced were given TV as 100 mg/kg body weight daily. The surviving 11 rats per each group were weighed again and killed with an overdose of phenobarbital and blood was collected to measure the blood chemistry. Following laparotomy, right kidney was dissected and excised from each rat and divided into 2 parts: one part was immersed in 10% formal saline and prepared for light microscopic examination. The other parts was immersed into 2.5 % glutaraldehyde and prepared for electron microscopic examination using transmission microscopy in faculty of medicine Zagazig university Egypt. A Significant increase was noticed in creatinine and cholesterol in untreated in contrast to control and treated hypertensive rats. There was

significant reduction of Blood Pressure (BP) on using TV in contrast to untreated group. In untreated hypertensive group some cortical fields showed scars surrounding obsolete shrinkage glomeruli with inflammatory infiltrates with reciprocal dilatation of their Bowman's capsules. Ultrastructure examination showed thick glomerular endothelium with obliterated endothelial fenestrations. In treated hypertensive group the rat kidneys showed preserved cortical appearance and normal trilaminar structure but with focal thickening. Induced hypertension in rats affected renal tissues with biochemical alterations which all can be improved and/or prevented by using Thymus vulgaris herbal extract.

15. Bukhar HM, ElSawy NA, and **Header EA** (2012). '*Biological effect of high energy drink on normal and hyperglycemic rats*.' **Pakistan Journal of Nutrition**; 11: 301-309.

http://www.jofamericanscience.org/journals/am-sci/am0808/105_8891bam0808_688_697.pdf

(***Clinical Nutrition & Laboratory Medicine Departments***)

ABSTRACT

Several studies suggest that there was relationships between energy drink consumption and problem behaviors among adolescents and adults as it increase lipolysis glycogenolysis and catecholamine secretion. This study aimed to find out the potential effects of high energy drinks recommended intake and toxic dose on normal and hyperglycemic rats. Thirty-six (36) male adult Sprague-Dawley rats weighting 145±5.3 g each were used in this investigation. Non-diabetic rats [control-ve 6 rats feed on basal diet only and 12 Normal Rats (NR) divided into two groups consumed basal diet with 1 and 2 ml of High Energy Drink (HED) by gastric tube], while Diabetic Rats (DR) control+ve 6 rats received basal diet only and 12 rats divided into two groups consumed basal diet with 1 and 2 ml of HED after injected with alloxan for inducing diabetes mellitus. Body Weight Gain (BWG) and food intake were recorded weekly for 6 weeks. Blood samples were collected after 12 hours fasting at the end of experiment. Liver was removed and weighted. Blood serum was prepared for measurements of glucose, triglyceride, cholesterol, HDL-c, LDL-c, VLDL-c, AST, ALT and ALP. The BWG of NR groups received 2 ml only and DR groups received 1 and 2 ml of HED by oral injection recorded significant decrease ($p<0.001$) as compared to the control negative group. Blood glucose level was significantly higher ($p<0.001$) for DR fed on 1 and 2 ml compared with control (-). Serum AST, ALT and ALP were significantly higher ($p<0.01$ and $p<0.001$ resp.) for NR received the two doses of HED compared with normal rats control (-). As for cholesterol, triglycerides and LDLc levels were significantly higher ($p<0.01$) in the hyperglycemic rats group fed on 2 ml of HED compared with control (-). Also LDLc/HDLc ratio increased gradually when the level of HED increased. Oral injection by HED cause histopathological changes in the liver for NR and DR like atrophy and cell damage also changes in the chemical and morphological structure.

16. El-Shemi AG and Faidah H (2011). '*Synergy of daptomycin with fusidin against invasive systemic infection and septic arthritis induced by type VI group B streptococci in mice.*' **Afr. J. Pharm. Pharmacol.**; 5:1125-1131.

http://www.academicjournals.org/journal/AJPP/article-full-text-pdf/A4D07FC33137

(***Laboratory Medicine Department***)

ABSTRACT

In view of the emergence of multidrug-resistant group B streptococci (GBS), and its significant clinical impact, there is a necessary need for the development of more effective therapeutic alternatives. Here, we assessed the therapeutic efficacy of daptomycin, a novel lipopeptide antibiotic, in the treatment of type IV GBS-induced invasive systemic infection and septic arthritis in mice. We also evaluated the possible synergy between daptomycin and fusidin to combat GBS disease. Mice infected with type IV GBS and left without drug treatment displayed high incidence of deaths and severe diffuse septic arthritis, associated with excessive production of proinflammatory cytokines (tumor necrosis factor alpha (TNF-α), interleukin-1beta (IL-1β) and interleukin-6 (IL-6)), cyclooxygeanse-2 (COX-2) and prostaglandin E2 (PGE2) in their blood and joints. However, treatment of these GBS-infected mice with daptomycin significantly inhibited the inoculated bacteria to grow in the blood and joints. Daptomycin treated mice had significantly showed lower mortality rates, less frequent arthritis and lower levels of TNF-α, IL-1β, IL-6, COX-2 and PGE2 than infected untreated animals. More interestingly, a marked in vivo synergy between daptomycin and fusidin that completely protected the mice from GBS infection and its associated mortality and serious sequels was clearly observed. In summary, the present study showed that daptomycin is a welcome newcomer antibacterial arsenal to eradicate GBS invasive infection and septic arthritis, in particular when given in combination with other antibacterial agents such as fusidin.

17. **El-Shemi AG**, Basalamah MA, **Kensara OA, Ashshi AM** (2011). '*Interleukin-22 therapy attenuates the development of acute pancreatitis in rats*.' **J. Clin. Med. Res.** 3:82-88.

https://www.researchgate.net/publication/220007845_Interleukin-22_therapy_attenuates_the_development_of_acute_pancreatitis_in_rats

(***Laboratory Medicine & Clinical Nutrition Departments***)

ABSTRACT

Human acute pancreatitis (AP) is a potential serious disease with a limited specific therapy. Here, we assessed the therapeutic efficacy of interleukin-22 (IL-22), a newly emerged cytokine with unique biological activities, in the treatment of a rat model of severe AP. For induction of AP, rats were intraperitoneally (i.p.) injected with nine doses of caerulein (50 μg/kg/dose) at 1-h intervals. Recombinant rat IL-22 (rIL-22) was given in three doses (4 μg/rat/dose; i.p.) after the 1st, 5th, and 9th caerulein injection. Serum levels of pancreatic α-amylase and lipase, pancreatic weight/body weight ratio, histological score of pancreatic injury, intrapancreatic expression of myeloperoxidase (MPO; as an index of neutrophils infiltration) and cyclooxygenase-2 (COX-2), and the serum and pancreatic levels of pro-inflammatory prostaglandin E2 (PGE2); monocyte chemotactic protein-1 (MCP-1); and Interleukin-1β (IL-1β) were collectively analyzed as diagnostic parameters of the induced AP. Results showed that administration of rIL-22 significantly repressed caerulein-evoked substantial hyperamylasemia and hyperlipasemia, severe pancreatic injury and edema. Also the administered rIL-22 significantly reduced caerulein-induced intrapancreatic overexpression of COX-2 and MPO, and the production of proinflammatory mediators (PGE2, MCP-1 and IL-1β) in the systemic circulation

and pancreatic tissues. Taken together, these results indicate the potential therapeutic efficacy of IL-22 against AP by acting as an anti-inflammatory agent.

18. Sheweita SA, Yousef MI, Baghdadi HH, **Elshemy AG** (2012). *Changes of drug metabolizing enzymes in the liver of male sheep exposed to either cypermethrin or dimethoate*. **Drug Metab Lett**. 6:2-6.

http://www.eurekaselect.com/97780/article

(***Laboratory Medicine Department***)

ABSTRACT

Xenobiotics such as insecticides are metabolized to more or less toxic metabolites by drug-metabolizing enzymes including cytochrome P450 (Cyp P450), cytochrome b5 (Cyp b5), NADPH-cytochrome c reductase (Cyt.c R), N-nitrosdimethylamine-N-demethylase I (NDMA-dI), glutathione (GSH), glutathione s-transferase (GST), and glutathione reductase (GR). Therefore, the present study showed the influence of oral administration of cypermethrin (6 and 12 mg/kg/day) and dimethoate (1.6 and 3.2 mg/kg/day) for 63 consecutive days on the activities of the above mentioned enzymes in the livers of male sheep. Low and high-treatments of sheep with cypermethrin significantly increased the levels of Cyp P450 by 56% and 98%, Cyp b5 by 65% and 80%, GSH by 68% and 74%, and Cyt.c R by 67% and 98%, respectively in a dose-dependent manner. However, low dose of cypermethrin increased the activities of GST and GR by 56% and 91% respectively. In addition, low and high dose-treatments with dimethoate increased the hepatic contents of Cyp P450 by 27% and 40%, GSH by 259% and 132%, whereas NDMA-dI decreased by 27 and 55% respectively, and no change in the content of Cyp b5 and the activity of Cyt.c-R at any given dose of this compound. It is concluded that exposure to cypermethrin and dimethoate significantly changed the hepatic activity of phases I & II drugmetabolizing enzymes in sheep, and these changes are mainly dependent on the administred dose, and also on the type of the tested insecticides. Also, such changes should be considered when therapeutic drugs administered to people exposed to such insecticides.

19. Thabet AA, **Helal OF,** El-Shamy SM **(2012).** '*Efficacy of Low-Intensity Pulsed Ultrasound on Bone Mineral Density in Osteoporotic Postmenopausal Women*.' **Indian Journal of Physiotherapy & Occupational Therapy**; 6: 238-242.

http://connection.ebscohost.com/c/articles/89373322/efficacy-low-intensity-pulsed-ultrasound-bone-mineral-density-osteoporotic-postmenopausal-women

(***Physiotherapy Department***)

ABSTRACT

Purpose of this current study was to investigate the effect of low intensity pulsed ultrasound on bone mineral density (BMD) of lumbar vertebrae in osteoporotic postmenopausal women. Thirty postmenopausal women suffer from lumbar vertebrae osteoporosis were selected from Umm El Masryeen General Hospital received ultrasound therapy three time / week for six weeks. DXA was used for assessment of BMD before and after treatment. The results of the study demonstrate

significant increase in lumbar BMD. It was concluded that low intensity pulsed ultrasound is effective modalities in increasing bone mineral density (BMD) of lumbar vertebrae in osteoporotic postmenopausal women.

20. El-Shamy SM, Abdelaal AAM and **Helal OF (2012).** '*Ventilatory response to aerobic exercise in obese children.*' **Bioscience Research** 9: 35-40.

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(***Physiotherapy Department***)

ABSTRACT

This study was conducted at the Faculty of Physical Therapy, Cairo University, Egypt in 2010, to examine the effects of aerobic exercise in ventilatory functions in obese children. Forty obese children and 20 age and sex matched non obese control group were studied. Their age was ranging from 10 to 14 years. They were randomly assigned to study and control group. A child with a body mass index (BMI) in the 95th percentile or greater was considered to be obese. The study group (A) received aerobic exercise training on treadmill while children in the control group (B) did not participate in any intervention for 3 months. Pulmonary function test (FVC, FEV1, FEV1/FVC, MMEFR, and MBC) was used to measure lung functions in all children pre and post treatment. The results of this study revealed no significant difference was recorded between the two groups before treatment. While after 3 months, significant improvement was recorded in the two groups. There was also significant difference between the two groups in favor of the study group. From the obtained results, it can be concluded that, aerobic exercise training program had positive effects on lung functions in obese children.

21. Elsayed GM, **Ismail MM**, and Moneer MM (2011). '*Expression of P-glycoprotein, Cyclin D1 and Ki-67 in Acute Lymphoblastic Leukemia: Relation with Induction Chemotherapy and Overall Survival.*' **Indian Journal of Hematology and Blood Transfusion**; 27: 157-163.

http://link.springer.com/article/10.1007%2Fs12288-011-0086-y

(***Laboratory Medicine Department***)

ABSTRACT

Previous studies showed that non-cycling cells have a higher multidrug resistance (MDR) expression, which may be down-regulated by proliferation induction. Triggering these cells into proliferation down-regulates high MDR expression. The aim of this study was to determine the expression of P-glycoprotein (PGP) and cell cycle parameters (cyclin D1 and Ki-67) in acute lymphoblastic leukemia (ALL) at diagnosis, and to evaluate the correlation between the expressions of each marker, and the clinical significance of such expression with response to induction chemotherapy and overall survival. A total of 78 newly diagnosed ALL patients were enrolled in our study. PGP, cyclin D1 and Ki-67 were determined by flow cytometry. PGP expression was encountered in 10/78 (12.8%) of ALL cases. Cyclin D1 and Ki-67 were expressed in 16/77 (20.6%) and 27/76 (34.6%) of ALL cases,

respectively. None of the parameters were associated with response to induction chemotherapy and overall survival. Based on the current analysis, we conclude that a joint immunophenotypic evaluation of PGP and cell cycle parameters like that adopted in this study is unlikely to reveal mechanisms of multidrug resistance associated with the clinical outcome.

22. Mohamed A, Abou Elella G, Nasr E, and Soliman Y (2012). '*Evaluation of Fibronectin-Binding Protein Ag85-B as Target for Serodiagnosis of Swine Mycobacteriosis in Living Animals.*' **J Mycobac Dis S**; 2: 2161-1068.

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(***Laboratory Medicine Department***)

ABSTRACT

The aim of the current study was to evaluate the fibronectin-binding protein Ag85-B as a potential antigen for ELISA-based serodiagnosis of swine mycobacteriosis in living pigs. The validity of Ag85-B, in comparison with tuberculin purified protein derivatives (PPD), for the serodiagnosis of swine mycobacteriosis was investigated in the current study. A total of 89 serum samples from previously confirmed Mycobacterium and non-Mycobacterium infected slaughtered pigs were used for the evaluation study. These included 66 serum samples from confirmed cases with swine mycobacteriosis and 23 samples from non-Mycobacterium infected cases. Obtained ELISA results revealed an overall accuracy index, sensitivity, specificity, positive predictive value, and negative predictive value of 87.6%, 87.9%, 86.9%, 95.1%, and 71.4%, respectively for Ag85-B as compared to 80.9%, 86.4%, 65.2%, 87.7%, and 62.5%, respectively for tuberculin PPD. In conclusion, the study revealed the reliability of Ag85-B as a potential candidate for ELISA-based serological assay that would provide for early and rapid diagnosis of swine mycobacterial infections in living animals.

23. Mohamed A, Abdel-Rady A, Ahmed L, and El-Hosary A (2012). '*Evaluation of indirect TaSP enzyme-linked immunosorbent assay for diagnosis of tropical theileriosis in cattle (Bos indicus) and water buffaloes (Bubalus bubalis) in Egypt.*' **Veterinary parasitology**; 186: 486-489.

http://www.sciencedirect.com/science/article/pii/S0304401711007606

(***Laboratory Medicine Department***)

ABSTRACT

The aim of the present study was to evaluate the validity of Theileria annulata surface protein (TaSP)-ELISA, in comparison with traditional microscopic test, for the diagnosis of T. annulata infection among Egyptian baladi cattle (Bos taurus) and water buffaloes (Bubalus bubalis). Molecular confirmation of infection using T. annulata merozoite surface (Tams-1) target amplification by PCR was used as a gold standard. A total of 76 clinically suspected animals including 64 baladi cattle and 12 water buffaloes were investigated in the current study by the three methods. Based on the PCR-confirmed results, the evaluation study revealed higher sensitivity of TaSP-ELISA (72.9% and 75%) as compared to microscopic examination (58.3% and 50%) among cattle and buffaloes, respectively. On the other hand, the specificity of TaSP-ELISA in diagnosis of T. annulata infection was higher

(87.5%) in baladi cattle as compared to water buffaloes (37.5%). In conclusion, TaSP-ELISA was shown to be suitable for the diagnosis of T. annulata infection in cattle under field conditions.

24. Ali MME, El-Megeid AAA and **Mostafa RAA** (2012). '*Effect of some levels from ginseng, barley and carob on lipid profile and kidney functions of rats fed on high fructose diet.*' **Journal of American science**; 8: 152-162.

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(***Clinical Nutrition Department***)

ABSTRACT

The main target of the present investigation is to study the effect of three levels from ginseng, barley and carob (2.5%, 5% and 7.5%) and their combinations on biological value, lipid profile and kidney functions and histopathological examination in kidney of rats fed on high fructose diet. Seventy male Sprague albino rats divided into two main groups. The first group fed on basal diet as a (-ve control group), while the second main group fed on high fructose diet for two weeks. The second main group divided into thirteen subgroups. Subgroups (1, 2&3) fed on high fructose diet (HFD) containing 2.5%, 5% and 7.5% ginseng, respectively. Subgroups (4, 5&6) fed on HFD containing 2.5%, 5% and 7.5% barley, respectively. Subgroups (7, 8 & 9) fed on HFD containing 2.5%, 5% and 7.5% carob. Subgroups (10, 11&12) fed on HFD containing 2.5%, 5% and 7.5% combination of (ginseng, barley and carob). Subgroups (13) fed on HFD only (control positive group). At the end of the experimental period (4 weeks) rats were fasted over night before sacrificing, blood was collected then centrifuged to separate the serum. Kidney was removed from each rat, cleaned and weighted to estimate of kidney weight / body weight percent. Kidney was examined hestopathologically. The obtained results revealed that, feeding rats on high fructose diet led to significant increase in (body weight gain %, kidney weight/body weight %, cholesterol, triglycerides, LDL-c, VLDL-c, uric acid, urea nitrogen, creatinine) and decreased (food intake and HDL-c). Feeding rats on high fructose diet with the different levels from ginseng, barley, carob and their combinations improved all parameters and kidney weight, especially when used the high level from (barley, ginseng and combination of ginseng, barley and carob). The histopathological examination in the kidney confirmed this improvement.

25. **Refaat B** and Ledger W (2011). '*The expression of activins, their type II receptors and follistatin in human Fallopian tube during the menstrual cycle and in pseudo-pregnancy.*' **Human reproduction**; 26: 3346-3354.

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(***Laboratory Medicine Department***)

ABSTRACT

Background: The Fallopian tube (FT) is the site of fertilization and early embryonic development. We have previously reported the expression of activins, their receptors and follistatin by the FT. Here, our aim was to study the expression of tubal activins, their type II receptors and follistatin during the menstrual cycle and following exposure to hCG in vivo. **Method:** A set of 30 FTs were collected from cycling women (n = 12) at different stages of the cycle (n = 4 in each stage) and pseudo-pregnant women (n = 3) at the time of hysterectomy for benign disease. The pseudo-pregnant women

were injected with hCG in the days leading up to hysterectomy, and pseudo-pregnancy was confirmed by the persistence of amenorrhea, the presence of corpus luteum and decidualization of the endometrium. FT specimens were examined using immunohistochemistry and quantitative RT-PCR. **Results:** The expression of activin βA- and βB-subunits, activin type IIA and IIB receptors, and follistatin varied throughout the menstrual cycle, being lowest in the follicular phase and highest in the luteal phase. These results were demonstrated at the mRNA and protein level by quantitative RT-PCR and immunohistochemistry ($P< 0.05$). HCG injection rescued the expression of the candidate molecules from falling to the follicular stage levels but the expression remained lower than in the luteal phase. **Conclusions:** We suggest that activins play a role in tubal physiology and early embryonic development. Additionally, exposure of the tubal epithelium to hCG modulates the expression of tubal activins.

26. Refaat B, Simpson H, Britton E, Biswas J, Wells M, Aplin JD, and Ledger W (2012). '*Why does the fallopian tube fail in ectopic pregnancy? The role of activins, inducible nitric oxide synthase, and MUC1 in ectopic implantation*.' **Fertility and sterility**; 97: 1115-1123.

http://www.fertstert.org/article/S0015-0282(12)00269-5/abstract

(***Laboratory Medicine Department***)

ABSTRACT

OBJECTIVE: To investigate the role of activin-βA subunit, activin type II receptors, inducible nitric oxide synthase (iNOS), and MUC1 in the pathogenesis of ectopic pregnancy (EP) and their involvement in the determination of the implantation site. **DESIGN:** Observational study. **SETTING:** Academic unit of reproductive and developmental medicine. **PATIENT(S):** Four women at the luteal phase, three pseudopregnant women at the time of hysterectomy for benign disease, and 10 archived cases of EP. We collected 14 Fallopian tubes were collected from four women at the luteal phase and three pseudopregnant women at the time of hysterectomy for benign disease; specimens from implantation site, trophoblast and remote sites from the implantation site were collected from 10 archived cases of EP. **INTERVENTION(S):** Immunohistochemistry and quantitative reverse-transcriptase polymerase chain reaction (RT-PCR). **MAIN OUTCOME MEASURE(S):** Comparison of the expression of candidate molecules between the different groups. **RESULT(S):** The expression of activin-βA subunit, activin type II receptors, and iNOS was statistically significantly increased and expression of MUC1 statistically significantly decreased in tubes bearing an EP. There was no statistically significant difference in the expression of the candidate molecules between the implantation and remote sites. Candidate molecules were also expressed in the trophoblast. **CONCLUSION(S):** The pathological expression of candidate molecules by tubes bearing an EP is not involved in the determination of implantation site. Additionally, candidate molecules may play a role in the regulation of trophoblast cells in vivo during early pregnancy.

قائمة الأبحاث المنشورة 1433- 1434

[الأجمالى 35 ورقة علمية]

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3. Bukhari SZ, Qazi JI, **Ashshi AM**, and Zia N (2012) Human immunodeficiency virus type-1 (HIV-1) disease progression and viral activity: a seroepidemiological and molecular study. Journal of the College of Physicians and Surgeons--Pakistan: JCPSP; 22: 565-569. (ISI; IF = 0.3)

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10. El-Sebaei M, El-Ashker M, and **El-Boshy M** (2013). The role of acute phase cytokines in the recovery and disease progress of Theileria annulata-infected cattle. Comparative Clinical Pathology;1-6. (ISI; No IF; cited 1)

11. Abdalla OA, **EL-Boshy ME**, Hamid FMA, and Ali NM (2013). Clinicopathological studies of dietary supplementation of Saccharomyces cerevisiae in calves. Journal of American Science; 9. (Non-ISI)

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13. **El-Boshy ME**, Abdalla OM, Risha A, and Moustafa F (2013). Effect of Withania somnifera Extracts on Some Selective Biochemical, Hematological, and Immunological Parameters in Guinea Pigs Experimental Infected with E. coli. ISRN veterinary science; 2013:153427. (Non-ISI, Cited 1)

14. Al-Kushi AG, **El-Boshy ME**, **ElSawy NA**, Omar OSO, **Header EA** (2013). Pathological Comparative Studies on Aqueous and Ethanolic Extracts of Zingiber officinale on Antioxidants and Hypolipidemic Effects in Rats. Life Science Journal; 10: 2393-2403. (Non-ISI)

15. **El-Boshy M** and Abdall O (2013) Effect of lactoferrin on some selective immunological parameters in rats immunosuppressed by cyclophosphamide. Journal of Investigational Biochemistry; 2: 136-140. (Non-ISI; Cited 1)

16. El-Ashker M, Salama M, and **El-Boshy M** (2013). Traumatic reticuloperitonitis in water Buffalo (Bubalus bubalis): clinical findings and the associated inflammatory response. Journal of Veterinary Medicine; 2013. (Non-ISI; Cited 1)

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31. Osfor M, Kensarah OA, Azzeh FS, Elmadbouly M and El-Qutry M (2013). Biochemical changes in lipid and carbohydrate metabolism in obese diabetic male albino rats. International Journal of Nutrition and Food Sciences; 2: 24-30. (Non-ISI)

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33. Osfor MMH, Elmadbouly MA, Elsoadaa SS, Metair AH and **Hussain AAA** (2013). Relation between Hypercholesterolemia and Insulin like growth factor-1 in Elderly Women suffer from Hypothyroidism. Journal of Natural Sciences Research; 3: 160-164. (Non-ISI)

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ملخص الأبحاث المنشورة 2012-2013:

1. Abdelhafez AM and El-Madbuly MA (2013). '*Factors Associated with Inadequate Dietary Iron Intake among University Female Students in Makkah, Saudi Arabia.*' **Journal of American Science**, 9 (2):141- 149.

http://www.jofamericanscience.org/journals/am-sci/am0902/019_15814am0902_141_149.pdf

(***Clinical Nutrition Department***)

ABSTRACT

Iron deficiency is the most common nutritional problem among females. The aim of the current study was to evaluate the dietary iron intake and the factors influencing it among university female students in Makkah ,Saudi Arabia. A Cross sectional study was conducted on 240 students. Self -administered questionnaire was used to collect demographic, medical, and dietary histories. Weight, height, and Body Mass Index(BMI) were recorded**.** The Arab Food Analysis Program was used for energy and nutrient analysis**.** Results showed that (42.5%) of students had inadequate dietary iron intake. The inadequate group was consuming < 80% of the recommendation of almost all macro and micronutrients (P < 0.001). Regression analysis showed that skipping meals, taking phosphorus, and niacin below 80 % Recommended Daily Allowance (RDA)were independently related to inadequate iron intake (P < 0.05). It is advisable to design nutrition educational program to improve students' awareness of this problem.

2. **Abdelhafez AM** and **Al-Mashi SSM** (2013). '*Prevalence of Obesity and Some Related Attributes among Umm Al-Qura University Female Students in Makkah, Saudi Arabia.*' **Pakistan Journal of Nutrition**, 12: 275-284.

http://www.pjbs.org/pjnonline/fin2605.pdf

(***Clinical Nutrition Department***)

ABSTRACT

Objective: The prevalence of obesity is increasing worldwide at an alarming rate in both developing and developed countries. It has become a serious epidemic health problem, estimated to be the fifth leading cause of mortality at global level. This study was designed to determine the prevalence of obesity among students at Umm Al-Qura University in Makkah, Saudi Arabia and to investigate some of the epidemiologic risk factors contributing to it. A cross sectional study was conducted during the academic year 2009-2010. The study included 224 randomly selected students enrolled at Umm Al-Qura University. Data were collected using a pretested, structured self-administered questionnaire. Weight, height, waist hip ratio and Body Mass Index (BMI) were recorded for each student. Statistical analysis was done using SPSS version 16. The prevalence of overweight and obesity among the studied students was 25% (19.2%, were overweight and 5.8% were obese). Factors behind overweight and obesity were; high family monthly income, family history of obesity, eating while bored, depressed and upset. The association between physical activity, dietary factors and obesity were not observed in this study. Our findings suggest the need for strategies and coordinated efforts at all levels to reduce the tendency of overweight and obesity and to promote healthy eating habits in our youth.

3. Bukhari SZ, Qazi JI, **Ashshi AM**, and Zia N (2012). '*Human immunodeficiency virus type-1 (HIV-1) disease progression and viral activity: a seroepidemiological and molecular study.*' **Journal of the College of Physicians and Surgeons--Pakistan: JCPSP**; 22: 565-569.

http://jcpsp.pk/archive/2012/Sep2012/05.pdf

(***Laboratory Medicine Department***)

ABSTRACT

Objective: To determine the frequency and epidemiological characterization of human immunodeficiency virus type-1 (HIV-1) infection, HIV disease progression, immune status and viral activity. **Study design:** Descriptive study. **Place and duration of study:** Department of Microbiology, University of the Punjab and Institute of Public Health, Lahore, from September 2005 to August 2008. **Methodology:** The study enrolled samples from general population, high risk groups and spouses of HIV+ deport workers with criteria; positive double enzyme linked immunosorbent assay (ELISA) and positive western blot. Immune status and viral activity was determined by cluster determinants (CD4+ and CD8+) cell count, ratio of CD4+/CD8+ on flow cytometer, and HIV RNA viral load on polymerase chain reaction (PCR). **Results:** A total of 116 HIV+ untreated subjects enrolled after screening of 2260 blood samples. The seroprevalence rate in general population, high risk individuals and spouses of HIV+ deport workers was found 0%, 0.4% and 26% respectively. The CD4+ cell count was found 533/mm3 (range 12-1800/mm3) and plasma viral load 27,122 copies/ml (range 00-40,621). The CD4+/CD8+ ratios < 0.5, < 1, < 1.5 and < 2 appeared as 17.2%, 30.2%, 51.7% and 0.9% respectively. Significant correlation was observed between plasma viral load, CD4+ count and CD4+/CD8+ ratio ($p = 0.001$). CD4+ T-cell counts < 200 cells/mm3 was found in 23 HIV+ patients. **Conclusion:** There was a low frequency of HIV in the general population and high risks groups as compared to very high frequency in spouses of HIV+ deport workers with significant correlation of viral activity and immune status.

4. **Ashshi A**, Faidah H, Saati A, **Abou Elella GA**, Alghamdi A, and **Mohamed A** (2013). '*Urinary Tract Infections in Pregnant Women, Assessment of Associated Risk Factors in Makkah, KSA.*' **Biosciences Biotechnology Research Asia**; 10: 1-8.

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(***Laboratory Medicine Department***)

ABSTRACT

Urinary tract infection represents a serious health problem in pregnant women. Many risk factors could contribute to the occurrence of UTI in pregnant women. The aim of the current study was to assess different risk factors that may influence the infection among pregnant women in Makkah, KSA. A total of 200 pregnant women that visited maternity and children hospital in Makkah were investigated. Personal data as well as medical history and some risk factors data were collected using a well-structured questionnaire. Midstream clean catch urine samples for urinalysis, and urine culture were collected from all investigated cases for diagnosis of UTI. The results revealed the presence of significant association between some investigated risk factors and UTI in pregnant women. The risk factors that were recorded to influence UTI among pregnant women in the current study including advanced age, low educational level, multiparity, as well as unsatisfactory personal hygiene. Moreover, diabetic condition, using IUD as contraceptives and using panties of silky materials are among the influencing factors. In conclusion, extreme care has to be taken by pregnant women in particular and women in general towards personal hygiene, type of contraceptives and type of panties materials. In addition, diabetic condition should be avoided or controlled in order to decrease the risk of UTI.

5. Faidah H, **Ashshi A, Abou Elella G,** Alghamdi A, and **Mohamed A** (2013). '*Urinary Tract Infections among Pregnant Women in Makkah, Saudi Arabia*.' **Biomedical & Pharmacology Journal**; 6: 01-07.

https://www.researchgate.net/publication/257373489_Urinary_Tract_Infections_among_Pregnant_Women_in_Makkah_Saudi_Arabia

(***Laboratory Medicine Department***)

ABSTRACT

Urinary tract infection represents a serious health problem in pregnant women. Scarce information is available about the profile of urinary tract infections among pregnant women in Makkah, KSA. The aim of the current study was to study the prevalence of UTI among pregnant women in Makkah, KSA and to investigate the most frequent causative agents and drug resistance profiles associated with such infections. A total of 200 pregnant women that visited Maternity and Children Hospital in Makkah were investigated. Personal data as well as medical history were collected using a well-structured questionnaire. Midstream clean catch urine samples for urinalysis, and urine culture were collected from all investigated cases. The results revealed that 20% of investigated pregnant women were positive for UTI (12% with symptomatic UTI and 8% were asymptomatic). Escherichia coli was the most frequently isolated bacterial agent (25%) from both symptomatic and asymptomatic bacteriuria. Amoxicillin, cefoxitin, celtaxidime, fusidic acid, norfloxacin, ofloxzcin and penicillin showed the least resistance frequency (2.6%). In conclusion,

high rate of UTI infection (20%) was recorded among pregnant women with E. coli being the most frequently encountered causative agent. Although symptoms are good markers of UTI during pregnancy, special care has to be directed towards asymptomatic cases. Finally, Amoxicillin, cefoxitin, celtaxidime, norflaoacin, penicillin and fusidic acid are the most useful antibiotics for treatment of UTI as they were able to inhibit most of the currently isolated UTI pathogens.

6. **Abou Elella GA, Mohamed A**, and Aamer A (2013). 'Prevalence of Enteropathogens Associated with Neonatal Calf Scour in Cattle and Buffalo Calves using (FASTEST® STRIPS) Rapid Field Test.' **Assiut Vet. Med. J**; 59: 19-26.

http://www.aun.edu.eg/journal_files/118_J_6361.pdf

(***Laboratory Medicine Department***)

ABSTRACT

The prevalence of calf scour-causing enteropathogens was investigated in the current study using rapid field test. Fecal samples were collected from a total of 124 cattle (Bos indicus) and water buffalo (Bubalus bubalis) calves. Investigated calves were divided into 4 age groups (0–4 days old, 5–14 days old, 15–21 days old and >21 days old). Immuno-chromatographic rapid tests (FASTest® Strips) were used for the detection of Bovine coronavirus, rotavirus, Cryptosporidium parvum and E.coli-K99 (F5) from investigated diarrheic calves. In cattle calves (n= 76), C. parvum was the most frequently encountered infection among all age groups followed by rotavirus with an overall rate of 59.2% and 35.5%, respectively. In water buffalo calves (n = 48), the highest infection rate was recorded for C. parvum (39.6%) followed by both rotavirus and E.coli (20.8% each) in all age groups with exception of the first age group (0-4 days-old), where the highest infection rate was recorded as E.coli (57.1%) followed by C. parvum (28.6%). In conclusion, C. parvum was reported as the most frequently encountered causative agent among both cattle and water buffalo calves whilst coronavirus infection seemed to be of minor importance in the investigated population. The higher rate of C. parvum infection was recorded among the second age group (5-14 day old) of cattle calves and the forth age group (> 21 day old) of water buffalo calves, whilst the highest rate of E.coli-K99 (F5) infection was recorded among the first age group (0-4 days) of both cattle and water buffalo calves.

7. **Azzeh, FS** (2013). '*Synergistic Effect of Green Tea, Cinnamon and Ginger Combination on Enhancing Postprandial Blood Glucose*.' **Pakistan Journal of Biological Sciences**, 16: 74-79.

http://www.ncbi.nlm.nih.gov/pubmed/24199490

(***Clinical Nutrition Department***)

ABSTRACT

This study was maintained to determine the immediate effect of green tea, cinnamon, ginger and combination of them on postprandial glucose levels. The Glycemic Index (GI) for previous treatments was measured as an indicator for postprandial glucose pattern. Twenty-two healthy volunteers from both genders were enrolled in this study. Mean age was 21.3 years and mean BMI was 24.6 kg m(-2). For each herb and combination treatment, a concentration of 2.5% aqueous tea extract was prepared. The GI of green tea, cinnamon and ginger were 79, 63 and 72 respectively. Herbs combination exerted GI of 60, which was the lowest. Combination of these herbs showed the best lowering effect on postprandial glucose levels as compared with each herb alone. A potential synergism from the active ingredients of blended herbs was determined.

8. **Baddour AA** and **Saleh HA** (2013). '*Use Six Sigma Approach to Improve Healthcare Workers Safety.*' **International Journal of Pure Applied Sciences and Technology**; 18: 54-68.

http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.401.2339&rep=rep1&type=pdf

(***Health Management Department***)

ABSTRACT

Health care workers (HCWs) suffer between 600,000 and one million injuries from conventional needles and sharps annually. These exposures can lead to hepatitis B, hepatitis C and Human Immunodeficiency Virus (HIV), the virus that causes AIDS. At least 1,000 Health care workers are estimated to contract serious infections annually from needle stick and sharps injuries. The aim of this study was use of six sigma approach by utilizing the five-step DMAIC process to identify the causes, practice and conditions related needle stick injuries and proposing the appropriate policies and procedures to decrease the incidence of needle stick injuries to improve safety of healthcare workers. This study could serve as valuable serve as valuable models for other safety concerns in the health care workplace.

9. Omar OAS, **Bukhari HM, ElSawy NA**, and **Header EA** (2013). '*Efficacy of Capsicum Frutescens in Curing the Peptic Ulcer.*' **Int. J. Pure Appl. Sci. Technol**; 15: 43-54.

http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.301.2104&rep=rep1&type=pdf

(***Clinical Nutrition & Laboratory Medicine Departments***)

ABSTRACT

Chili peppers are often used around the world to make a wide variety of sauces, known as hot sauce, chili sauce, or pepper sauce. Red chilis contain high amounts of vitamin C and carotene (provitamin A). meanwhile Several studies found that capsaicin could have an anti-ulcer protective effect on stomachs infected with H. pylori by affecting the chemicals the stomach secretes in response to infection. The present study was designated to clear out the effect of aqueous extracts of red chilli pepper (RCP) and some spicy foods on healing acute gastric ulcer induced by aspirin in rats. Sixty six adult male albino rats (170+5g B.Wt.) of Sprague Dawley Strain were obtained from animal house of the faculty of medicine, Um Al Qura University were used and disported into 6 groups (n= 6 rats), one of them used as control -ve while other groups had given aspirin orally (200mg/kg B.Wt.), one of these groups left as control +ve and other groups administrated with aqueous extracts of RCP at doses of 300 and 600 mg/kg B.Wt. and 30% spicy nuggets and chicken for seven days. The length of gastric ulcer, volume of gastric juice, pH value, and histopathological changes were examined. Our results revealed that, oral administration of aspirin (200mg/kg B.Wt.) induced gastric ulcer in rats; the mean length of gastric ulcer in control +ve group was higher compared with in control -ve group. Also, Oral administration of RCP extract at a dose of 600mg/kg B.Wt., caused high decrease in the length of gastric ulcer. On the other hand, the lowest decrease of gastric ulcer length was happened in rats fed on 30% spicy nuggets. The results concluded that oral administration with all tested plants reduced the length of gastric ulcer, volume of gastric juice, and histopathological changes. On the other hand,

RCP extracts increased pH value of gastric juice. According to the results, RCP could be used for healing acute gastric ulcer disease.

10. El-Sebaei M, El-Ashker M, and **El-Boshy M** (2013). '*The role of acute phase cytokines in the recovery and disease progress of Theileria annulata-infected cattle.*' **Comparative Clinical Pathology**;1-6.

http://link.springer.com/article/10.1007%2Fs00580-013-1812-7

(***Laboratory Medicine Department***)

ABSTRACT

The present study was conducted to evaluate the cytokine response following natural infection of*Theileria annulata* in cattle. Initial survey included 173 crossbred cattle which were examined for the presence of *Theileria* piroplasms. The investigated cattle were clinically and parasitologically examined. Blood samples were collected from all examined cattle for microscopic examination, PCR assays (using primers of *Theileria* spp., *Babesia* spp., and *T. annulata*), and cytokines measurement. It was found that 38 cattle were positive for the presence of at least one species of*Theileria;* meanwhile *Babesia* piroplasms were not detected either by microscopy or PCR assay. When *T. Annulata*-specific primers were used, 33 gave positive results. Twenty-two out of 33 *T. annulata*-infected cattle were only included in this study together with contemporaneous controls ($n = 10$). According to the severity of clinical signs, *T. annulata*-infected cattle were categorized into two groups; group 1 included ten cattle with mild clinical signs and group 2 included 12 cattle with overt clinical signs. Biochemically, tumor necrosis factor alpha, interleukin (IL)-1β, IL-6, IL-12, haptoglobin, and Fb were significantly higher ($p < 0.05$) in diseased cattle compared to control and in cattle of group 2 compared to those in group 1, while interferon gamma showed no significant variations between the two groups. We conclude that measurements of the pro-inflammatory cytokines following *T. annulata* infection provide a valuable and quantitative assessment of the response to infection. It seems likely that the pro-inflammatory cytokines play an important role in the host response to *T. annulata*. Our findings suggest that the pro-inflammatory cytokines are suitable markers of inflammatory reactions in *T. annulata*-infected cattle.

11. Abdalla OA, **EL-Boshy ME**, Hamid FMA, and Ali NM (2013). '*Clinicopathological studies of dietary supplementation of Saccharomyces cerevisiae in calves.*' **Journal of American Science**; 9.

http://www.jofamericanscience.org/journals/am-sci/am0909/039_20600am0909_398_406.pdf

(***Laboratory Medicine Department***)

ABSTRACT

Background and Objectives: The present study aimed to evaluate some selective immunological, antioxidant and biochemical parameters as well as growth promoters effects of Saccharomyces cerevisiae supplementation as a feed additives in calves. Material and Methods: Thirty buffalo calves were divided into 3 groups. Group I: control one, Group II: treated orally with Saccharomyces cerevisiae (Sc) at a dose rate 30g once daily/calf for 12 weeks and groupIII: treated with 60g Sc once daily/calf for 12 weeks. Results: The treatment with Saccharomyces cerevisiae resulted in significant increase in the body weight, blood glucose level, total protein, albumin and A/G ratio, while AST, LDH activities, globulin concentration, uric acid and creatinine levels are insignificantly changed. The

level of MDA is significantly decrease. Meanwhile catalase, GSH level, serum lysozyme, bactericidal activity and serum NO level are significantly increased Conclusions: we are concluded that Saccharomyces cerevisiae treatment of the calves has desirable effects on the body weight, serum antioxidant enzymes and some immunological parameters. Also has no toxic effect on kidney or liver functions.

12. Abdalla OA, **EL-Boshy ME**, El-Khodary SA, Reisha EF and Gadalla HA (2013). '*Selective Serum Oxidant, Antioxidant and Trace Elements Profile in Ossimi Sheep Affected with Pregnancy Toxemia.*' **Life Science Journal**; 10:2833-2837.

https://www.researchgate.net/publication/259502975_Selective_Serum_Oxidant_Antioxidant_and_Trace_Elements_Profile_in_Ossimi_Sheep_Affected_with_Pregnancy_Toxemia

(***Laboratory Medicine Department***)

ABSTRACT

Pregnancy toxemia is a metabolic disorder affecting mainly sheep usually during last period of gestation specially those bearing twines and reflected by nervous signs in affected animals. A totally (265) examined sheep, about (8) cases was tentatively diagnosed as pregnancy toxemia according to the previous case history, present clinical signs and serum biochemical analysis. Our serum chemistry parameters revealed a significant elevation in creatine kinase (CK) activity, β-Hydroxybuteric acid (βHBA), creatinine and urea levels with a significant reduction in glucose value in pregnancy toxemia comparing to control pregnant. Oxidative stress and antioxidant biomarkers in serum from pregnancy toxemic sheep show a significant increase in hydrogen peroxide (H 2 O 2) level more than control pregnant ones. Also, a significant decrease of glutathione peroxidase (GPx) activity, total antioxidant capacity (TAC) and vitamin C (Vit C) in pregnancy toxemia group compared to control pregnant group. The trace elements study revealed a significant increase in the level of copper (Cu) and iron (Fe) while a marked decrease of zinc (Zn) value in pregnancy toxemia cases than control pregnant group. In conclusion, the oxidative stress markers and antioxidants with trace elements analysis could provide a great overview for their role in pathogenesis of pregnancy toxemia in Ossimi sheep.

13. El-Boshy ME, Abdalla OM, Risha A, and Moustafa F (2013). '*Effect of Withania somnifera Extracts on Some Selective Biochemical, Hematological, and Immunological Parameters in Guinea Pigs Experimental Infected with E. coli.*' **ISRN veterinary science**; 2013:153427.

http://www.hindawi.com/journals/isrn/2013/153427/

(***Laboratory Medicine Department***)

ABSTRACT

Fifty 1-2-month-old Guinea pigs were divided into 5 equal groups, 10 each. Control (Gp1) did receive neither viable bacteria nor treatment. Each animal from the other groups (Gp2-5) was challenged with (1-2 × 10(8)) viable E. coli in 200 μ L normal saline (0.9%) through IP route. GP2 infected group was treated with 200 μ L saline IP and kept as positive control group. Gp3-4 are infected and treated with Withania somnifera (ethanol root extract) with doses 50 and 100 mg/kg. BW, respectively. Gp5 infected treated group was treated with cefoperazone antibiotic at dose 35 mg/Kg BW. The treatment

by drug or the extracted medicinal plant was started 72 h after infection for 7 successive days. Serum and whole blood sample were collected from all groups 14 days after treatment to evaluate some hematological and biochemical changes as well as immunomodulatory cytokine tumor necrosis factor-alpha (TNF- α). Oral treatment of the plant extract caused significant benefit results in infected Guinea pig appeared in the correction of some hematological and biochemical parameters also try to suppressed inflammatory cytokine response represent in TNF- α . It could be concluded that W. somnifera extract has potent antibacterial activity, and this appears in the correction with hematological, biochemical, and immunological results.

14. Al-Kushi AG, **El-Boshy ME**, **ElSawy NA**, Omar OSO, **Header EA** (2013). '*Pathological Comparative Studies on Aqueous and Ethanolic Extracts of Zingiber officinale on Antioxidants and Hypolipidemic Effects in Rats*.' **Life Science Journal**; 10: 2393-2403.

https://www.researchgate.net/publication/258208368_Pathological_Comparative_Studies_on_Aqueous_and_Ethanolic_Extracts_of_Zingiber_officinale_on_Antioxidants_and_Hypolipidemic_Effects_in_Rats

(***Laboratory Medicine and Clinical Nutrition Departments***)

ABSTRACT

Objectives: This study was designed to evaluate the effect of Zingiber officinale extract on oxidative stress and plasma lipid profile in rats through antioxidant enzymatic activities, some selective biochemical analysis and histopathological examination on liver, kidney and stomach in rats through pathological investigation by histpathological and ultra-structure lesions. **Methods:** Thirty male albino rats of body weight 150-200 gm, were divided randomly into 5 equal groups as follow: Group I; normal control, Groups; II & III; received aqueous extract of Zingiber officinale (200 & 400 mg/kg b wt.) respectively. Groups; IV & V received Zingiber officinale ethanol extract (200 & 400 mg/kg b wt.) respectively. The extracts were orally administered daily for 30 days. At the end of experiment period, tissues specimens were obtained from all groups and were fixed in 10% neutral buffered formalin for histopathological and ultra-structure examination. **Results:** GSH level revealed significant increase in all Zingiber officinalis treated groups, compared to the control. SOD showed significant increase and MDA decrease in group IV only compared to the control group. Serum Triglycerides level reveled significant decrease in Zingiber officinalis treated groups (II, IV, V) compared to the control. Serum total cholesterol and cholesterol -LDL levels showed significant decrease in all Zingiber officinalis treated groups compared to the control. Liver transaminase activities and urea serum level showed significant increase in higher dose of ethanol extract (Gp. V) compared to control group. The pathological lesions were observed only in higher dose of Zingiber officinale ethanol extract, mild vacuolar degeneration of hepatocytes. The renal lesions were observed by marked granularity of the cytoplasm renal tubules, also ultra-structures approved multiple cytoplasmic vacuoles with heterochromatic nucleus, moreover tunica intima of renal artery fused with tunica media. The gastric examination showing sloughing of gastric mucosa with leukocytes infiltration. Conclusion: Although Zingiber officinale extracts have been documented an effective in hypolipidemic effects and exerting antioxidant effect by enhance antioxidant activities and reduce oxidative stress. The present results conclude that, the Zingiber officinale aqueous extract more safe in compare with ethanol extract and more further studies are recommended to evaluate Zingiber officinale side effect regarding to the type of extracts, doses and duration administration.

15. **El-Boshy M** and Abdall O (2013). '*Effect of lactoferrin on some selective immunological parameters in rats immunosuppressed by cyclophosphamide*.' **Journal of Investigational Biochemistry**; 2: 136-140.

http://www.scopemed.org/?mno=37078

(***Laboratory Medicine Department***)

ABSTRACT

Eighty male albino rats (350±10 g) 10 to 12 weeks old were conducted in our study. Rats were randomly divided into four, equal groups. The groups treated as following: 1st control group (Gp. A) was given intraperitoneal normal saline (1 mL). 2nd group (Gp. B) was given a single intraperitoneal dose (250 mg/kg body weight) of Cyclophosphamide (CP) on the first day of the experimental period. 3rd group (Gp. C) CP and lactoferrin (LF) treated group. 4th group (Gp. D) administrated LF only (0.5%) in drinking water. Two separate blood samples were collected from heart puncture at end of 1st and 3rd week post treatment for hematological, biochemical and immunological studies. The leukogram of CP treatment group showed severe leucopenia (lymphopenia, neutropenia as well as eozinopenia) as well as decrease total protein and albumin blood level. Immunosuppressive effect of CP is documented in our work by decrease gamma globulin and elevation tumor necrosis factor Alfa (TNF ά). This study revealed that oral treatment with LF can partially reconstitute humoral and cellular immune response in rats given a sub-lethal dose of CP.

16. El-Ashker M, Salama M, and **El-Boshy M** (2013). '*Traumatic reticuloperitonitis in water Buffalo (Bubalus bubalis): clinical findings and the associated inflammatory response*.' **Journal of Veterinary Medicine**; 2013.

http://www.hindawi.com/journals/jvm/2013/808656/

(***Laboratory Medicine Department***)

ABSTRACT

The present study was carried out to describe the clinical picture of traumatic reticuloperitonitis (TRP) in water buffalo (Bubalus bubalis) and to evaluate the inflammatory and immunologic responses for this clinical condition. Twenty-two buffalo with acute local TRP were monitored in our study. Additionally, 10 clinically healthy buffalo were randomly selected and served as controls. Acute local TRP was initially diagnosed by clinical examination and confirmed by ultrasonographic (USG) examination and/or necropsy findings. Blood samples were collected from all examined buffalo to measure the respective levels of tumor necrosis factor alpha (TNF-α), interleukin (IL)-1β, IL-6, IL-10 and interferon gamma (INF)-γ, serum amyloid A (SAA), C-reactive protein (CRP), haptoglobin (Hp), fibrinogen (Fb), and serum sialic acid (SSA). It was found that TNF-α, IL-1β, IL-6, IL-10, SAA, CRP, Hp, Fb, and SSA were significantly higher in buffalo with TRP than the controls. Our findings suggest that the examined immunologic variables were helpful in documenting the inflammatory response in buffalo with TRP. However, their diagnostic usefulness only becomes apparent when considered in tandem with the clinical findings for any given animal, its anamnesis, and a subsequent USG assessment. Due to the frequent complications of TRP, more accurate indicators of its occurrence and severity would be useful.

17. Elgazar AF, Rezq AA and Bukhari HM (2013). '*Anti-Hyperglycemic Effect of Saffron Extract in Alloxan-Induced Diabetic Rats*.' **European Journal of Biological Sciences**; 5: 14-22.

http://www.idosi.org/ejbs/5(1)13/3.pdf

(***Clinical Nutrition Department***)

ABSTRACT

Saffron (Crocus sativus) from iridaceous genus is a stable grass and is considered as an important herb in medical, cosmetics and hygienic industries. The aim of present study was to investigate the effect of given oral administration of saffron water extract with different dosages on alloxan-induced diabetic rats. Thirty five male albino rats of Sprague-Dawley strain weighing 200 ± 5 g were divided into five groups of equal number and weight. Group I, normal control rats; group II, diabetic control rats; and groups III, IV and V, diabetic rats, given orally saffron extract by tube feeding at levels of 200, 400 and 600 mg/kg of body weight, respectively. Oral administration of saffron extract at the three different doses caused significant increase in body weight and serum insulin level in all treated diabetic groups, while significantly reduced blood glucose levels as well as the improvement in lipid profile and liver and kidney functions compared to the positive control group. Histological study showed that pancreas sections of rats from positive control group had hypertrophy and hyperplasia of β-cells of islets of langerhans associated with pyknosis of their nuclei. However, treated rats with 200 mg/kg b.wt of saffron extract had vaculations of acinar epithelial lining in pancreas. Slight hypertrophy of islets of langerhans was demonstrated in pancreas of treated rats with 400 mg/kg b.wt. Apparently normal histological structure of pancreas was found in treated group with 600 mg/kg b.wt. In conclusion administration of saffron extract reduced blood glucose level and the incidence of different complications as results of hyperglycemia. Saffron have an advantage due to the presence of associated bioactive compounds with antioxidant properties which may exert further health promoting effects.

18. AbdulJawad SA, Hasanein MA, **Header EA** (2013). '*Influence of Aqueous Extract of Red Chillis Pepper as Curative for Gastric Ulcer in Albino Rats*.' **Journal of Natural Sciences Research**; 3(4).

http://www.iiste.org/Journals/index.php/JNSR/article/view/4904

(***Clinical Nutrition Department***)

ABSTRACT

The present study was carried out elucidate the effect of aqueous extracts of red chillis pepper (*Capsicum frutescence*) at three doses on the length of gastric ulcer induced by aspirin in rats. Thirty adult male albino rats (Sprague Dawley Strain) weight 175±5g were used and divided into 5 groups, each of 6 rats. The first group was used as a control negative (-ve) and fed on the basal ration only, other groups had given aspirin orally (200 mg/kg B.Wt.), one of these groups left as control +ve (ulcerated rats) and other groups administrated with aqueous extract of red chillis pepper (RCP) at doses of 250, 500 and 750 mg/kg B.Wt. for seven days. The length of gastric ulcer, volume of gastric juice, pH value and histopathological changes of gastric were examined. The results revealed that oral administration of RCP extract at 250, 500 and 750mg/kg B.Wt. reduced the length of gastric ulcer. On the other hand, all extracts increased pH value of gastric juice compared to control (-ve) group, meanwhile the volume of gastric juice decreased by plant extracts specially for rats feed on RCP at dose 750 mg\Kg B.Wt. Oral administration of water plant extracts decreased histopathological changes in the stomach layers and mucosa. The present study suggests that, *Capsicum frutescence* could be used for healing acute gastric ulcer disease and implemented for gastric ulcer patients

19. Kensara OA (2013). '*Protective effect of vitamin C supplementation on oxonate-induced hyperuricemia and renal injury in rats*.' **International Journal of Nutrition and Metabolism**; 5: 61-68.

http://www.academicjournals.org/journal/IJNAM/article-abstract/62C4CFA5002

(***Clinical Nutrition Department***)

ABSTRACT

Recent studies have suggested a potential direct role of mild hyperuricemia in development of chronic kidney disease independent of urate crystal formation. The present study was designed to investigate the possible anti-hyperuricemic and renoprotective effect of vitamin C, as a natural antioxidant with uricosuric property on a rat model with chronic mild hyperuricemia-induced nephropathy. A model of mild hyperuricemia was induced in male Wistar rats with an uricase inhibitor, oxonic acid (OA) (750 mg/kg per day for 4 weeks by gastric gavage). Rats were divided into four groups: (1) control; (2) OA only; (3) OA + vitamin C (200 mg/kg for 4 weeks by gastric gavage); and (4) vitamin C only. At the end of the study, rats were sacrificed under diethyl ether general anesthesia and serum levels of uric acid, creatinine and blood nitrogen urea (BUN) as well as glutathione (GSH) levels and activities of superoxide dismutase (SOD), glutathione peroxidase (GPx) and glutathione S-transferase (GST) were measured as indices of oxidative stress and anti-oxidative status in kidney tissues. Also, histopathological examination of isolated kidney tissues was performed. The administration of OA resulted in 2.4 fold increase in serum uric acid levels, and was associated with development of kidney damage characterized by a significant increase in serum levels of creatinine and BUN, and significant decreases in renal GSH levels and activities of SOD, GPx and GST.By contrast, simultaneous administration of vitamin C significantly ameliorated all these biochemical changes induced by OA. The histopathological findings supported these biochemical observations, whereby vitamin C supplementation remarkably reduced OA-induced tubulointerstitial damage and cellular infiltration in rat kidneys. These results indicate that vitamin C therapy significantly attenuated the biochemical indices, histopathological findings and oxidative stress parameters of OA-induced hyperuricemia and nephrotoxicity in rats. This may provide insight into the possible potential renoprotective effect of vitamin C supplementation against hyperuricemia nephropathy.

20. Kensara OA, **ElSawy NA**, **El-Shemi AG**, and **Header EA** (2013). '*Thymus vulgaris supplementation attenuates blood pressure and aorta damage in hypertensive rats*.' **Journal of Medicinal Plants Research**; 7: 669-676.

https://www.researchgate.net/publication/235966975_Thymus_vulgaris_supplementation_attenuates_blood_pressure_and_aorta_damage_in_hypertensive_rats

(***Clinical Nutrition & Laboratory Medicine Departments***)

ABSTRACT

In the present study, we investigated the possible antihypertensive effect of Thymus vulgaris (T. vulgaris) and its possible protective role against hypertension-induced aorta damage in hypertensive rats. Hypertension was induced by ligation of left renal artery, and T. vulgaris aqueous extract was administered (100 mg/kg/day, orally) for 8 consecutive weeks. Systolic blood pressure, body weight, and the serum concentrations of creatinine and cholesterol were measured at the beginning and at the end of the study. Thoracic aorta was isolated at the end of the study for both light and electron microscopic examinations. The antihypertensive effect of T. vulgaris was clearly observed here, as well its significant reducing effect on hypertension-induced increases in serum levels of creatinine and cholesterol. The light microscopic findings indicated that the surface endothelium of thoracic aorta of hypertensive-untreated rats was coarse, wrinkled and protuberant, and its lumen adsorbed more debris

and red blood cells; however, these phenomena were almost disappeared when these animals were treated with T. vulgaris. Similarly, the electron microscopic examinations showed a remarkable increase in aortic extracellular matrix with dispersion of their cell nuclei in hypertensive-untreated rats but not in rats treated with T. vulgaris. Therapy with T. vulgaris also reduced hypertension-induced aortic smooth muscle cell mass hypertrophy and normalized both aortic lumen diameter and media thickness. In conclusion, our results indicate that hypertension induced in rats was associated with injury of aortic tissue that may accelerate the arterial dysfunction in uncontrolled hypertensive conditions. More importantly, supplementation with T. vulgaris as herbal remedy has shown remarkable antihypertensive effect and marked improvement on hypertension-related biochemical changes and aortic vascular damage in rats.

21. Khan MA, Ashshi A, and Mahomed M (2012). '*Drug resistance patterns of acinetobacter baumannii in Makkah, Saudi Arabia.*' **Pakistan Journal of Medical Research**; 51:127.

https://inis.iaea.org/search/search.aspx?orig_q=RN:44054708

(***Laboratory Medicine Department***)

ABSTRACT

Background: Acinetobacter baumannii causes infections of respiratory, urinary tract, blood stream and surgical sites. Its clinical significance has increased due to its rapidly developing resistance to major groups of antibiotics used for its treatment. There is limited data available on antimicrobial susceptibility of A.baumannii from Saudi Arabia. **Objectives:** To determine the patterns of drug resistance of Acinetobacter baumannii and predisposing factors for its acquisition. **Subjects and Methods:** In this descriptive study, 72 hospitalized patients infected with A.baumannii were studied. The clinical and demographic data of the patients were collected using a predesigned questionnaire. Isolation and identification of A.baumannii from all clinical specimens were done using standard microbiological methods. Antibiotic susceptibility testing was performed by disk diffusion method recommended by Clinical Laboratory Standards Institute. **Results:** Majority of the isolates (61.1%) were from respiratory tract infections. A.baumannii isolates showed high drug resistance to piperacillin (93.1%), aztreonam (80.5%), ticarcillin, ampicillin, and tetracycline (76.4%, each) and cefotaxime (75%). Only amikacin showed low rate of resistance compared to other antibiotics (40.3%). About 36% patients had some underlying diseases with diabetes mellitus (11%) being the predominant underlying disease. **Conclusions:** High antimicrobial resistance to commonly used antibiotics was seen against A.baumannii isolates. Only amikacin was most effective against it.

22. Johargy AK, Mahomed MF, **Khan MM**, and Kabrah S (2013). '*Anti-hepatitis E virus seropositivity in a group of male blood donors in Makkah, Saudi Arabia.*' **Journal of Pakistan Medical Association**; 63: 185-189.

http://jpma.org.pk/full_article_text.php?article_id=3993

(***Laboratory Medicine Department***)

ABSTRACT

Objectives: To determine the seropositivity of Immunoglobulin-G and Immunoglobulin-M to hepatitis E virus in male blood donors in Makkah, Saudi Arabia. **Methods:** The study was carried out from March to August 2009, in which 900 blood samples were collected from 4 different hospital blood banks in Makkah City: AL-Noor Hospital, Central Blood Bank, Maternity and Children Hospital, and Herra Hospital. All the samples were tested for Immunoglobulin-G and Immunoglobulin-M antibodies specific to hepatitis E virus using the enzyme-linked immunosorbent

assay test. **Results:** Hepatitis E virus-specific Immunoglobulin-G antibodies were detected in 168/900 (18.7%), and IgM in 39/900 (4.3%) samples. Prevalence of the former was found to be higher in non-Saudi donors. In addition, its prevalence increased with age. Moreover, its prevalence was found to be higher in uneducated donors and in donors who drank well-water. **Conclusion:** Exposure to hepatitis E virus among blood donors in Makkah City was high in comparison to the neighbouring areas in the region. Further studies are warranted to determine the true seroprevalence of the virus in the society at large.

23. Saleh HA and **Khereldeen MM** (2013). '*Physicians' Perception towards Patients' Rights in Two Governmental Hospitals in Mecca, KSA*.' **Int. J. Pure Appl. Sci. Technol**; 17: 37-47.

http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.379.7&rep=rep1&type=pdf

(***Health Management Department***)

ABSTRACT

The Saudi society has its own unique values, morals, and ethics which are based on the religion of Islam. The social system in Saudi Arabia is very supportive of patients and their families, and in most hospitals patients have access to free healthcare services. However, there has been little discussion on how patients ' rights are practiced in such healthcare systems. In this research paper the perception of physicians concerning patients ' rights and their fulfilment in two governmental hospitals in Mecca, Saudi Arabia is compared, using a self-administered questionnaire which examined the physicians ' knowledge, attitude and perception towards these rights.

24. Shaikh-Omar OA, **Header EA and Bukhari HM** (2013). '*Digestive Discomforts and Effect of Ingested Food in People Performing Hajj*.' **Journal of Basic & Applied Sciences**; 9: 341-347.

http://www.lifescienceglobal.com/pms/index.php/jbas/article/view/1116

(***Clinical Nutrition Department***)

ABSTRACT

A variety of health issues have been investigated in the Hajj pilgrims (HPs) in KSA. However, it is still obscure to decide which meals contribute to health related issues specifically gastrointestinal disorders and allergies. Hence present study was planned to compare the effect of using different meals on GIT disorders and allergies.

The data was categorized into two groups. Group 1 of age matched HPs comprised a Functional Digestive System Questionnaire (FDSQ) to study digestive disorders. Group 2 HPs were compared for those received Toafa Corporation Meals (TCM) and those did not received Toafa Corporation Meals (NTCM).

The FDSQ showed some of the gastrointestinal symptoms in male and female Hajj pilgrims differing significantly ($p<0.05$). The efficacy of the treatment was evaluated by subject recovery scoring (SRS). The 61.7% HPs taking TCM revealed various discomforts and food allergy and the 50.6% HPs using NTCM did not suffer from any disorders. However, the pilgrims taking the meals provided by the Toafa corporation but not showing allergy were more significant in number ($p=0.0002$).

The existing study presents a new method (construction of a FDSQ) for comparing gastrointestinal and other disorders. The present study recommends that Toafa Corporation should provide suitable meals for the pilgrims to meet their actual needs during Hajj and health situation.

25. Elkamel AA and **Mohamed AM** (2012). '*Differential Identification of Flavobacterium Species by Sequence Analysis of Genus-Specific Hypervariable 16S-23S rDNA Intergenic Spacer Target.*' **World Journal of Fish and Marine Sciences**; 4: 597-603.

http://www.idosi.org/wjfms/wjfms4(6)12/7.pdf

(***Laboratory Medicine Department***)

ABSTRACT

The aim of the current study was to develop a molecular system for differential identification of various fish diseases caused by Flavobacterium species. The system uses the hypervariability of the 16S-23S rDNA Intergenic spacer region (ISR) to develop PCR-based sequence analysis assay. For this purpose, eight different 16S-23S rDNA ISR sequences of six different Flavobacterium species were aligned and compared to detecta hypervariable region with conserved flanking sequences as a target for amplification. The conserved flanking regions were used to design primers that target the selected hypervariable ISR sequence from all Flavobacterium species. American Type Collection of Cultures and other reference strains were used to assess the precision and specificity of the system. The results revealed the ability of the described molecular assay to accurately identify all the ATCC and reference Flavobacterium species to the strain level. In addition, two clinical isolates that were conventionally identified in the current study as Flavobacterium psychrophilum and Flavobacterium columnare were re-identified, using the molecular assay as F. columnare and Flavobacterium johnsoniae, respectively. The currently described ISR sequence analysis-based differential identification assay provides rapid and accurate identification of the different diseases causing Flavobacterium species and represent a useful tool for successful epidemiological studies and management of Flavobacterium species-caused fish diseases.

26. Mohamed AM, Abou El Ella GA, and Hayder IA (2013). '*Antioxidant effect of bee pollen on immune status of hyperglycemic rats.*' **Assiut Vet Med J**; 59: 107-116.

http://www.aun.edu.eg/journal_files/119_J_2533.pdf

(***Laboratory Medicine Department***)

ABSTRACT

The aim of the current study was to evaluate the ability of bee pollen (BP), a known antioxidant-rich food supplement, to prevent or minimize the immune insufficiency complications associated with diabetes mellitus (DM) in rat model. A total of 32 adult male Wistar Albino rats divided into 4 groups (8 rats each) were used in the current study. One group were fed basal diet only for 60 successive days and used as non- diabetic control group (G I), while the other groups were used for induction of DM model after injection with streptozotocin (STZ) 65 mg/kg. One of the diabetic rat groups received only basal diet without BP supplementation for the same period and used as diabetic control group (G II). The other diabetic groups were subdeivided into 2 subgroups, which received basal diet supplemented with BP at a concentration of 1% and 2% for 60 successive days and assigned as G III and G IV, respectively. The obtained results revealed that at the end of the experiment there are still significant increases ($P \leq 0.001$) in glucose levels in groups II, III and IV in comparison to G I. However, non-significant changes were recorded in glucose levels G III & IV as compared G II. With regard to oxidative stress, significant reduction ($P \leq 0.01$) were recorded in the levels of evaluated antioxidant parameters (SOD, CAT and GSH-PX) in G II as compared to G I. However, significant increases ($P \leq 0.01$) and ($P \leq 0.001$) were recorded in the levels of antioxidant parameters in G III and G IV, respectively as compared to G II of hyperglycemic rats. With regards to immune status, significant reduction of CIC ($P \leq 0.01$), phagocytic activity of neutrophils ($P \leq 0.01$) and IFN-gamma

($P \leq 0.001$) were recorded G II as compared to G I. On the other hand, significant increase were recorded in the levels of IgG ($P \leq 0.01$) and IgM ($P \leq 0.001$) in G II as compared to G I. However, significant improvement of CIC ($P \leq 0.05$ and $P \leq 0.01$), Phagocytic activity ($P \leq 0.05$ and $P \leq 0.01$), IgM ($P \leq 0.05$ and $P \leq 0.01$), IgG ($P \leq 0.05$ and $P \leq 0.01$) and IFN-gamma ($P \leq 0.01$ and $P \leq 0.001$) were recorded among G III and G IV, respectively as compared to G II. In conclusion, an association between oxidative stress and immune insufficiency were recorded in the present study in diabetic rats Moreover, an obvious improvement of immune status parameters were recorded after supplementation of diabetic rats with bee pollen as an antioxidant-rich food supplement.

27. Zaglool D, **Mohamed A**, Khodari Y, and Farooq M (2013). '*Crypto-Giardia antigen rapid test versus conventional modified Ziehl-Neelsen acid fast staining method for diagnosis of cryptosporidiosis*.' **Asian Pacific journal of tropical medicine**; 6: 212-215.

http://www.sciencedirect.com/science/article/pii/S1995764513600255

(***Laboratory Medicine Department***)

ABSTRACT

Objective: To evaluate the validity of Crypto-Giardia antigen rapid test (CA-RT) in comparison with the conventional modified Ziehl-Neelsen acid fast (MZN-AF) staining method for the diagnosis of cryptosporidiosis. **Methods:** Fifteen preserved stool samples from previously confirmed infections were used as positive controls and 40 stool samples from healthy people were used as negative control. A total of 85 stool samples were collected from suspected patients with cryptosporidiosis over 6 months during the period from January till June, 2011. The study was conducted in the department of parasitology, central laboratory, Alnoor Specialist Hospital, Makkah, Saudi Arabia. All samples were subjected to CA-RT and conventional MZN-AF staining method. Validation parameters including sensitivity (SN), specificity (SP), accuracy index (AI), positive predictive value (PPV), and negative predictive value (NPV) were evaluated for both tests. **Results:** Out of 15 positive controls, CA-RT detected 13 (86.7%) while MZN-AF detected 11(73.3%) positive cases. However, CA-RT detected no positive case in 40 normal controls but MZN-AF detected 2(5%) as positive cases. Based on the results, the SN, SP, AI, PPV and NPV were high in CA-RT than MZN-AF staining method, ie., 86.7%vs. 73.3%, 100%vs. 95%, 96.4%vs. 89.1%, 100%vs. 84.6% and 95.2%vs. 90.5%, respectively. Out of a total of 85 suspected specimens, CA-RT detected 7(8.2%) but MZN-AF detected 6(7.1%) cases as positive. **Conclusions:** CA-RT immunoassay is more valid and reliable than MZN-AF staining method.

28. El-Ashmony SMA, **Morsi HK**, and Abdelhafez AM (2012). '*Effect of Zinc Supplementation on Glycemic Control, Lipid Profile, and Renal Functions in Patients with Type II Diabetes: A Single Blinded, Randomized, Placebo-Controlled, Trial.*' **Journal of Biology, Agriculture and Healthcare**; 2: 33-41.

http://www.iiste.org/Journals/index.php/JBAH/article/view/2260

(***Laboratory Medicine Department***)

ABSTRACT

This study was conducted to evaluate the effect of zinc supplementation on glycemic control, lipid profile, and kidney functions in patients with type 2 diabetes mellitus attending the diabetic centre of Alnoor, Specialized Hospital, in Makkah, Saudi Arabia .A single blinded, randomized, placebo-

controlled, trial was conducted. Patients (n=60) were randomly allocated into two groups: zinc group, and placebo group, treatment was given for 8 weeks. Fasting blood glucose (FBG), glycated hemoglobin (HbA1c%), kidney functions and lipid profile were assessed at baseline and after 8 weeks. Results showed that FBG, HbA1c%, lipid profile, and kidney functions were significantly reduced in zinc group after 8 weeks compared to their levels before supplementation. Moreover, FBG, cholesterol, LDL, and LDL/ HDL ratio were significantly decreased, while HDL was significantly increased in zinc group compared to those in placebo group. Zinc may have supplementary benefits in the routine management of adult DM.

29. Zalata AA, **Morsy HK**, Badawy AE-N, Elhanbly S, and Mostafa T (2012). '*ACE gene insertion/deletion polymorphism seminal associations in infertile men*.' **The Journal of urology**; 187: 1776-1780.

http://www.jurology.com/article/S0022-5347(11)06023-X/abstract

(***Laboratory Medicine Department***)

ABSTRACT

Purpose: We assessed seminal associations of the ACE gene insertion/deletion polymorphism in infertile men. **Materials and Methods:** A total of 405 men were investigated, divided into healthy fertile men, and those with asthenozoospermia, asthenoteratozoospermia and oligoasthenoteratozoospermia, respectively. They underwent semen analysis, and assessment of sperm acrosin activity, hypo-osmotic swelling, seminal 8-iso-prostaglandin-F(2α), total antioxidant capacity, α-glucosidase and ACE gene polymorphisms. **Results:** The ACE insertion/insertion genotype was noted in 182 men, including 76.5% of healthy fertile men, and 47.4%, 39.8% and 17.6% of those with asthenozoospermia, asthenoteratozoospermia and oligoasthenoteratozoospermia, respectively. The ACE insertion/deletion genotype was noted in 133 men, including 13.7% of healthy fertile men, and 42.3%, 27.5% and 47.2% of those with asthenozoospermia, asthenoteratozoospermia and oligoasthenoteratozoospermia, respectively. The ACE deletion/deletion genotype was identified in 90 men, including 9.8% of healthy fertile men, 10.3%, 32.70% and 35.2% of those with asthenozoospermia, asthenoteratozoospermia and oligoasthenoteratozoospermia, respectively. Men with the ACE deletion/deletion and insertion/deletion genotypes showed a significant decrease in sperm count, motility, linear velocity and normal forms, acrosin activity index, hypo-osmotic swelling test and seminal α-glucosidase, and significantly increased seminal 8-iso-prostaglandin-F(2α) than those with the ACE insertion/insertion genotype. **Conclusions:** ACE gene deletion polymorphism is associated with abnormal seminal variables, such that carriers of the ACE deletion/deletion genotype have higher seminal oxidative stress.

30. Shalaby and **Morsy HK** (2013). '*Effect of pregabalin on erectile function and penile NOS expression in rats with streptozotocin-induced diabetes*.' **Exp Clin Endocrinol Diabetes**; 121: 230-3.

https://www.thieme-connect.com/DOI/DOI?10.1055/s-0033-1341428

(***Laboratory Medicine Department***)

ABSTRACT

Objectives: To investigate the effect of pregabalin on erectile function and on the penile expression of nitric oxide synthase (NOS) isoforms in diabetic rat models. **Methods:** Male Sprague-Dawley rats were injected with streptozotocin to induce diabetes mellitus. The rats with blood glucose levels above 300 mg/dL were selected for the study. Those were randomly divided into 2 groups (N=10 per

group): i) EDDM (erectile dysfunction diabetes mellitus) group fed with saline and ii) EDDM+Pregabalin treated group receiving pregabalin (10 mg/k/day) by intragastric administration. 10 animals served as a control group and received no streptozotocin. 4 weeks later, the erectile function of the rats was assessed by recording frequency of erection after subcutaneous apomorphine (80 ug/kg) injection. Superoxide anion generation and the expression of mRNA of nNOS and eNOS were evaluated in corpora cavernosum tissue. **Results:** Penile erection, the expression of both nNOS, eNOS and superoxide generation were significantly decreased in pregabalin treated group compared to control group. **Conclusion:** Treatment with pregabalin for 4 weeks decreases superoxide production but cannot improve erectile dysfunction in diabetic rats probably by inhibiting Ca(2)(+) channel-mediated NOS activation**.**

31. Osfor M, Kensarah OA, Azzeh FS, Elmadbouly M and El-Qutry M (2013). '*Biochemical changes in lipid and carbohydrate metabolism in obese diabetic male albino rats*.' **International Journal of Nutrition and Food Sciences**; 2: 24-30.

http://www.eurofedlipid.org/meetings/archive/cracow/5877/5877_0069.pdf

(***Clinical Nutrition Department***)

ABSTRACT

The effect of high fat diet on lipid and carbohydrate metabolic changes was studied in mature male albino rats. The animals were rendered obese by feeding a high fat diet for 60 days. Half of obese rats were become diabetic by injecting with a reduced dose of alloxan; to produce a non-insulin dependent diabetes mellitus state. These obese models of non-diabetic and diabetic rats were compared with normal male rats kept on a basal diet for 60 days. The fat fed rats beside gaining weight showed a significant rise in their hepatic lipid contents and observed an insulin resistant state. Lipid profile of the omental adipose tissue exhibited a significantly higher total lipid content, but lower total cholesterol, triglycerides and phospholipids contents in both obese (non-diabetic and diabetic) as compared with the normal rats. On the other hand, the brown adipose tissue showed a reduced fat catabolism with a significant rise in its phospholipid contents. Correlation between plasma atherogenic index and plasma fatty acids pattern showed that in the obese diabetic rats atherogenic index was positively correlated with total polyunsaturated fatty acids, while significantly negative correlation with total saturated fatty acids. This work showed that high fat substrates have been got remarkable impacts on rats body weight and metabolism.

32. Osfor MMH, Hegazy A, Abd El-moaty M, **Elmadbouly MA**, Afify AMR and AElbahnasawy ASM (2013). '*Hypo-cholesterolemic and hypoglycemic effects of orange albedo powder (citrus aurantium I) on male albino Rats*.' **International Journal of Nutrition and Food Sciences**; 2: 70-76.

http://article.sciencepublishinggroup.com/pdf/10.11648.j.ijnfs.20130202.17.pdf

(***Clinical Nutrition Department***)

ABSTRACT

The present study was conducted to evaluates the hypocholesterolemic and hypoglycemic effects of dietary Orange Albedo Powder (Citrus Aurantium L.) in the hypercholesterolemic albino rats, also to examine various oxidative stress-associated with some biochemical parameters. Thirty two male albino rats weighing 110 + 10 g were divided into four groups, the first group received the basal diet

only and served as (negative control), the second group received the hypercholesterolemic diet and served as (positive control), the other two groups received hypercholesterolemic diet supplemented with 10%, 20% orange albedo powder respectively (OrAP) for six weeks spontanously. The obtained results revealed that the groups of rats which received diets supplemented with 10% and 20% OrAP were significantly decrease total lipid, total cholesterol, triglycerides, low density lipoprotein cholesterol, liver enzymes (alanine aminotransferase, aspartate aminotransferase and alkaline phosphatase), when compared with positive control, also kidney functions were significantly improved. Body weight gain and food intake were significantly decreased when compared with positive control. The results indicate that the orange albedo is a good source of natural fiber. It could use in obese people for body loss, also serves to improve blood picture and to reduce the blood glucose level in hypercholesterolemic rats.

33. **Osfor MMH, Elmadbouly MA, Elsoadaa1 SS**, Metair AH and **Hussain AAA** (2013). '*Relation between Hypercholesterolemia and Insulin like growth factor-1 in Elderly Women suffer from Hypothyroidism*.' **Journal of Natural Sciences Research**; 3: 160-164.

http://www.iiste.org/Journals/index.php/JNSR/article/view/5315

(***Clinical Nutrition Department***)

ABSTRACT

The present study included 40 female subjects. They were classified into two groups: group I included 20 females diagnosed as primary hypothyroidism with age ranged between 45 – 65 years and group II included 20 ages matched normal female volunteers and served as control group. Insulin like growth factor -1, (IGF-1) cholesterol, triglycerides, Thyroid stimulating hormone, thyroxine-3 (T_3) and thyroxine-4 (T_4) hormones were measured in both groups. The obtained results revealed that, there was a significant decrease in IGF-1 level in group I, when compared to control group ($P < 0.01$). Correlation studies showed that IGF-1 is strongly positively correlated with T_3 ($R=0.81$, $P < 0.01$) and moderately positively correlated with T_4 ($R= 0.58$, $P < 0.05$). Meanwhile, it was moderately negatively correlated with cholesterol ($R= 0.6$, $P < 0.05$). The results indicate that IGF-1 deficiency in elder women suffering from ?hypothyroidism may have a direct relation in the pathogenesis of hypercholesterolemia.

34. **Osfor MMH**, El-Ashi A, **El-Madbouly M**, Zaki MS and Negm D (2013). '*A prospective study of Green Tea and panax Ginseng against mutagens & carcinogens produced during Thermolyzed Meat and Fish*.' **Life Science Journal**; 10: 1754-65.

http://www.lifesciencesite.com/lsj/life1001/255_16335life1001_1754_1765.pdf

(***Clinical Nutrition Department***)

ABSTRACT

Effect of thermolyzed (ultra-heated) Meat and fish on the nutritional, biochemical, histological, and hematological parameters as well as aberrations and sperm abnormalities was investigated in male albino rats. Animals were divided into two main groups: Meat group and Fish group. Each group was divides into six subgroups: G-I was fed the basal diet containing more than 12% dry frozen meat, G-II & G-III were fed the basal diet of G-I plus 5% of Green Tea and Panax Ginseng respectively. G-IV was fed the basal diet containing more than 12% Thermolyzed Meat, while, G-V & G-VI were fed the basal diet of G-IV plus 5% of Green Tea and Panax ginseng respectively. The same classification was done for the fish groups. It was found that the terminal body weight was increased non-significantly in

all rat groups until the fifth week, and then decreased non-significantly until the end of the experimental periods (8 weeks). No effect on serum cholesterol, triglycerides, total lipids and glucose levels was found. On the other hand, significant values of both hepatic and renal function parameters were obtained among ultra-heated meat and fish treated animals. Numerous histological alterations, particularly in the liver, were also observed. Moreover, anemia, leukocytosis, neutophilia, lymphocytosis and monocytosis were seen. Furthermore, chromosomes and sperms were adversely affected in such animals fed diet contained ultra-heated meat and fish. The protective role of green tea and panax ginseng were observed in all biochemical, histological, and hematological parameters. In addition, improvement in chromosomal aberration and sperm abnormalities was also noticed.

35. Saleh HA and Kheeeldeen MM (2013). '*Physicians' perception towards Patients' Rights in tow Governmental Hospitals in Mecca, KSA*.' **International Journal of Pure Applied Sciences and Technology**; 17: 37-47.

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(***Health Management Department***)

ABSTRACT

The Saudi society has its own unique values, morals, and ethics which are based on the religion of Islam. The social system in Saudi Arabia is very supportive of patients and their families, and in most hospitals patients have access to free healthcare services. However, there has been little discussion on how patients' rights are practiced in such healthcare systems. In this research paper the perception of physicians concerning patients' rights and their fulfilment in two governmental hospitals in Mecca, Saudi Arabia is compared, using a self-administered questionnaire which examined the physicians' knowledge, attitude and perception towards these rights.

قائمة الأبحاث المنشورة 1434 – 1435

[الأجمالى 51 ورقة علمية]

1. Abdelhafez AM (2013). Knowledge, attitudes, and practices of food service staff about food hygiene in hospitals in Makkah area, Saudi Arabia. Life Science Journal,10:1079-1085. (Non-ISI).

2. Abdel-Kafy EM, Elshemy SA, Alghamdi MS (2014)**.** Effect of constraint-induced therapy on upper limb functions: A randomized control trial. Scand J Occup Ther; 21:11-23. (ISI; IF = 1.1; Cited 1)

3. El-Basatiny HM and **Abdel-Kafy EM** (2014). Assessment of Dynamic Postural Balance among Saudi Adolescent Girls in Al-Khober-Saudi Arabia. The Indian Journal for physiotherapy and Occupational Therapy. 8: 248-253. (Non-ISI)

4. Elshamy SM**, Abdel-Kafy EM, Ibrahim MM** (2013). Effect of Neuromuscular Electrical Stimulation on Foot Pressure Distribution in Congenital Clubfoot. J Am Sci; 9:446-451. (Non-ISI)

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8. Alayat MS, Atya AM, **Ali MM, Shosha TM** (2014). Long-term effect of high-intensity laser therapy in the treatment of patients with chronic low back pain: a randomized blinded placebo-controlled trial; Lasers Med Sci; 29: 1065-1073. (ISI; IF = 2.4; Cited 3).

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50. **Refaat B, Ashshi AM, El-Shemi AG,** and AlZanbagi A (2014). Effects of chronic hepatitis C genotype 1 and 4 on serum activins and follistatin in treatment naïve patients and their correlations with interleukin-6, tumour necrosis factor-α, viral load and liver damage. Clinical and experimental medicine;1-10. (ISI; IF = 2.82)

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ملخص الأبحاث المنشورة 2013 – 2014:

1. **Abdelhafez AM** (2013). '*Knowledge, attitudes, and practices of food service staff about food hygiene in hospitals in Makkah area, Saudi Arabia*.' **Life Science Journal**,10:1079-1085.

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(***Clinical Nutrition Department***)

ABSTRACT

Background: The practice of safety measures by the food service staff in hospitals is necessary for the prevention of foodborne outbreaks. Hospitalized patients are more vulnerable to potential hazards, and neglecting these principles can lead to increased morbidity and mortality. **Objectives:** To assess the knowledge, attitudes and practices of food service staff regarding food hygiene in hospitals in Makkah Area. **Design:** Cross-sectional study. **Participants:** food service staff and their supervisors working in five hospitals in Makkah Area, Saudi Arabia. **Methods:** A non-probability convenience sample comprising of 200 food service staff was included in the study. Two questionnaires were designed, one for food service staff and the other for supervisors. Statistical analysis was performed using (SPSS) version 16. Five models were developed regarding knowledge, attitudes, and practices, and a multiple logistic regression analysis was performed. **Results:** Low level of knowledge about foodborne pathogens was found among food service staff who did not attend educational courses about food hygiene and foodborne diseases (OR= 2.37, P < 0.05). Food-service staff with higher educational level (OR= 1.69, P < 0.05). Most of food service staff routinely used gloves; this practice

was greater among those who attended continuing educational courses (OR= 2.94, P < 0.05) and those working in hospitals with a lower number of beds (OR= 0.22, P < 0.05). **Conclusion:** Full implementation of the HACCP system and continuous training of food service staff regarding safe food handling practices are required.

2. Abdel-Kafy EM, Elshemy SA, Alghamdi MS (2014)**. '***Effect of constraint-induced therapy on upper limb functions: A randomized control trial*.' **Scand J Occup Ther**; 21:11-23.

http://www.tandfonline.com/doi/abs/10.3109/11038128.2013.837505?journalCode=iocc20

(***Physiotherapy Department***)

ABSTRACT

Aims: Children with congenital hemiparesis have unilateral upper extremity involvement, limiting their ability in unilateral or bilateral manual tasks, thus negatively influencing their participation in daily activities. Constraint-induced movement therapy (CIMT) has been shown to be promising for improving upper-limb functions in children with cerebral palsy. Clinical assessments may be needed to quantify and qualify changes in children's performance following its application. **Methods:** This study investigated the effectiveness of a child-friendly form of CIMT to improve upper extremity functional performance. Thirty congenitally hemiparetic children aged 4-8 years were randomly assigned to receive either a CIMT program (study group) or a conventional non-structured therapy program (control group). The programs were applied for both groups for six hours daily, five days weekly for four successive weeks. The Pediatric Arm Function Test, Quality of Upper Extremity Skills Test, and isokinetic muscular performances of shoulder flexors, extensors, and abductors expressed as peak torque were used to evaluate immediate and long-lasting efficacy of CIMT.
Results: The results showed improvement in the involved upper extremity performances in different evaluated tasks immediately post-CIMT program application compared with the control group. These improvements continued three months later. **Conclusion:** Pediatric CIMT with shaping produced considerable and sustained improvement in the involved upper extremity movements and functions in children with congenital hemiparesis.

3. El-Basatiny HM and **Abdel-Kafy EM** (2014). '*Assessment of Dynamic Postural Balance among Saudi Adolescent Girls in Al-Khober-Saudi Arabia*.' **The Indian Journal for physiotherapy and Occupational Therapy**; 8: 248-253.

http://www.indianjournals.com/ijor.aspx?target=ijor:ijpot&volume=8&issue=1&article=047

(***Physiotherapy Department***)

ABSTRACT

Aims: The aim of this study was to evaluate the dynamic postural balance in Saudi girls with different BMI. Design: Cross-sectional study. Participants: Sixty Saudi girls participated in this study and divided equally into three groups (Healthy weight, overweight and obese), their age range from 12-17

years. **Methods:** Dynamic postural balance was evaluated for all study girls using the Biodex Stability System (BSS). Antroposterior, mediolateral, and overall stability indices were obtained during bilateral stance with open-eyes at the platform. Measurements were conducted on the BSS at a completely firm surface (stability level 12) and a very unstable surface (stability level 1). **Results:** Mean values of AP stability scores were greater than ML ones in all study girls in the two chosen stability levels (1 and 12). ML scores significantly impaired in obese girls at stability level 1&12 and in overweight girls at stability level 1 only. All stability indexes were significantly impaired in obese girls at stability level 1, when compared to overweight girls. **Conclusions:** Our results revealed when BMI increases, balance parameters deteriorate as captured by dynamic stability indexes of the BBS. This indicates that overweight and obesity have a negative effect on dynamic postural control in Saudi girls.

4. Elshamy SM**, Abdel-Kafy EM, Ibrahim MM** (2013). '*Effect of Neuromuscular Electrical Stimulation on Foot Pressure Distribution in Congenital Clubfoot*.' **J Am Sci**; 9:446-451.

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(***Laboratory Medicine Department***)

ABSTRACT

Conservative treatment of clubfoot is well accepted and has been reported to result in better correction ranging from as low as 50 % to as high as 90%. This study was an attempt to evaluate the effect of neuromuscular electrical stimulation on foot pressure distribution in congenital clubfoot. **Methods:** Thirty children with congenital clubfoot were participated in this study, their age ranged from 2.5 to 3.5 years matched with 20 healthy pediatric subjects. They were randomized divided into two equal groups; Study group received electrical stimulation for 12 weeks (frequency of 40 Hz, pulse width 330 ms and intensity was set where a visible movement of the foot was achieved and the sensation did not cause any distress to the infant), and control group didn't receive any stimulation.Foot pressure distribution was measured using foot scan for all children pre and post treatment. **Results:** There was a statistically significant difference in maximum foot pressure between study and control group after electrical stimulation application ($p< 0.001$). By contrast maximum foot pressures were not completely recovered in the study group compared with their matched healthy controls after 12 weeks. **Conclusion:** Neuromuscular electrical stimulation may have the potential to maintain or improve evertor muscle activity and foot pressure distribution in children with clubfoot.

5. Basalamah MA, **Abdelgayed AE, Thabet AA, Abdel-Kafy EM** (2013). '*Effect of Pulsed High Intensity Laser in treatment of Diabetic Foot Ulcer: A Randomized Controlled Study*.' **Jokull**; 63(10).

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(***Physiotherapy Department***)

ABSTRACT

Background: Chronic diabetic foot ulcers are a common complication of diabetes. **Objective:** To investigate the effects of 8-weeks pulsed neodymium:yttrium aluminum garnet (Nd:YAG) laser in treatment of chronic diabetic foot ulcers. Design: Randomized controlled trial. **Methods:** forty three

patients (ages 40 to 60 years) with grade II diabetic foot ulcers were randomly assigned to the laser group or the placebo laser group. Patients in the laser group received pulsed Nd: YAG laser (i.e. Total energy 230-250 J) 3 sessions/week for 8 weeks plus standard medical treatment, the placebo laser group received sham laser treatments plus standard medical treatment. **Outcome measure:** Wound surface area (WSA) was assessed for all patients at the beginning of the treatment (baseline), after 4 weeks (midpoint) and after 8 weeks. **Results:** The decrease in WSA after 4 and 8 weeks post treatment was significantly greater in the laser group (i.e., 4.40±0.61 cm2 and 0.89±0.58 cm2, respectively) as compared to the placebo group (i.e., 6.02±0.83 cm2 and 4.21±0.46 cm2, respectively) and the percentage % decrease in WSA after 4 and 8 weeks for laser group was 31 % and 79 % and 0.72% and 30% for the placebo laser group. **Conclusion:** Pulsed Nd:YAG laser combined with standard medical treatment decreases WSA for grade II diabetic foot ulcers.

6. Abdelaal AAM, Elsisi HF and **Alayat MS** (2013). '*Lipid profile and hemodynamic response to exercise therapy in type 2 diabetic pre-hypertensive patients: A follow up randomized controlled trial.*' **Jokull**; 63:290-308.

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(***Physiotherapy Department***)

ABSTRACT

Background: Type 2 diabetes mellitus (T2DM) is a global health problem and is a leading cause of morbidity and mortality worldwide. Physical activity is a beneficial intervention for prevention and treatment of T2DM. **Objectives:** To investigate and compare lipid profile and blood pressure responses of circuit weight training (CWT) or aerobic exercise training (AET) in pre-hypertensive T2DM patients. Methods: Forty pre-hypertensive T2DM participants, aged 50-60 years, were randomly divided into two groups (CWT and AET). Exercise training was performed three times per week in both groups; for 12 weeks. Eight parameters were evaluated pre-training, after 3 months of training and 1 month post training cessation. **Results:** Compared with aerobic training; CWT for 12 weeks in T2DM patients seems to yield more statistically significant effect on lipid profile with favorable lowering effect on total cholesterol (TC), Triglycerides (TG) and low density lipoprotein cholesterol (LDL-C) but with more favorable increase in high density lipoprotein cholesterol (HDL-C) either on short or long run basis (after 3 months exercise and 1 month follow up). On the other hand; aerobic exercise training for 12 weeks for pre-hypertensive T2DM patients seems to yield more benefit and statistically significant lowering effect on systolic and diastolic blood pressure when compared with CWT either on short-or long-run basis. **Conclusions:** While CWT is the intervention of choice to improve lipid profile in pre-hypertensive T2DM patients, AET is still the best intervention to improve blood pressure in those patients, for a more extended period of time.

7. Abo-Raya AO, **Alfky NA** and **Elgazar AF** (2013). '*Anti-Obesity and Antidiabetic Activities of Red Ginseng Plant Extract in Obese Diabetic Male Rats.*' **Global J. Pharmacol.**; 7: 390-397.

http://www.idosi.org/gjp/7(4)13/4.pdf

(***Clinical Nutrition Department***)

ABSTRACT

The effects of red ginseng extract (RGE) on adiposity index, serum levels of liver enzymes, lipid profile, blood glucose, leptin and insulin hormones and renal antioxidant capacity in obese diabetic rats were investigated. Forty five adult male Sprague-Dawley rats were randomly divided into 5 equal groups. Group (1) was fed on basal diet (negative control), while the other 4 groups were fed on high

fat-diet for 6 weeks to induce obesity. The obese rats were then rendered diabetic by intraperitoneal injection of alloxan (120 mg/kg/day) for 5 days. Thereafter, group (2) obese diabetic was kept as positive control and the other 3 groups were orally given RGE at 100, 200 and 400 mg/kg/day, respectively, for 4 weeks. Blood samples were collected for separating the serum which used for biochemical analyses. Kidneys were taken to assay the activity of tissue antioxidant enzymes. The results showed that oral administration of RGE significantly ($P < 0.05$) reduced adiposity index; decreased serum levels of aspartate aminotransferase, alanine aminotransferase, gamma- glutamyl transpeptidase enzymes, total cholesterol, triglycerides and low density lipoproteins and improved atherogenic index in obese diabetic rats. Blood glucose and leptin hormone decreased, but insulin increased by administration of RGE. It also increased activities of superoxide dismutase, glutathione peroxidase and catalase antioxidant enzymes in kidneys of obese diabetic rats. These results point to the potential possibility of use of red ginseng plant for the treatment of obese diabetic patients.

8. Alayat MS, Atya AM, **Ali MM, Shosha TM** (2014). '*Long-term effect of high-intensity laser therapy in the treatment of patients with chronic low back pain: a randomized blinded placebo-controlled trial.*' **Lasers Med Sci**; 29: 1065-1073.

http://link.springer.com/article/10.1007%2Fs10103-013-1472-5

(***Physiotherapy Department***)

ABSTRACT

The aim of this study was to compare the effect of high-intensity laser therapy (HILT), alone or combined with exercise, in the treatment of chronic low back pain (CLBP). A total of 72 male patients participated in this study, with a mean (SD) age of 32.81 (4.48) years. Patients were randomly assigned into three groups and treated with HILT plus exercise (HILT + EX), placebo laser plus exercise (PL + EX), and HILT alone in groups 1, 2, and 3, respectively. The outcomes measured were lumbar range of motion (ROM), pain level by visual analog scale (VAS), and functional disability by both the Roland Disability Questionnaire (RDQ) and the Modified Oswestry Disability Questionnaire (MODQ). Statistical analyses were performed to compare the differences between baseline and post-treatment measurements. The level of statistical significance was set as $P < 0.05$. ROM significantly increased after 4 weeks of treatment in all groups, then significantly decreased after 12 weeks of follow-up, but was still significantly more than the baseline value in groups 1 and 2. VAS, RDQ, and MODQ results showed significant decrease post-treatment in all groups, although the RDQ and MODQ results were not significantly different between groups 2 and 3. HILT combined with exercise appears to be more effective in patients with CLBP than either HLLT alone or placebo laser with exercise.

9. Alameer MM, Alshareef K, Almalky AA, Jamal KM, **Alkaf HH**, **Alsoubhi TM, Dablool AS** and **Abdulmaksoud AA** (2013). '*Proposal to apply CBAHI standards on five primary healthcare centers in Holy Capital in Saudi Arabia*.' **Journal of American Science**; 9: 442-44.

https://www.researchgate.net/publication/269393433_Proposal_to_apply_CBAHI_standards_on_five_primary_healthcare_centers_in_Holy_Capital_in_Saudi_Arabia

(***Health Management Department***)

ABSTRACT

The aim of this study is to assess the level of service at five health centers in the holy capital before and during the application of quality standards of central board accreditation health institute (CBAHI) for primary health care centers which are expected to be applied by the Ministry of Health in order to provide high quality health services to satisfy society. It also aims to challenge health services appreciated by reviewers in these centers. The study identified five of the health centers namely prosperous Al-zahir PHCs and Kuwdi &Al-hijra PHCs from Prince Ahmed health sector, Al-adel PHCs, and East Al-azizia from Al-adel health sector and Al-nuwaria PHCs from Al-taneem health sector. The five healthcare centers have been selected by the Ministry of Health in the Holy Capital to qualify for the accreditation of quality. The current study included 250 reviewers, which represent a random sample of the population in the holy capital city. Where 50 questionnaires were distributed to each of these centers (25 to male reviewers and 25 to female reviewers) to see their opinions about the service provided for them from the healthcare centers.

10. Angelakis E, Azhar EL, Bibi F, Yasir M, Al-Ghamdi AK, **Ashshi AM, Elshemi AG**, Raoult D (2014). '*Paper money and coins as potential vectors of transmissible disease.*' **Future Microbiol**; 9: 249-261.

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(***Laboratory Medicine Department***)

ABSTRACT

Paper currency and coins may be a public health risk when associated with the simultaneous handling of food and could lead to the spread of nosocomial infections. Banknotes recovered from hospitals may be highly contaminated by Staphylococcus aureus. Salmonella species, Escherichia coli and S. aureus are commonly isolated from banknotes from food outlets. Laboratory simulations revealed that methicillin-resistant S. aureus can easily survive on coins, whereas E. coli, Salmonella species and viruses, including human influenza virus, Norovirus, Rhinovirus, hepatitis A virus, and Rotavirus, can be transmitted through hand contact. Large-scale, 16S rRNA, metagenomic studies and culturomics have the capacity to dramatically expand the known diversity of bacteria and viruses on money and fomites. This review summarizes the latest research on the potential of paper currency and coins to serve as sources of pathogenic agents.

11. Ashour TH and El-Shemi AG (2014). '*Caffeic acid phenyl ester prevents cadmium intoxication induced disturbances in erythrocyte indices and blood coagulability, hepatorenal dysfunction and oxidative stress in rats*.' **Acta Haematologica Polonica**; 45: 272–278

http://www.sciencedirect.com/science/article/pii/S000158141400053X

(***Laboratory Medicine Department***)

ABSTRACT

Here we investigated the protective role of caffeic acid phenyl ester (CAPE) on erythrocyte indices and osmotic resistance, blood coagulation, hepato-renal function and antioxidant status in cadmium (Cd) toxicity in rats. Cd intoxication was induced by intraperitoneal injection (i.p.) of cadmium chloride (1 mg/kg/day) for 21 days, and CAPE was daily given (10 μ mol/kg; i.p.) also for 21 days. At day 22, blood samples, livers and kidneys were prepared for screening of: (1) erythrocyte indices: red blood cell (RBC) count, osmotic fragility, hemoglobin (HGB) concentration, hematocrit (HCT),

mean corpuscular volume (MCV), mean corpuscular hemoglobin (MCH), and mean corpuscular hemoglobin concentration (MCHC); (2) blood coagulation tests: prothrombin time (PT), activated partial thromboplastin time (APTT), and fibrinogen (FIB) level; (3) serum levels of liver and kidney function biomarkers (aspartate aminotransferase, alanine aminotransferase, alkaline phosphatase, albumin, creatinine and blood urea nitrogen); (4) blood, liver and kidney levels of Cd; and (5) serum and hepato-renal concentrations of glutathione (GSH), superoxide dismutase (SOD), and thiobarbituric acid reactive substances (TBARS). Cd intoxication significantly impaired hepato-renal function, prolonged PT and APTT, reduced FIB, decreased RBC count and osmoresistnacy as well as the values of HGB, HCT, MCV, MCH and MCHC. Interestingly, therapy with CAPE successfully eliminated Cd and significantly stabilized erythrocyte indices, blood coagulability and hepato-renal functional status in Cd-intoxication. Additionally, CAPE therapy significantly reversed the decreases in GSH and SOD, and the increases in TBARs that were induced by Cd intoxication. In conclusion, CAPE can represent a promising therapeutic agent in eliminating Cd and counteracting its hematological, hemostasis and hepatorenal toxic effects.

12. Ashour TH (2014). '*Therapy with Interleukin-22 Alleviates Hepatic Injury and Hemostasis Dysregulation in Rat Model of Acute Liver Failure*.' **Advances in hematology**; 2014.

http://www.hindawi.com/journals/ah/2014/705290/

(***Laboratory Medicine Department***)

ABSTRACT

The therapeutic efficacy of interleukin-22 (IL-22) on liver injury and hematological disturbances was studied in rat model of acute liver failure (ALF) induced by D-galactosamine/lipopolysaccharide (D-GalN/LPS). The following parameters were investigated: (1) survival rate, (2) serum levels of liver function enzymes (aspartate aminotransferase (AST), alanine aminotransferase (ALT), and alkaline phosphatase (ALP)), total bilirubin (TBILI), and total albumen (ALB), (3) blood clotting tests (prothrombin time (PT), activated partial thromboplastin time (aPTT), and fibrinogen level (FIB)) and white blood cells (WBCs), red blood cells (RBCs), and platelet counts, (4) hepatic levels of tumor necrosis factor-α (TNF-α) and cyclooxygenase-2 (COX-2), and (5) liver histopathology. After 48 hours of D-GalN/LPS, the rats exhibited 20% mortality, significant increases in AST, ALT, ALP, TBILI, PT, and aPTT, TNF-α, and COX-2 and significant decreases in FIB, WBCs, and RBCs. By contrast, therapy with IL-22 prevented the lethal effect of D-GalN/LPS by 100% and efficiently alleviated all the biochemical and hematological abnormalities that were observed in ALF untreated group. Furthermore, IL-22 treatment decreased the hepatic contents of TNF-α and COX-2. The histopathological findings also supported the hepatoprotective effect of IL-22. Taken together, therapy with IL-22 can represent a promising therapeutic tool against liver injury and its associated hemostasis disturbances.

13. Ashour, TH (2014). '*Hematinic and Anti-Anemic Effect of Thymoquinone Against Phenylhydrazine-Induced Hemolytic Anemia in Rats*.' **Research Journal of Medical Sciences**, 8: 67-72.

http://docsdrive.com/pdfs/medwelljournals/rjmsci/2014/67-72.pdf

(***Laboratory Medicine Department***)

ABSTRACT

Herein, the possible hematinic and anti-anemic effects of TQ supplementation therapy was investigated in a rat model of hemolytic anemia induced by Phenylhydrazine (PHZ). Forty eight adult male Wistar rats (18 rats per group) were randomly classified into: normal control group, PHZ group and PHZ+TQ group. PHZ was injected intraperitoneally at 40 mg kg^{-1} on day 0 and 2 additional doses were given at 9 am and 6 pm, on day 1 while TQ (15 mg/kg/day) was given orally. Six rats of each group were sacrificed at days 3, 5 and 8 and their blood samples were collected at each time point for analysis. After 3-5 days of PHZ injection, rats developed acute hemolytic anemia reflected by significant decreases in RBC count, Hemoglobin (HGB) concentration and Hematocrit (HCT) percentage and significant increases in reticulocytes population and serum heme concentration. Interestingly, simultaneous therapy with TQ had significantly reversed these deteriorating effects of PHZ on RBCs, HGB, HCT and heme at each time point of analysis, however, it trended to induce further increase in reticulocytes population. Additionally, TQ therapy significantly reversed the decreases in serum levels of total Glutathione (GSH) and activities of Superoxide Dismutase (SOD) (as indices of antioxidant status) as well as the increases in serum levels of Thiobarbituric Acid Reactive Substances (TBARS) (as indices of lipid peroxidation and oxidative stress) that were induced by PHZ intoxication. The present data suggest the favorable hematinic and anti-anemic effect of TQ therapy on PHZ-induced oxidative stress and hemolytic anemia in rats. This in turn may pave the way to use TQ as part of anemia management.However, further studies are required to confirm this suggestion.

14. <u>Ashour, TH</u> (2014). '*Preventative Effects of Caffeic Acid Phenyl Ester on Cadmium Intoxication Induced Hematological and Blood Coagulation Disturbances and Hepatorenal Damage in Rats*.' **ISRN Hematology**, 2014.

http://www.hindawi.com/journals/isrn/2014/764754/

(***Laboratory Medicine Department***)

ABSTRACT

The preventative effect of caffeic acid phenyl ester (CAPE) against hematological, blood coagulation, and hepatorenal disturbances in cadmium (Cd) intoxication was investigated in rats. Male Wistar rats were randomly assigned into control group, Cd-group, and Cd + CAPE group. Cd intoxication was induced by intraperitoneal injection (i.p.) of $CdCl_2$ (1 mg/kg/day) for 21 days, and CAPE was daily given (10 micromol/kg; i.p.) for also 21 days. The results showed that Cd intoxication impaired hepatorenal function and significantly prolonged prothrombin time and activated partial thromboplastin time and decreased fibrinogen level, red blood cells and platelets counts, hemoglobin concentration, hematocrit, mean corpuscular volume, mean corpuscular hemoglobin, and mean corpuscular hemoglobin concentration. Interestingly, all these hematological, blood coagulation, and hepatorenal deteriorations of Cd toxicity were significantly prevented by CAPE. Additionally, CAPE significantly reversed the significant decreases in levels of total reduced glutathione and superoxide dismutase and increases in levels of thiobarbituric acid reactive substances that were observed in the sera and liver and kidney homogenates of Cd group. It is concluded that CAPE is a promising compound that can counteract the hematological and blood coagulation disturbances, oxidative stress, and hepatorenal damages in Cd intoxication. However, further studies are crucially needed to improve this treatment in patients.

15. **Ashour T** (2014). '*Effect of Vitamin D Supplementation with Pegylated Interferon-α and Ribavirin on Erythrocyte Indices, Iron Parameters and Erythropoietin Expression in Male Wistar Rats*.' **Clin Exp Pharmacol**; 4: 2161-1459.1000160.

http://www.omicsonline.org/open-access/effect-of-vitamin-d-supplementation-with-pegylated-interferon-and-ribavirin-on-erythrocyte-indices-iron-parameters-and-erythropoietin-expression-in-male-wistar-rats-2161-1459-4-160.php?aid=27818

(***Laboratory Medicine Department***)

ABSTRACT

Objectives: To measure the effect of Vitamin D3 (Vit D) on liver and serum iron parameters, erythrocyte indices, serum and kidney Erythropoietin (EPO) in normal rats treated with Pegylated Interferon-α (Peg-INF-α) and Ribavirin (RBV). **Materials and Methods:** Sixty four male Wistar rats were divided equally into 8 groups. 'Control'; 'P': only received Peg-INF-α; 'PD': Peg-INF-α/Vit D; 'PR': Peg-INF-α/RBV; 'PRD': Peg-INF-α/RBV/Vit D; 'R': only received RBV; 'RD': RBV/Vit D and 'VitD': only received vitamin D3. Peg-INF-α-2a was injected subcutaneously (12 µg/rat/ week) for 4 weeks. RBV (4 mg/rat/day) and Vit D (500 IU/rat/day) were given orally for 5 weeks. Blood samples were collected to measure erythrocyte indices and serum 25 (OH) vitamin D. Iron, ferritin, Total Iron Binding Capacity (TIBC) and transferrin saturation were measure in blood and liver tissue. EPO was measured in serum samples and kidney specimens by ELISA. **Results:** All groups, except 'R' group, showed significant decrease in liver iron, ferritin and transferrin saturation, and increase in TIBC ($P>0.05$). However, there was no significant difference in those parameters at the serum level. RBV ± Peg-INF-α significantly decreased the RBCs count, haemoglobin, serum and kidney EPO compared to control and 'P' groups ($P>0.05$). Vit D prevented the development of anaemia and significantly increased the concentrations of EPO at serum and kidney levels in the designated groups. Vit D also correlated negatively with liver iron and transferrin saturation and positively with serum and kidney EPO, red cell count and haemoglobin concentrations. **Conclusion:** Vit D could be involved in the regulation of iron metabolism and the prevention of anaemia during the course of treatment of hepatitis C by Peg-INF-α based therapy. Further studies are needed to explore the role of Vit D during the treatment of chronic hepatitis C.

16. **Attar AA, Khereldeen MM, Refaat B**, and **Saleh HA** (2014). '*Knowledge and Attitude of Physicians toward Evidence-Based Medicine*.' **Int. J. Pure Appl. Sci. Technol**; 21: 17-27.

https://www.researchgate.net/publication/263845412_Knowledge_and_Attitude_of_Physicians_toward_Evidence-Based_Medicine

(***Laboratory Medicine & Health Management Departments***)

ABSTRACT

One of the most consistent findings in health services research is the gap between best practice, on one hand, and actual clinical care, on the other. The aim of this study was to determine physicians' knowledge and attitude about evidence-based medicine. The study was conducted at a general governmental hospital using a self-administered questionnaire administered to physicians. The study has shown that most of physicians had an overall positive attitude towards evidence-based medicine (80.1%). Despite of the low level of awareness about EBM resources' (31.8%), and EBM technical terms (43.3%). The study concluded that despite of physicians' low level of knowledge about EBM resources' and technical terms, they had a positive attitude towards evidence-based medicine. Based

on our study we recommend policy makers to Provide hospitals with the required resources for EBM practice and Providing training programs and workshops for physicians to learn EBM skills.

17. Azzeh, FS (2013). '*Risk Factors Associated with Delivering Low Birth Weight Infants among Pregnant Women: A Preliminary Study in Western Saudi Arabia.*' **Journal of Biological Sciences**, 13: 417-421.

http://www.scialert.net/abstract/?doi=jbs.2013.417.421

(***Clinical Nutrition Department***)

ABSTRACT

This study was maintained to identify the risk factors associated with delivering Low Birth Weight (LBW) infants among pregnant women in Makkah area. Two groups were recruited in this study; mothers who delivered LBW infants (MLBW) and mothers who delivered normal birth weight infants (MNBW). Participants were chosen from two hospitals in Makkah; Al-Noor Specialty Hospital and Children and Maternity Hospital. Mothers' ages were chosen between 20-40 years old. Data were collected from medical files and structured questionnaire from 183 delivered women (MNBW n = 92, MLBW n = 91). No significant differences were found in mother's age, weight, height, BMI, family income, mother's education and occupation between two groups. Also, chronic diseases, placenta problem, previous LBW, previous pregnancies and age at first pregnancy all didn't show any effect on LBW. MLBW showed significantly ($p<0.05$) lower fruits as well as milk and dairy products intake than MNBW. Also, tea intake of MLBW group was significantly ($p<0.05$) higher than the other group. The most probable risk factors associated with delivering LBW were related to multiple births as twins (OR = 6.47, (CI: 1.05-39.89), p = 0.044), smoking (OR = 5.73, (CI: 2.23-14.74), p = 0.040) and lower fruits intake than nutritional recommendation (OR = 0.30, (CI: 0.09-1.06), p = 0.042). Odds ration showed no significant results for high tea intake and low milk and dairy products intake. In conclusion, the main risk factors associated with delivering LBW infants in Makkah area were multiple births, smoking and low fruits intake.

18. Azzeh FS, Alazzeh AY, **Dabbour IR**, **Jazar AS** and Obeidat AA (2014). '*Effect of Hospital Nutrition Support on Growth Velocity and Nutritional Status of Low Birth Weight Infants.*' **Nutricion Hospitalari**, 30: 800-805.

http://www.aulamedica.es/nh/pdf/7686.pdf

(***Clinical Nutrition Department***)

ABSTRACT

Introduction: Infants with low birth weights are provided with hospital nutrition support to enhance their survivability and body weights. However, different hospitals have different nutrition support formulas. Therefore, the effectiveness of these nutrition support formulas should be investigated. **Objective:** To assess the effect of hospital nutrition support on growth velocity and nutritional status of low birth weight infants at Al-Noor hospital, Saudi Arabia. **Methods:** A cross-sectional study was conducted between October, 2010 and December, 2012. Three hundred newborns were recruited from Al-Noor Hospital in Makkah city, Saudi Arabia. Infants were selected according to their birth weights and were divided equally into three groups; (i) Low Birth Weight (LBW) infants (1501- 2500 g birth weight), (ii) Very Low Birth Weight (VLBW) infants (1001-1500 g birth weight) and (iii) Extremely Low Birth Weight (ELBW) infants (< 1000 g birth weight). Data were collected at birth and at discharged. Infants' weights were recorded and growth velocity was calculated. Some biochemical tests and mineral levels were measured. **Results:** Body mass index values of VLBW and ELBW

groups were lower ($p < 0.05$) than LBW group. The growth velocity of infants in all groups ranged between 8.7 to 10.2 g/kg/d with no differences ($p > 0.05$) were observed among groups. Serum calcium, phosphorus and potassium levels at discharge were higher ($p < 0.05$) than that at birth for ELBW and VLBW groups; while sodium level decreased in ELBW group to be within normal ranges. Albumin level was improved ($p < 0.05$) in ELBW group. **Conclusion:** Health care management for low birth weight infants in Al-Noor Hospital was not sufficient to achieve normal growth rate for low birth weight infants, while biochemical indicators were remarkably improved in all groups.

19. Baddour AA and **Saleh HA** (2013). 'Evidence-Based Clinical Practice Guidelines Development, Disseminations and Assessment.' **International Journal of Pure Applied Sciences and Technology**; 19: 6-21.

http://search.proquest.com/openview/4115d05e6a6ee90073b4a706a858d3b4/1?pq-origsite=gscholar&cbl=1056338

(***Health Management Department***)

ABSTRACT

Evidence-Based Clinical Practice Guidelines (CPGs) are systematically developed statements to assist practitioner and patient decisions about appropriate health care. Worldwide, CPGs have increasingly become a familiar part of clinical practice. The aim of this study was to develop and disseminate an evidence-based guideline for appropriate ordering and reordering of selected laboratory tests, as well as to assess the impact of guideline adopting in terms of improving ordering laboratory tests. The study was conducted at a general governmental hospital, the process of developing present guideline followed the systematic and approved steps, from selecting the guideline topic to finalizing and printing guideline recommendations for appropriate ordering and reordering of thyroid function tests (TFTs). The ordering of TFTs was assessed through reviewing medical records of patients who had undergone the TFTs according to an abstracting sheet that was structured based on the guideline recommendations before and after dissemination of the guideline through the distribution of paper copies of guideline and conducting of educational workshops. The study revealed that the adopting of CPGs achieved a statistically significant reduction (7.3%) in the percentage of unnecessary TFTs, a statistically significant increase in the overall guideline conformity rate (13.4%) and a statistically significant reduction in the unsatisfactory level of compliance with the guideline among prescribers (9.0%).

20. Bukhari HM (2013). '*Anthropometric measurements and the effect of breakfast sources in school achievement, physical activity and dietary intake for 6-13 years old primary school children girls in Makkah City*.' **International Journal of Nutrition and Food Sciences**; 2: 272-279.

http://article.sciencepublishinggroup.com/pdf/10.11648.j.ijnfs.20130206.12.pdf

(***Clinical Nutrition Department***)

ABSTRACT

Background: Many studies run in Saudi Arabia to seize obesity and food related diseases, but lack of data on anthropometric status and related health problems in primary school girls in western area promoted further research. **Objectives:** To determine the patterns of growth status on children, to

compare between home and school breakfast with the consumption of macronutrient and minerals, physical activity. **Methodology:** A cross sectional study was carried out in randomly selected 165 students girls from 3 schools in Makkah in primary schools aged between (6 and 13 years). Their height and weight were measured and weight for age, height for age and body mass index (BMI) for age were calculated. The children's information was obtained by interview and 24hr recall was completed by mothers for accuracy. Frequencies, mean, SD, differences between groups using chi square test and 24hr recall dietary analysis, were measured by SPSS package (Version 16.0). **Results:** The prevalence of overweight and obesity, underweight, wasting, and stunting were 29.5%, 20%, 20% and 11% respectively. Lower vitamin B12 intake was associated with stunting. There was association between underweight and stunting. The mean for the macronutrients was high, except for fat mean which was within RDI. Total calories come from carbohydrate 48.9%, Protein 18.5%, and Fat 32.6%. A higher percentage of school breakfast consumers had low physical activity level compared to their counterparts (50.6% vs. 28.8%). Moreover, the former group had lower school achievement level vs. home breakfast consumers (89%vs.57.8%). **Conclusion:** Preventive measures should be instituted by health authorities to prevent further increase in the prevalence of overweight, wasting, and stunting in school- aged children. It is becoming a priority to establish school and adolescent nutrition and health programmes, with the emphasis on increasing physical education and consumption of healthy diet.

21. Dabbour IR, Al-Ismail KM, Takruri HR and **Azzeh FS** (2014). ˙Chemical Characteristics and Antioxidant Content Properties of Cold-Pressed Seed Oil of Wild Milk Thistle Plant Grown in Jordan.' Pakistan Journal of Nutrition; 13: 67-78.

http://www.pjbs.org/pjnonline/fin2863.pdf

(***Clinical Nutrition Department***)

ABSTRACT

This study aimed to examine the chemical characteristics and antioxidant content properties of cold-pressed milk thistle seed oil. Acidity and peroxide value were determined by chemical standard titration method and oxidative stability index was determined by Rancimate. Using GLC, fatty acid composition, phytosterols and squalene were measured. While, alpha-tocopherol content was determined by HPLC. The total phenolic content, radical-scavenging capacity and total antioxidant capacity were determined spectrophotometrically. The chemical characteristics of cold-pressed oil were as follows: acidity (0.64%), peroxide value (0.34 meq O2/kg of oil), oxidative stability index (55.7 and 12.9 h at 80 and 100Â°C, respectively), fatty acid composition (19.5, 22.9 and 57.6% for SAT, MUFA and PUFA, respectively), phytosterol (2520 mg/kg), squalene (9.35 mg/kg), alpha-tocopherol content (237.4 mg/kg), total phenolic content (1.16 mg GAE/g oil), radical-scavenging capacity against stable DPPH radical (IC50 = 3.34 mg/mL) and total antioxidant capacity (2.29 mmol/L). These data suggest that cold-pressed milk thistle seed oil may serve as dietary source of high PUFA and MUFA, phytosterols, phenolic compounds and natural antioxidants and can be a remarkable candidate for use in healthy food preparations mixed with other vegetable oils or alone.

22. EL-Boshy ME and El-Deean NN (2013). '*Comparative Study on the Effect of Fucoidan and Levamisole on Some Selective Biochemical and Hematological*

Parameters in Heat Stress Rabbits.' **International Journal of Pharmaceutical and Medical Research**; 1: 1-5.

https://www.woarjournals.org/admin/vol_issue2/upload%20Image/IJPMR011101.pdf

(***Laboratory Medicine Department***)

ABSTRACT

This study was planned to investigate the effect of fucoidan and levamisole on some hematological and biochemical parameters in growing rabbits, in both normal and heat stress conditions. One month aged rabbits were orally treated with fucoidan at a dose of 100 and 200 mg/kg body weight daily for 4 weeks and levamisole with 8 mg/kg as a single dose every 2 weeks. This study was conducted at winter and summer. Fucoidan and levamisole treated groups returned the increased RBCs count and stress leukogram picture to normal at the end of the study. Also, biochemical profile in fucoidan treated groups, showed significant decrease in ALT, AST, urea and creatinine with increased level of total protein and globulin when compared with heat stress group. We concluded that fucoidan express good immunomodulating, hepatoprotective and renoprotective effect against stress induced by high temperature.

23. **El-Boshy ME**, Abdalla OA, and Hassan A (2013). '*Studies on the Immunomodulatory Effects of Lactoferrin in Rats Infected with E. coli.*' **Journal of Immune Based Therapies, Vaccines and Antimicrobials**; 2013.

http://file.scirp.org/pdf/JIBTVA_2013100915214594.pdf

(***Laboratory Medicine Department***)

ABSTRACT

Eighty male albino rats of Westar strain (350 ± 10 g), 10 to 12 weeks old were divided into four groups. The groups treated are as following. The first control group (Gp. I) was given intraperitoneally in normal saline (1 mL). The second group (Gp. II) was orally infected with 3 × 1012 CFU of E. coli /Kg. BW. The third group (Gp. III) was infected with E. coli and treated with (0.5%) lactoferrin (LF) 72 hours before E. coli infection in filtered tap water for the duration of the experiment (21 days). The fourth group (Gp. IV) was administrated with LF only (0.5%) in drinking water. Two separate blood samples were collected from heart puncture at the end of 1st, and 3rd week post-treatment for immunological studies. The Leukogram in E. coli treated group was insignificant compared with the control group while lymphocytosis was clear compared with the infected group. Total protein, albumin, α-globulin and β-globulin were insignificantly changed in LF & E. coli treatment group comparing with infected and control groups. TNF-α and γ-globulin are significantly increased in infected group comparing with other treated groups. In conclusion, lactoferrin has powerful antibacterial activity in a variety of ways as well as a safe immunostimulant protein when it is orally administrated.

24. Abdalla OAM, **El-Boshy ME**, Amina AD, Ramadan TM, Kilany OE, and Haidy GAR (2013). '*Comparative studies on the panzyme and citric acid on the*

immunomodulatory, some selective biochemical and growth promoting parameters in broiler chicks.' **Life Science Journal**; 10: 3559-3569.

http://www.lifesciencesite.com/lsj/life1004/474_22473life1004_3559_3569.pdf

(***Laboratory Medicine Department***)

ABSTRACT

One hundred and fifty, one day old, chicks were divided into 5 groups and reared for 6 weeks. Group I: control group fed on balanced commercial ration. Groups II, III, IV and V: treated groups fed on balanced commercial ration supplied with 0.5%,1% citric acid and 0.05%, 0.1% panzyme for 6 weeks respectively. Immunological, some biochemical and growth performance parameters were investigated at 3rd and 6th week. Also, parts from the liver, kidney, intestine, spleen, thymus and bursa were obtained for histopathological examination. Our results revealed significant lymphocytic leukocytosis in the group fed 0.05% panzyme all over the experimental period. There was significant decrease in the level of IL10 in the 0.05% panzyme fed group, and on the contrary, there were significant increases in the 0.5, 1% citric acid groups in comparison with the control group. While, IL6 and TNF-α were significantly increased in panzyme groups at 3 weeks, while, at 6 weeks there were significant decrease in citric acid groups. The bacteriological analysis of the caecal content revealed significant increase in the total bacterial and coliform count in the citric acid fed groups with significant decrease in the count of lactobacillus spp. All the experimental groups showed no effect on serum albumin and uric acid levels. Whereas, significant decrease in AST and creatinine was recorded in the 0.05% panzyme group. Furthermore, 0.05% panzyme group showed significant increase in TP, globulin and glucose along with hypocholesterolemia in the 0.05% panzyme fed group when compared with the other groups of the experiment. The addition of 0.05% of panzyme to the diet of broilers results in improved growth with increased intestinal villus height. We could conclude that panzyme at the level 0.05% in the diet has a prospective effect on the growth performance, nonspecific and specific immune response in broilers.

25. El-Boshy ME, Gadalla HA, and El-Hamied FMA (2014). '*Immunological, hematological and biochemical changes induced by short term exposure to cadmium in catfish (Clarias gariepinus).*' **Journal of Coastal Life Medicine**; 2: 175-180.

http://www.sciencepub.net/nature/ns0912/002_7137ns0912_7_15.pdf

(***Laboratory Medicine Department***)

ABSTRACT

Objective: To investigate the hematological, biochemical and immunological changes in catfish (Clarias gariepinus) (C. gariepinus) experimental exposed to cadmium. **Methods:** C. gariepinus were exposed to different concentrations of cadmium (Cd) mg/L) for 3 weeks. Blood samples were collected for assessing some hematologica l(,0 ,b 2io, c5h, eamndic 1a0l and immunological studies at the end of experiment. **Results:** The results showed marked normocytic normochromic anemia, leukocytosis, ancetuivtritoipehs iolifa A aLnT da nlydm ApShTo spiegnniifai ciann t5l,y 1i0n cmrega/sLe din, acsa dwmelilu ams gelxupcoosseed, cfriesaht.i nAinlseo, uthreea b, lpoootda slseiuveml mangd/L u orifc c aacdimd.i uMme aenxwpohsieled tfoitsahl. pTrhoete iimn,m aulbnuolmoginic aanl dp asroadmiuemte rws einre c saidgmniifuicma netxlyp odseecdr eeaxspeedr iamt e5n, t1a0l daso sdee gcrroeuapses dd erecrseisatsaendc ese trou mA ebroamctoenriacsid hayl darcotpivhiitlyl,a l ywsiotzhy minec,r enaesuitnrgop ehxiplso saudrhee sdioonse t essete mase wd etlol correspond with suppressive of non-specific immune functions. **Conclusions:** The treatment of C. gariepinus with cadmium under the same conditions had immunosuppressive and decrease diseases resistance in a dose-dependent effect.

26. El-Ashker M, Salama M, Rizk A, and **El-Boshy M** (2014). 'The use of inflammatory markers as a prognostic aid for traumatic reticuloperitonitis in water buffalo (Bubalus bubalis).' Veterinarni Medicina; 59: 239-246.

http://vri.cz/docs/vetmed/59-5-239.pdf

(***Laboratory Medicine Department***)

ABSTRACT

The present study was conducted to evaluate the prognostic significance of selected inflammatory markers for prediction of clinical outcomes of traumatic reticuloperitonitis (TRP) in water buffalo (Bubalus bubalis). Acute local TRP was initially diagnosed in 32 buffalo by clinical examination and confirmed by ultrasonography (USG), laparo-rumenotomy and/or necropsy findings in non-surviving cases. Ten clinically healthy buffalo were randomly selected and served as controls. Blood was drawn from all examined buffalo to measure the respective levels of tumor necrosis factor alpha (TNF-Î±), interleukin (IL)-1Î², IL-6, IL-10 interferon gamma (INF)-Î³, serum amyloid A (SAA), haptoglobin (Hp), fibrinogen (Fb), C-reactive protein (CRP) and serum sialic acid (SSA). Clinically, the heart rates, but neither respiratory rate nor rectal temperature, were significantly higher in non-survivors compared with survivors ($P < 0.05$). In addition, the non-surviving buffalo were more likely to have anorexia and weakness compared with survivors. However, rumen stasis, recurrent ruminal tympany, lacrimation, lordosis, bruxism, and decreased milk production were commonly observed in all diseased animals. Biochemically, TNF-Î±, IL-1Î², IL-6, IL-10, SAA, Hp, Fb, CRP, and SSA levels were significantly higher in diseased buffalo compared with controls, and were higher in non-survivors than survivors ($P < 0.05$). The data herein indicate an ongoing cascade of systemic inflammatory responses in buffalo with TRP with concomitant compensatory anti-inflammatory reactions and the overall degree of cytokine network disruption may be an important prognostic indicator. Medical strategies to modulate inflammation must take into account the complex of cytokine biology in buffalo with TRP.

27. **El-Boshy ME**, Risha EF, Hamid FMA, Mubarak MS, and Hadda TB (2014). '*Protective Effects of Selenium Against Cadmium Induced Hematological Disturbances, Immunosuppressive, Oxidative Stress and Hepatorenal Damage in Rats*.' Journal of Trace Elements in Medicine and Biology; 29:104-10.

http://www.sciencedirect.com/science/article/pii/S0946672X14000753

(***Laboratory Medicine Department***)

ABSTRACT

Cadmium is a non-essential toxic metal used in industrial process, causes severe risk to human health. Selenium (Se) is an essential trace mineral of fundamental importance for human health. Selenium has antioxidant enzymes roles and is needed for the proper function of the immune system. In this study, the protective effects of selenium against cadmium intoxication in rats have been investigated by monitoring some selective cytokines (IL-1β, TNF α, IL-6, IL-10 and IFN-γ), antioxidant enzymes reduced glutathione (GSH), superoxide dismutase (SOD), catalase (CAT), glutathione peroxidase (GPx) and lipid peroxidation malondialdehyde (MDA) as well as some selective biochemical markers of liver and kidney functions. Thirty-two rats were divided into four equal groups; the first group was

used as a control. Groups 2-4 were treated with selenium (Se; 0.1mg/kg BW), cadmium (Cd; 40mg/L drinking water) and selenium plus cadmium, respectively. Rats were orally administered their relevant doses daily for 30 days. Blood samples were collected from heart puncture at the end of the experiment (30 days) for complete blood picture (CBC) and serum was separated to evaluate the different immunological parameters and biochemical parameters, as well as liver specimens for Cd and Se estimation. Rats in the Cd treated group have a significantly higher hepatic concentration of Cd than in other treated groups. Results revealed that cadmium significantly increased IL-1β, TNF α, IL-6 and IL-10, beside peripheral neutrophils count, while the IFN-γ and lymphocytes were decreased in rat sera. In addition, GSH level, CAT, SOD and GPx activities were significantly decreased while lipid peroxidation (MDA) was increased. Regarding, liver and renal markers, they were significantly increased in the activities of aminotransferases (AST, ALT), urea and creatinine, while total plasma proteins and albumin were significantly decreased. On the other hand, selenium treated group, showed significantly increased IFN-γ, GSH level, CAT, and GPx activities, as well as lymphocyte count while IL-10 was decreased. Selenium in combination with cadmium, significantly improved the elevation of serum IL-1β, IL-6, TNF α, IL-10 and malondialdehyde in addition to enhancing the antioxidant enzyme activities of GSH, CAT, GPx and SOD. Moreover, selenium has ameliorated the cadmium-induced liver and kidney damage by improving hepatic and renal markers. The results of this investigation demonstrated that selenium has the potential to countermeasure the immunosuppressive as well as hepatic and renal oxidative damage induced by cadmium in rats; selenium has shown promising effects against Cd toxicity.

28. Dua'Y A, Saadeh HA, Kaur H, Goyal K, Sehgal R, Hadda TB, **ElSawy NA**, and Mubarak MS (2014). '*Metronidazole derivatives as a new class of antiparasitic agents: synthesis, prediction of biological activity, and molecular properties.*' **Medicinal Chemistry Research**; 24:1196-1209.

http://link.springer.com/article/10.1007%2Fs00044-014-1197-4

(***Laboratory Medicine Department***)

ABSTRACT

Series of new metronidazole urea and thiourea derivatives have been prepared in good yields through reactions of 2-(2-methyl-5-nitroimidazolyl) ethylamine hydrochloride with various cyanates and isothiocyanates. Similarly, metronidazole hydroxybenzoic acid derivatives were synthesized by reacting 2-(2-methyl-5-nitro-1*H*-imidazol-1-yl)ethyl-4-methylbenzene sulfonate (**4**) with *m*- and *p*-hydroxybenzoic acids. Structures of the newly prepared compounds were confirmed through different spectroscopic methods such as ^{1}H-NMR, ^{13}C-NMR, mass spectrometry and also by elemental analyses. The antigiardial and antitrichomonal activities of the prepared compounds were evaluated in vitro. Compounds **3a**, **3b**, **3c**, **3d**, **3f**, **3g**, **3j**, **3l, 3m**, and **6b** exhibited remarkable antigiardial activity with IC_{50} values ranging from 5.2 to 7.5 µg/mL and were found to be more active than metronidazole which has an IC_{50} of 8.0 µg/mL. Similarly, several of the tested compounds showed significant antitrichomonal activity with IC_{50} values ranging from 4.95 to 6.80 µg/mL compared with the standard drug, metronidazole which has an IC_{50} of 8.0 µg/mL. Compound **6b** was the most potent among the prepared compounds and was about 1.6 times more active than metronidazole. In addition, the newly synthesized products were subjected to Petra/Osiris/Molinspiration (POM) analyses to get insights on the degree of their toxicity.

29. Hegazy RM, **ElSawy NA,** Faruk EMF (2014). '*Does Ginger Extract Protect against Ethylene Glycol Induced Hepatic Toxicity in Adult Male Albino Rats?*' **Basic Sciences of Medicine**; 3: 17-25.

https://www.researchgate.net/publication/261946516_Does_Ginger_Extract_Protect_against_Ethylene_Glycol_Induced_Hepatic_Toxicity_in_Adult_Male_Albino_Rats

(***Laboratory Medicine Department***)

ABSTRACT

Background: Ethylene glycol (EG)is a colourless, odourless, sweet-tasting chemical mainly used as antifreeze which is fatal if ingested. Ginger is used as spices and as an herbal medicine (antioxidant) in Asian countries. **Aim of the work:** was to evaluate the protective role of Ginger against the Ethylene glycol hepato-toxicity in rats. **Material and Methods:** Thirty rats were divided into three equal groups: Group I (control group): GIa; 5 rats received saline and GIb; 5 rats received ginger (dose as in GIII), Group II: were intraperitoneal injected by EG 0.75 mL for 2 consecutive days then orally administered via intra-gastric tube by EG in a daily dose of 0.1 mL /kg ethylene glycol Group III: received EG injection with 1 mL of Ginger extract (24 mg/mL) three times weekly for 6 weeks. Blood samples were collected and livers were microscopically examined. **Results:** EG induced significant reduction (P=002) in Rats' BW in G II with 30% MR in comparison with GI and GIII. AST, ALT, ALK P, TBIL, and globulin levels in G II were significantly elevated (P=0.02); meanwhile there were significant decrease (P=0.03) in total protein, albumin, and A/G ratio. Microscopic examination showed: increase fibrous tissue and cellular infiltration around the portal tract in G II. Positive antioxidant effect of Ginger over the EG toxicity in G III by apparent decrease of fibrosis, cellular infiltration, vacuolation and necrosis of hepatocytes. Some hepatic lobules regained their normal architecture with proliferated bile ductules. **Conclusions:** Ginger might be more effective in amelioration of ethylene glycol induced hepato-toxicity.

30. Nasr AY, Ali YH, and **ElSawy NA** (2014). '*The Sacral Hiatus: An Anatomic Study on Both Cadaveric and Dry Bones*.' **Trans Clin Bio**; 2.

http://www.vripress.com/index.php/TCB/article/view/124

(***Laboratory Medicine Department***)

ABSTRACT

The sacral hiatus is the gap on the lower part of dorsal surface of sacrum. It is formed due to the failure of fusion of the laminae of the 5^{th} sacral segment. The sacral hiatus provides the main route of the caudal epidural nerve block. The success rate of the caudal nerve block showed an important correlation to the variations of the sacral hiatus dimensions. 150 dry Egyptian sacra and five cadavers were used in the present study. Different anatomical measurements were made with a Vernier caliper accurate to 0.1 mm to know the anatomical variations of the sacral hiatus. Complete agenesis of the sacral hiatus was seen in four (2.66%) sacra. The mean length of sacral hiatus was 27.16 mm and it showed a wide range (7-110 mm). The mean transverse diameter (width) of sacral hiatus was 11.5 mm. The mean anteroposterior diameter of the sacral canal at the apex of sacral hiatus was 4.78 mm. Narrowing of the sacral canal at the apex of sacral hiatus, diameter less than 3 mm was seen in 10 (6.66%) sacra. The apex of sacral hiatus was commonly found at the level of the 4^{th} sacral vertebra in 54%. Various shapes of sacral hiatus were observed which included inverted V (38.66%), inverted U (31.33%), irregular (15.33%), dumbbell (12%) and bifid (2.66%). The base of sacral hiatus was seen at the level of S5 vertebra in 70%. The fusion between coccyx and sacrum was observed in 18% of sacra while the sacralisation of the 5^{th} lumber vertebra was noticed in 14 (9.33%) sacra. The knowledge of the anatomical variations of sacral hiatus is important during administration of the

caudal epidural anaesthesia. Moreover, it may help in improving the success rate of the caudal anaesthesia.

31. Bakr ES and **ElSawy NA,** (2014). '*Therapeutic role of aqueous extract of Milk thistle (Silybum adans, L.) and Burdock (Arctium lappa) in hyperglycemic rats.*' **Biological Medicinal Chemistry**; 2: 20-28.

http://vripress.com/index.php/BMC/article/view/135

(***Clinical Nutrition & Laboratory Medicine Departments***)

ABSTRACT

Bakground: Diabetes mellitus (DM), the third killer of the mankind health along with cancer, cardiovascular and cerebrovascular diseases, is one of the most challenging diseases facing health care professionals today **Objective:** Therapeutic role of aqueous extract of Milk thistle (Silybum adans, L.) and Burdock (Arctium lappa) and their mixture in hyperglycemic rats. **Material and methods:** Fourty mature male albino rats weighing 180-200g then divided into 8 equal groups; one group was kept as a (C –ve) group, while the other 7 groups were injected s/c by 150 mg/kg body weight alloxan to induce hyperglycemia. Hyperglycemic rats were disparted into seven equal groups (n= 5 rats) one of them left as control positive while other eight groups orally fed using two doses (250 and 500 mg/kg of milk thistle, burdock , and mixture of them, respectively). At the end of experimental period (45 days), blood samples were collected for serum separation to determine serum glucose, liver enzymes (ALT, AST, ALP,) total protein, albumin, globulin, total cholesterol, triglycerides, lipoprotein fractions (HDLc, LDLc and VLDLc), kidney function (creatinine, urea and uric acid) and histopathological changes. **Results:** Data showed that that aqueous extract of milk thistle (Silybum adans, L.) and burdock (Arctium lappa) showed significant decrease in serum glucose and improving liver and kidney status specially the mixture of 500 mg of milk thistle and burdock. **Conclusion:** According to these results, milk thistle and burdock could be used for hyperglycemia and impaired liver and kidney function.

32. ElSawy NA, Bukhari HM, **Nada IS** and **Header EA** (2014). '*Obesity and Osteoporosis Among Students in Umm Al-Qura University Makkah, KSA.*' **Biological Medicinal Chemistry**; 2: 29-35.

http://vripress.com/index.php/BMC/article/view/138

(***Laboratory Medicine & Clinical Nutrition Departments***)

ABSTRACT

Background: Nutrition is one of the most important factors influencing human health. Also, nutrition plays a role in the etiology of osteoporosis disease. This disease is a serious metabolic bone disorder that often results in hip fracture and is usually asymptomatic in its initial stages. **Objective:** Assess the prevalence of obesity and osteoporosis among university students. **Methods:** A cross sectional study was carried out during the period from 1/1/2010 to 30/1/2013 among a random sample of 218 male and 257 female university students participate from Umm Al Qura university of Makkah age ranged from 19 to 24 years old. A direct interview was run all students to collect a specially designed bone health related questionnaire, bone mineral density (BMD) sos instrument and body composition have also been measured by using scale body state device. **Results:** Osteoporosis was present in 2.8% and 7% for male and female respectively, while osteopenia was current in 42.2% and 32.3% of male and female resp. Moreover there was a highly increased positive significant relationship at level (1%) between osteoporosis and each of body fat %, fat weight, and BMI. **Conclusion:** Osteoporosis more common in female students, while osteopenia is increased in male students. The prevalence of osteoporosis among university students was positively and significantly associated ($p<0.001$) with

increased body fat. The study results suggested that inevitable decrease in body fatness and weight with less consumption of carbonated beverages, taking into consideration variety and balanced diets and increasing nutrition education programs.

33. **ElSawy NA,** Hadda TB, **Bakr EH, Header EA**, Fakim AG, Mabkhot YN, Aljofan M (2014). '*Effects of Crude Aqueous Extract of Origanum vulgaris in Developing Ovary of Rabbits Following in Utero, Adolescent, and Postpubertal Exposure.*' **VRI-Phytomedicine**; 3:73-80.

http://vripress.com/index.php/PM/article/view/142

(***Laboratory Medicine & Clinical Nutrition Departments***)

ABSTRACT

We evaluated the impact on rabbits after having been treated with Origanum vulgaris (Lamiaceae) (OV) at a dose level known to adversely affect ovarian functions in rodents without causing systemic toxicity. The choice of rabbits has been guided by the fact that rabbits have a relatively long phase of reproductive development and hence simulation of reproductive development is better as opposed to dealing with rodents. The use of rabbits facilitates multiple evaluations of mating ability. An attempt has also been made at determining whether OV affected ovarian development and hence the use of animal model. Rabbits were exposed to 80 mg OV/kg/day in utero (gestation days [GD] 0 to23) or during adolescence (postnatal weeks [PNW] 4 by breast feeding and orally from 4w to 12 w), and the offspring were examined at the end of the 12 W period. Another group was treated after puberty (for 12 weeks) till age of 24 [PNW] of age and examined at the conclusion of exposure and follicles were categorized as primordial, primary, small preantral, large preantral or small antral follicles. The most pronounced reproductive effects were in female rabbits group which had been exposed from in utero till post-puberty period, in weights of ovaries (at 12 and 24 weeks, down 23%; $p < 0.05$). Serum Gonadotropin levels were down (at 24 weeks, 32%; $p < 0.05$); a slight increase in histological alterations of the ovaries ($p < 0.05$) at 24 weeks, of abnormal follicles.

34. Hadda TB, **ElSawy NA**, **Header EA**, Mabkhot YN, and Mubarak MS (2014). '*Effect of garlic and cabbage on healing of gastric ulcer in experimental rats*.**'** **Medicinal Chemistry Research**;1-10.

http://link.springer.com/article/10.1007/s00044-014-1092-z

(***Laboratory Medicine & Clinical Nutrition Departments***)

ABSTRACT

The effect of garlic (*Allium sativum*) and cabbage (*Brassica oleracea var. capitata*) extracts on the healing of gastric ulcer in experimental rats has been investigated. Thirty-three *albino* male rats (115 ± 4 g B.Wt. each) were used and divided into 6 groups ($n = 6$ rats); one was used as a negative control while the others were given aspirin orally (200 mg/kg B.Wt.). One of these groups was employed as a positive control and the others were administrated with 150 or 300 mg/kg B.Wt. doses of garlic and cabbage juice for 7 days. The length of the gastric ulcer, the volume of gastric juice, the total acidity, the pH value, the total bacterial count, and the histopathological changes of the stomach were examined. Results revealed that oral administration with both tested plant extracts reduced the length of gastric ulcer, the total acidity, the volume of gastric juice, the bacterial count, and the histopathological changes caused by aspirin. On the other hand, both aqueous plants extract increased the pH value of gastric juice. It is concluded that, garlic and cabbage extract could be used for healing acute gastric ulcer.

35. Bakr EH and **Header EA** (2014). '*Effect of Aqueous Extract of Green Tea (Camellia SinensisL.) on Obesity and Liver Status in Experimental Rats*.' **Int. J. Pure Appl. Sci. Technol.**; 22: 53-63.

https://www.researchgate.net/publication/265166738_Effect_of_Aqueous_Extract_of_Green_Tea_Camellia_Sinensis_L_on_Obesity_and_Liver_Status_in_Experimental_Rats

(***Clinical Nutrition Department***)

ABSTRACT

Obesity is one of the most common disorders encountered in clinical practice. It has been noted as a major public health problem in many countries including Arab countries. It is a major risk factor for many chronic diseases. Green tea is reported to contain thousands of bioactive ingredients which are almost contributed by polyphenols which play a key role in prevention and treatment of many diseases including obesity. Our investigation aimed to study the effect of oral administration of aqueous extracts of green tea (GTE) on obesity and liver status by using experimental rats. Sixteen adult male albino rats (150-160g) was divided into four experimental groups: The first considered as control negative group (C -ve) and fed on normal diet, while other three groups fed on high fat diet for three weeks to induce obesity. Obese rats were divided into three equal groups (n= 4 rats). Second group (obese rats) considered as (C +ve). Third group (obese rat) and fourth group fed on 10% and 20% of green tea extract respectively. At the end the experimental period (28 days), the body weight gain, food intake, feed efficiency ratio, blood sugar, liver enzymes (ALT, AST, ALP), and lipid profile were evaluated. Our results revealed that the consumption of green tea extract produced a significant reduction in body weight in obese rats and enhances liver functions. Conclusion: Green tea could be used as a weight reductions and enhancing liver status for obese.

36. Elshamy SM, Abdel-Kafy EM (2013)**.** '*Effect of balance training on postural balance control and risk of fall in children with diplegic cerebral palsy*.' **Disabil Rehabil**; 36:1176-83.

http://www.tandfonline.com/doi/abs/10.3109/09638288.2013.833312

(***Physiotherapy Department***)

ABSTRACT

Purpose: The purpose of this study was to evaluate the effects of balance training on postural control and fall risk in children with diplegic cerebral palsy. **Methods:** Thirty spastic diplegic cerebral palsied children (10-12 years) were included in this study. Children were randomly assigned into two equal-sized groups: control and study groups. Participants in both groups received a traditional physical therapy exercise program. The study group additionally received balance training on the Biodex balance system. Treatment was provided 30 min/d, 3 d/week for 3 successive months. To evaluate the limit of stability and fall risk, participated children received baseline and post-treatment assessments using the Biodex balance system. Overall directional control, total time to complete the test, overall stability index of the fall risk test and total score of the pediatric balance scale were measured. **Results:** Children in both groups showed significant improvements in the mean values of all measured variables post-treatment ($p < 0.05$). The results also showed significantly better improvement in the measured parameters for the study group, as compared to the control group ($p < 0.05$). **Conclusion:** Balance training on Biodex system is a useful tool that can be used in improving postural balance control in children with diplegic cerebral palsy.

37. El-Soadaa SS, Abdelhafez AM and **Zahran SE** (2013). '*Nutritional Assessment of Patients under Hemodialysis in King Faisal Hospital in Makkah, Saudi Arabia*.' **Journal of American Science**, 9:317-326.

http://www.jofamericanscience.org/journals/am-sci/am0906/037_18231am0906_317_326.pdf

(***Clinical Nutrition Department***)

ABSTRACT

Background: The most common problem in chronic renal failure patients is malnutrition which can be secondary to poor nutrients intake, increase losses or increase in protein catabolism. **Objectives:** to assess the nutritional status of a sample of hemodialysis patients (HDP) attending King Faisal Hospital in Makkah, Saudi Arabia. **Subjects and methods:** A cross-sectional study was conducted included 40 hemodialysis patients (24 females, 16 males), attending the hemodialysis center in King Faisal Hospital. A pretested interview questionnaire was used to collect demographic, medical, and dietary histories. Anthropometric indices were recorded for each patient. Serum phosphorus, calcium, total proteins, albumin, cholesterol, and creatinine were obtained from patients' files. **Results:** Among the studied patients 40% were males and 60% were females. Dietary assessment showed that, patient' daily intake of all macro and micronutrients (except vitamin A) was <90% of the average nutritional requirements. Regarding percentiles of anthropometric measurements as indicators of malnutrition ; 35%, 20%, 32.5%, 32.5% of the patients had a weight for age, triceps skinfold thickness **(**TSF), mid-arm muscle circumference **(**MAMC), and mid-upper arm muscle area **(**MAMA) less than the 5th percentile respectively. Biochemical assessment among the studied patients shows that, all patients were anemic,22.5% of patients had serum phosphorus of >1.94 mmol/L, 20.0% had serum total protein <64 g/L, 75.0% with serum calcium of ≤ 2.37,100% with BUN >28.5 mmol/L, 72.5% with albumin <40 g/L, and 55.0% with serum creatinine of < 884 µmol/L. **Conclusion:** malnutrition is common in (HDP), rendering them at high risk of mortality and morbidity. Improvement of nutritional status of patients on maintenance hemodialysis is needed. Every patient needs an intensive nutritional counseling based on an individualized plan of care to maintain adequate nutrients intake.

38. Elsoadaa SS, Abdelhafez AM, Rabeh NM, **Zahran SE and Osfor MMH** (2013). '*Consumption of Fruits and Vegetables among Umm Al- Qura University Students in Makkah, Saudi Arabia: A cross -section study*.' **Life Sci J**;10: 223-231.

http://www.pjbs.org/pjnonline/fin2605.pdf

(***Clinical Nutrition Department***)

ABSTRACT

The health benefits of adequate fruits and vegetables (FV) consumption are significant and documented. Moreover, increased fruit and vegetable consumption was associated with reduction in the development of chronic diseases. The main objectives of the present study were to describe the patterns of fruit and vegetables intake among Umm Al-Qura University students, and to identify the epidemiological factors associated with low level of consumption of FV. **Subjects and methods:** A cross- sectional study was carried among 703 students of Umm Al- Qura University (109 males, 594females) based on self-administered questionnaire composed of: demographic- socio- economic data, anthropometric measurements, physical activities, medical history (of the students and their parents) and dietary assessment including: 24hr recall to assess FV consumption. Statistical analysis

was performed by using the Statistical Package for Social Science (SPSS V 16). **Result**: About 13.8% of males and 38.6% of females consume FV greater than or equal to five serving a day, indicating a gap of approximately 25 % between the males and females. Also, the parents' educational level was affecting positively the consumption of FV. Low FV consumption tended to decrease with low monthly income. **Conclusions:** Factors associated with higher level of intake of FV were female gender, higher educational level, and higher monthly income.

39. Alayat MS**, Elsodany AM,** El Fiky AA (2014). '*Efficacy of high and low level laser therapy in the treatment of Bell's palsy: A randomized double blind placebo-controlled trial.*' **Lasers Med Sci**; 29: 335-42.

http://link.springer.com/article/10.1007%2Fs10103-013-1352-z

(***Physiotherapy***)

ABSTRACT

The aim of the present study was to investigate and compare the effects of high intensity laser therapy (HILT) and low level laser therapy (LLLT) on the treatment of patients with Bell's palsy. Forty-eight patients participated in and completed this study. The mean age was 43 ± 9.8 years. They were randomly assigned into three groups: HILT group, LLLT group, and exercise group. All patients were treated with facial massage and exercises, but the HILT and LLLT groups received the respective laser therapy. The grade of facial recovery was assessed by the facial disability scale (FDI) and the House-Brackmann scale (HBS). Evaluation was carried out 3 and 6 weeks after treatment for all patients. Laser treatments included eight points on the affected side of the face three times a week for 6 successive weeks. FDI and HBS were used to assess the grade of recovery. The scores of both FDI and HBS were taken before as well as 3 and 6 weeks after treatment. The Friedman test and Wilcoxon signed ranks test were used to compare the FDI and HBS scores within each group. The result showed that both HILT and LLLT significantly improved the recovery of patients with Bell's palsy. Moreover, HILT was the most effective treatment modality compared to LLLT and massage with exercises. Thus, both HILT and LLLT are effective physical therapy modalities for the recovery of patients with Bell's palsy, with HILT showing a slightly greater improvement than LLLT.

40. Helal OF, Alayat MS, El Fiky AA, Shousha TM (2013). '*Impact of a Single Bout of High-Intensity Arm Ergometer Exercise on Ventilatory Function*.' **Jokull**; 63:339-56.

http://jokulljournal.com/coredoux/index.php/jTracker/index/KbSIP

(***Physiotherapy Department***)

ABSTRACT

Background: Although a large body of evidence exists on the effect of long term exercise training program on pulmonary function, much less attention has been dedicated to investigating the acute effect of short term exercise program on improving the ventilatory function. **Objective:** The present study was carried out to investigate the effect of short term high intensity aerobic exercise on lung function in adults to start first step in establishing an evidence based exercise program designed for chest patients who can only be supervised in short term hospitalization phase. **Methods:** A pre-post test study design was carried out on thirty healthy men students with their mean age 21.7 ± 1.26 who were enrolled in this study. Every student performed a 20-minute high-intensity monitored stationary arm Ergometer exercise and ventilatory function tests was performed in order to measure forced vital capacity (FVC), forced expiratory volume at the end of the first second (FEV1), FEV1/FVC ratio and

peak expiratory flow rate PEFR before and after the exercise. **Results:** The result showed significant increase in the mean value of FEV1, and a non-significant difference in the mean values of (FVC), FEV1/FVC and PEFR. **Conclusion:** A single high intensity arm Ergometer exercise sitting has a significant effect on improving forced expiratory volume in the normal adult.

41. **Helal OF**, Mohamed AA and Alayat MSM (2013). '*Change in the great saphenous vein diameter in response to contrast baths and exercise: a randomized clinical trial.*' **Journal of American Science**; 9:476-483.

http://www.jofamericanscience.org/journals/am-sci/am0903/071_16810am0903_476_483.pdf

(***Physiotherapy Department***)

ABSTRACT

The purpose of the present study was to investigate the effect of contrast baths on varicose vein and to compare its effect with that of calf muscle exercises on the improvement of varicose vein. A randomized clinical trial was performed on 70 patients with varicose vein of the lower limb. Their age was (40-50) years. Patients were randomly divided into three groups; Group (1) (30 patients) used a contrast bath and compression stocking. Group (2) (30 patients) performed pedal ergometer exercise and the compression stocking. Group (3) (10 patients) used compression stocking. Venous Duplex ultrasound scanning was conducted for evaluating the cross-section of great saphenous vein (CsGSV) at the knee and ankle levels. There was significant reduction in the mean value of CsGSV at the ankle and knee levels in group one and two with non-significant difference in group three. The result revealed a non-significant difference between contrast baths and pedal ergometer exercise groups. Both contrast baths and strengthening exercise to calf muscle are effective methods in the treatment of varicose veins.

42. Thabet AA, Alayat MS, Ali MMI, **Helal OF** (2013). '*High Intensity Laser Versus low Intensity Laser Therapy in Management of Postmenopausal Osteoporosis*.' **Energy for Health**; 10: 16-21.

http://erepository.cu.edu.eg/index.php/BFPTH/article/view/455

(***Physiotherapy Department***)

ABSTRACT

Background: It is estimated that 30%-50% of women will suffer an osteoporotic fracture in their lifetime. Laser therapy has a positive effect on bone regeneration and healing that is dependent on the characteristics of the light itself (e.g. intensity and wavelength). **Objective:** The aim of the present study was to compare the possible effect of High Intensity Laser Therapy (HILT) versus Low Level Laser Therapy (LLLT) on bone mineral density (BMD) of lumbar vertebrae in postmenopausal women with osteoporosis. **Methods:** Thirty postmenopausal osteoporotic women participated in the study and were randomly divided in two groups. Group I consisted of 15 women receiving HILT, Group II consisted of 15 women receiving LLLT. Both groups have been exposed to three sessions of treatment per week for six successive weeks. Bone Mineral Density (BMD) of lumbar spine (L1.-5) was measured by Dual X-ray absorptiometry (DXA). Evaluation of lumbar BMD was performed before and after the end of the six weeks of treatment. **Results:** Comparing mean values before and after treatment, the BMD measures showed that both groups had a statistically significant improvement after laser therapy. Comparing the two groups, the improvement showed by BMD was higher in Group I (HILT) than in Group II (LLLT). The difference between the two groups was statistically significant ($P > 0.05$). **Conclusion:** Laser can be an effective method for the management

of osteoporosis and improvement of BMD in postmenopausal women. On the basis of the findings of this study, HILT results more effective than LLLT.

43. Mahran HG, **Helal OF** and El Fiky AA (2013). '*Effect of Mechanical Vibration Therapy on Healing of Diabetic Foot Ulcer*.' **Journal of American Science**; 9:76-87.

http://www.jofamericanscience.org/journals/am-sci/am0907/008_18869am0907_76_87.pdf

(***Physiotherapy Department***)

ABSTRACT

Diabetic foot complications are the most common cause of non-traumatic lower extremity amputations in the industrialized world. The risk of lower extremity amputation is higher in diabetics than in persons who do not have diabetes mellitus. Furthermore, foot complications are the most frequent reason for hospitalization in patients with diabetes. Diabetic neuropathy is the impact of diabetes on the nervous system, most commonly causing numbness, tingling and pain in the feet and also increasing the risk of skin damage due to altered sensation. Together with vascular disease in the legs, neuropathy contributes to the risk of diabetes-related foot problems (such as diabetic foot ulcers) that can be difficult to treat and occasionally require amputation. Early detection and appropriate treatment of these ulcers may prevent up to 85 percent of amputations. **Purpose:** To detect the effect of low mechanical vibration on healing of diabetic foot ulcer. **Methods:** Twenty nine diabetic patients with type 2 diabetes (21 males and 8 females) suffer from diabetic ischemic foot ulcer (grade A1) will be divided into 2 groups; 1st study group received low mechanical vibration for 15 minutes for session, 3session/day, 5day/week for 4 weeks and control group received no treatment. Assessment of wound size (length, width and area) by Visitrak device for both groups was done 3 times as follow; 1st assessment done before assessment, the 2nd assessment was done 2 weeks after the beginning of treatment and the 3rd assessment was done 4 weeks after beginning of treatment. **Results:** In study group; there was significant difference between pre- treatment mean value of ulcer area and two weeks post- treatment mean value of ulcer area as p value 0.019, there was significant difference between two weeks mean value of ulcer area and four weeks post- treatment mean value of ulcer area as p value 0.014, and there was significant differences between pre- treatment mean value of ulcer area and four weeks post- treatment mean value of ulcer area as p value .032. Between groups; there was significant difference between the study and control groups in mean value of ulcer areas after two weeks of treatment as p value 0.014, and there was highly significant difference between the study and control groups in mean value of ulcer area after four weeks of treatment p value 0.008. **Conclusion:** It can be concluded that low mechanical vibration may improve healing of diabetic foot ulcer.

44. **Ismail MMM** and Moneer MM (2013). '*Does HOXA9 Gene Expression in Egyptian Chronic Myelogenous Leukemia Patients Affect Disease Progression? A Retrospective Cohort Study*.' **Turkish Journal of Hematology**; 30: 359.

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3874969/

(***Laboratory Medicine Department***)

ABSTRACT

Objective: Chronic myelogenous leukemia (CML) is a clonal stem cell disease and is consistently associated with the BCR-ABL fusion gene. The chronic phase of the disease tends to pass into an accelerated phase and eventually leads to acute leukemia if left untreated. Oncoproteins necessary for leukemic transformation are both fundamentally and clinically relevant to identify as they might be new molecular targets for the development of specific anti-leukemic drugs. This study is an initial step to define the proportion of HOXA9 gene expression in some Egyptians with chronic-phase CML at diagnosis and to evaluate its relation with BCR-ABL expression and its clinical significance. **Materials and Methods:** Sixty-two newly diagnosed CML patients (56 in chronic phase, 1 in accelerated phase, and 5 in blastic crises) were enrolled in the study. HOXA9 and BCR-ABL gene expressions were detected by one-step RT-PCR. ABL was chosen as a control gene to calculate HOXA9/ABL and BCR-ABL/ABL ratios from densitometric values of PCR product intensities. **Results:** HOXA9 expression was encountered in 25/56 (44.6%) of newly diagnosed CML patients in the chronic phase. The median expression was 0.31 (range: 0.08-1.37) in relation to the ABL gene, with a higher frequency of expression in CML patients presenting with splenomegaly ($p<0.001$), high Sokal score ($p<0.001$), and BCR-ABL expression from the first round ($p=0.004$). No association could be detected with other clinical parameters, overall survival, or disease-free survival. **Conclusion:** HOXA9 expression is closely related to poor prognostic factors, but we could not demonstrate its relationship to patient survival.

45. Abdulateef NAB, **Ismail MM**, and Aljedani H (2014). '*Clinical Significance of Co-expression of Aberrant Antigens in Acute Leukemia: A Retrospective Cohort Study in Makah Al Mukaramah, Saudi Arabia*.' **Asian Pacific Journal of Cancer Prevention**; 15: 221-227.

http://www.apocpcontrol.org/page/apjcp_issues_view.php?sid=Entrez:PubMed&id=pmid:24528030&key=2014.15.1.221

(***Laboratory Medicine Department***)

ABSTRACT

Background: Aberrant phenotypes in acute leukemia have variable frequency and their prognostic and predictive relevance is controversial, despite several reports of clinical significance. **Aims:** To determine the prevalence of aberrant antigen expression in acute leukemia, assess clinical relevance and demonstrate immunophenotype-karyotype correlations. **Materials and methods:** A total of 73 (40 AML and 33 ALL) newly diagnosed acute leukemia cases presenting to KAMC, Kingdom of Saudi Arabia, were included. Diagnosis was based on WHO criteria and FAB classification. Immunophenotyping by flow cytometry, conventional karyotyping and fluorescence in situ hybridization for gene rearrangements were performed. **Results:** Aberrant antigens were detected in 27/40 (67.5%) of AML and in 14/33 (42.4%) in ALL cases. There were statistically significant higher TLC in Ly+ AML than in Ly-AML ($p=0.05$) and significant higher blast count in ALL with aberrant antigens at presentation and day 14 ($p=0.005$, 0.046). There was no significant relation to clinical response, relapse free survival (RFS) or overall survival ($p>0.05$), but AML cases expressing ≥2 Ly antigens showed a lower median RFS than those expressing a single Ly antigen. In AML, CD 56 was expressed in 11/40. CD7 was expressed in 7/40, having a significant relation with an unfavorable cytogenetic pattern ($p=0.046$). CD4 was expressed in 5/40. CD19 was detected in 4/40 AML associated with M2 and t (8; 21). In ALL cases, CD33 was expressed in 7/33 and CD13 in 5/33. Regarding T Ag in B-ALL CD2 was expressed in 2 cases and CD56 in 3 cases. **Conclusions:**

Aberrant antigen expression may be associated with adverse clinical data at presentation. AML cases expressing ≥2 Ly antigens may have shorter median RFS. No specific cytogenetic pattern is associated with aberrant antigen expression but individual antigens may be related to particular cytogenetic patterns. Immunophenotype-karyotype correlations need larger studies for confirmation.

46. **Mohamed A**, Ahmed M, Zaglool D, and **Ahmed S** (2014). '*Molecular Evaluation of Conventional Microscopic Method Versus Fecal Antigen Capture Enzyme-Linked Immunosorbent Assay and Rapid Immunochromatographic Assay for Diagnosis of Cryptosporidium Infection*.' **Infectious Diseases in Clinical Practice**; 23: 26.

http://journals.lww.com/infectdis/Abstract/2015/01000/Molecular_Evaluation_of_Conventional_Microscopic.7.aspx

(***Laboratory Medicine Department***)

ABSTRACT

Background: Cryptosporidium has emerged as an important cause of diarrheal illness worldwide, especially among young children and patients with immune deficiencies. **Aim:** The present study aimed to investigate the frequency of Cryptosporidium infection among suspected versus non-suspected patients and to evaluate the performances of conventional microscopic assay, Cryptosporidium antigen detection enzyme-linked immunosorbent assay (CAD-ELISA), Crypto-Antigen Rapid Test (CA-RT), for diagnosis of Cryptosporidium infection using Cryptosporidium-specific polymerase chain reaction (CS-PCR) as criterion standard test. **Methods:** A total of 181 diarrheic stool samples including 105 from suspected patients and 76 from non-suspected ones were collected. **Results:** The results revealed higher rate of infection among suspected patients (25% among diarrheic children, 24.2% among elderly/immune suppressed patients) as compared with non-suspected patients (6.6% among immune-competent apparently healthy adults). Furthermore, conventional microscopic assay exhibited higher sensitivity (83.3%) as compared with CAD-ELISA (75%) and CA-RT (45.8%). On the other hand, higher specificity was shown for CA-RT (99.4%) and CAD-ELISA (98.7%) as compared with conventional assay (92.9%). Meanwhile, CA-RT and CAD-ELISA showed higher positive predictive values (91.7%, 90%) and lower negative predictive values (92.3%, 96.9%) than conventional assay (64.5%, 97.3%). **Conclusions:** No single test is perfect for diagnosis of cryptosporidiosis, and it is worth mentioning that a significant percentage of Cryptosporidium infections would have been missed if any of these assays had been the sole method of diagnosis. It is suggested to include an antigen detection immunoassay, preferably ELISA, in addition to microscopy for better diagnosis of Cryptosporidium infection.

47. Shalaby and **Morsy HK** (2014). '*Differential and Combined Effects of Simvastatin and Vildagliptin on Angiogenic Markers and Oxidative Stress in Hind Limb Model of Ischemia in Diabetic Rats*.' **British Journal of Medicine & Medical Research**; 4:587-5603.

http://sciencedomain.org/abstract/5698

(***Laboratory Medicine Department***)

ABSTRACT

Background: This study investigated the potential therapeutic effect of simvastatin and vildagliptin and their combination on angiogenesis in diabetic hind-limb ischemia. **Methods:** 60 Sprague-dawely rats were divided into 5 groups, group A (normal control), group B (diabetic ischemic control), group C (simvastatin treated diabetic ischemic group), group D (vildagliptin treated diabetic ischemic group) and group E (combined sim. + vild. diabetic ischemic group). Parameters of angiogenesis as well as oxidative stress markers were evaluated. **Results:** Increased capillary density in ischemic gastrocnemius tissue of diabetic rats treated with either simvastatin or vildagliptin with marked increase in its combination. This effect was accompanied by up-regulated plasma levels of HO-1, nitric oxide, vascular endothelial growth factor (VEGF) and expression of HIF-1 alpha levels. Tissue SOD and Catalase enzymes activities were normalized in groups treated with simvastatin or their combination with vildagliptin with concomitant decrease of lipid peroxidation. **Conclusion:** Both vildagliptin and simvastatin has antioxidant and angiogenic effects and their combination could be a promising strategy in the management of diabetes associated peripheral arterial.

48. Refaat B, El-Shemi A, Ebeid A, Ashshi A, and Basalamah M (2014). '*Islamic Wet Cupping and Risk Factors of Cardiovascular Diseases: Effects on Blood Pressure, Metabolic Profile and Serum Electrolytes in Healthy Young Adult Men*.' **Alternative & Integrative Medicine**; 3: 151.

http://www.esciencecentral.org/journals/islamic-wet-cupping-and-risk-factors-of-cardiovascular-diseases-2327-5162.1000151.php?aid=23007

(***Laboratory Medicine & Physiotherapy Departments***)

ABSTRACT

Background: Wet cupping (Hejamah) has been used as alternative treatment for several diseases. **Objectives:** To measure the effects of hejamah treatment for 2 consecutive months in healthy young adult men on blood pressure, blood glucose, lipid profile, serum sodium and potassium. **Materials and methods:** 16 participants were treated with hejamah for 2 consecutive months. Blood pressure was measure before and 30 minutes after the treatment. Blood samples were collected from all participants before and 48 hours after hejamah and all participants were fasting for 12 hours before sample collection. **Results:** Fasting blood glucose was significantly decreased before the treatment in the second month only. The levels of serum triglycerides significantly decreased after the first treatment and remained low in the 2nd month. There was no significant difference between the different time points in total cholesterol except for the 48 hours of the second month compared to the samples collected before the procedure of the same month. There was a significant decrease in LDL and significant increase in HDL following hejamah therapy ($P<0.05$). Significant decrease in sodium and significant increase in potassium 48 hours following treatment with hejamah was observed in the 2 months ($P<0.05$). **Conclusions:** The performance of hejamah during fasting state could represent a useful complementary method for the regulation of diastolic blood pressure and prevention/treatment of risk factors associated with cardiovascular diseases. Further studies are required to explore the role of hejamah in controlling blood pressure and prevention of cardiovascular diseases.

49. Refaat B, El-Shemi AG, Ashshi AM, and AlZanbagi A (2014). '*Serum Activins and Follistatin during the Treatment of Chronic Hepatitis C Genotypes 1 and 4 and Their Correlations with Viral Load and Liver Enzymes: A Preliminary Report.*' **Gastroenterology research and practice**; 2014.

http://www.hindawi.com/journals/grp/2014/628683/

(***Laboratory Medicine Department***)

ABSTRACT

Aims: To measure the effect of pegylated interferon- α therapy on serum activin-A, activin-B, and follistatin and their correlation with viral load and liver fibrosis in chronic hepatitis C (CHC). **Methods:** This study was cross-sectional and sera were collected from 165 participants classified into 7 groups: 40 healthy negative control, 33 treatment naïve patients as positive control, 19 patients at week 4, 22 at week 12, and 19 at week 24 of treatment initiation and 21 responders and 11 non-responders at the end of 48-week treatment protocol. Serum candidate proteins were measured using ELISA and liver fibrosis was assessed by AST platelet ratio index (APRI). **Results:** CHC significantly increased activins and decreased follistatin compared to negative control ($P < 0.05$). Activin-A and follistatin levels returned to the levels of negative control group at weeks 4, 12, and 24 following treatment initiation and were significantly different from positive control ($P < 0.05$). Both proteins were significantly different between responders and non-responders. Activin-A correlated positively and significantly with the viral load and APRI. **Conclusion:** CHC modulates serum activin-A and follistatin and they appear to be influenced by pegylated interferon- α therapy. Further studies are needed to explore the role of activins in CHC.

50. Refaat B, Ashshi AM, El-Shemi AG, and AlZanbagi A (2014). '*Effects of chronic hepatitis C genotype 1 and 4 on serum activins and follistatin in treatment naïve patients and their correlations with interleukin-6, tumour necrosis factor-α, viral load and liver damage*.' **Clinical and Experimental Medicine**;1-10.

http://link.springer.com/article/10.1007%2Fs10238-014-0297-2

(***Laboratory Medicine Department***)

ABSTRACT

The importance of activins and follistatin in liver diseases has recently emerged. The aim of the present study was to measure the influence of chronic infection with viral hepatitis C (CHC) genotype 1 and 4 on serum levels of activin-A, activin-B and follistatin, and to determine their correlations with viral load, liver damage, interleukin-6 (IL-6) and tumour necrosis factor (TNF)-α. Sera samples collected from 20 male and 20 female treatment naïve CHC genotype 1 and 4 Saudi patients (ten males and ten females for each genotype), and 40 gender- and age-matched healthy participants were analysed for activin-A, activin-B and follistatin using enzyme-linked immunosorbent assay and their levels were correlated with IL-6, TNF-α, viral load and AST platelet ratio index (APRI). Serum activin-A, activin-B, IL-6 and TNF-α were significantly increased, while serum follistatin was significantly decreased, in both genders of CHC patients compared with control subjects, In both viral genotypes, activin-A was strongly and positively correlated with the viral load, APRI, IL-6 and TNF-α, and negatively with albumin ($P < 0.01$). Activin-B showed the same correlations of activin-A only in CHC genotype 1 patients, but it was weaker than activin-A. No correlation was detected with follistatin. Serum activins, particularly activin-A, and follistatin are significantly altered by CHC genotype 1 and 4. This dysregulation of activins/follistatin axis may be associated with viral

replication, host immune response and liver injury. Further studies are needed to illustrate the definite role(s) and clinical value of activins and follistatin in CHC.

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(***Health Management Department***)

ABSTRACT

The aim of this study was assessing the perspective of patients and physicians toward patient shared decision making using a cross sectional analytic approach where Self-administered questionnaire were used to collect data from 68 physicians and structured interview of 406 patients.

قائمة الأبحاث المنشورة 1435 – 1436

[الأجمالى 39 ورقة علمية]

1. Abd El-Kafy EM (2014). The clinical impact of orthotic correction of lower limb rotational deformities in children with cerebral palsy: a randomized controlled trial. Clin Rehabil.;28:1004-14. (ISI; IF = 2.23)

2. Abd El-Kafy EM and El-Basatiny HM (2014). Effect of postural balance training on gait parameters in children with cerebral palsy. Am J Phys Med Rehabil.; 93:938-47. (ISI; IF = 2.2).

3. Kheshie AR, **Alayat MS and Ibrahim MM** (2014). High-intensity versus low-level laser therapy in the treatment of patients with knee osteoarthritis: a randomized controlled trial. Lasers Med Sci.; 29: 1371-1376. (ISI; IF = 2.48)

4. Bajrai LH, Kumosani T, El-Kafrawy S, El-Daly M, Hindawi S, **Ashshi A** and Azhar EI (2014). Distribution of HBV genotypes from two blood transfusion centers in western Saudi Arabia. Future Virology; 9:457-464. (ISI, IF = 1.01).

5. Ashshi AM, El-Shemi AG, AlZanbagi A and **Refaat B** (2014). Prevalence of thyroid disorders and the correlation of thyroid profile with liver enzymes, serum activin-A and follistatin during the treatment of Saudi patients with chronic hepatitis C genotype 1 and 4. J Clin Exp Invest; 5(3):343-353. (Non-ISI)

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36. Refaat B, Ashshi AM, Batwa SA, **El-Shemi AG** (2014). Seroprevalence of Chlamydia trachomatis, Cytomegalovirus, Herpes simplex virus 1&2 in Saudi women in Saudi women with normal and abnormal early pregnancy: A case control study. African Journal of Microbiology Research; 8(40), 3565-3569. (ISI; IF = 0.5).

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ملخص الأبحاث المنشورة 2014 – 2015:

1. Abd El-Kafy EM (2014). *The clinical impact of orthotic correction of lower limb rotational deformities in children with cerebral palsy: a randomized controlled trial.* **Clin Rehabil**.;28:1004-14. (ISI; IF = 2.23).

http://cre.sagepub.com/content/28/10/1004.long

(***Physiotherapy Department***)

ABSTRACT

OBJECTIVE: This study aimed to evaluate the effectiveness of a static ground reaction ankle foot orthosis and strapping system on improving gait parameters in children with spastic diplegic cerebral palsy. **SETTING:** The current study was conducted at the physical therapy faculty of Cairo University,

Egypt. **SUBJECTS:** This study included 57 children of both sexes, aged 6 to 8 years. **STUDY DESIGN:** Three-armed randomized control trial. **INTERVENTION:** Participants in all groups received a traditional neuro-developmental physical therapy program that included standing and gait training exercises. Children in group A performed the training program without any orthotic management, in group B with the TheraTogs strapping system, and in group C with the TheraTogs strapping system and static ground reaction ankle foot orthoses. Children underwent treatment for two hours daily, except on weekends, for twelve successive weeks. **MAIN MEASURE:** Gait speed, cadence, stride length, and hip and knee flexion angles in the mid-stance phase were evaluated pre-and post-treatment using a three-dimensional motion analysis system (pre-reflex system). **RESULTS:** Statistically significant differences were recorded among the three groups post-treatment in gait speed, cadences, and stride length. The P-values for these variable differences were 0.03, 0.011, and 0.001 respectively. Significant post-treatment differences were also recorded for bilateral hip-and knee-flexion angles. For all measured parameters, better significant results were registered for group C than for the other groups. **CONCLUSION:** Orthotic intervention composed of a static ground reaction ankle foot orthosis combined with the TheraTogs strapping system improves gait more than conventional treatment with or without TheraTogs in children with spastic diplegic cerebral palsy.

2. Abd El-Kafy EM and El-Basatiny HM (2014). *Effect of postural balance training on gait parameters in children with cerebral palsy*. **Am J Phys Med Rehabil**.; 93:938-47. (ISI; IF = 2.2).

http://journals.lww.com/ajpmr/Abstract/2014/11000/Effect_of_Postural_Balance_Training_on_Gait.2.aspx

(***Physiotherapy Department***)

ABSTRACT

Objective: The aim of this study was to evaluate the effect of dynamic bilateral postural stability on balance control and gait parameters in children with cerebral palsy. **Design:** Thirty children with spastic diplegia (8–10 yrs) were included in this study. The children were randomly assigned into two groups: control group A and study group B. The children in both groups received traditional physical therapy program, 2 hrs per day for group A and 1.5 hrs followed by 30 mins of dynamic postural stability training program using the Biodex Stability System for group B. The treatment frequency was three sessions per week for 8 consecutive weeks on two stability levels (7 and 8). The participating children received pretreatment and posttreatment assessments using the Biodex Stability System to evaluate the stability indices (anteroposterior, mediolateral, and overall) at the two stability levels (7 and 8) and three-dimensional motion analysis system (pro-reflex system) to evaluate the spatiotemporal parameters including step length, velocity, cycle time, stance, and swing phase percentage. **Results:** The children in both groups showed significant improvements in the mean values of all measured variables after treatment indexed by a significant reduction in stability indices and improvement in gait parameters. The results also showed significant differences in all measured parameters in favor of group B, when compared with those in group A ($P < 0.01$). **Conclusions:** Balance training on the Biodex Stability System could be a useful tool in conjunction with traditional physical therapy program for improving balance control and gait functions in children with spastic diplegic cerebral palsy.

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http://link.springer.com/article/10.1007%2Fs10103-014-1529-0

(***Physiotherapy Department***)

ABSTRACT

The aim of this randomized controlled study was to compare the effects of low-level laser therapy (LLLT) and high-intensity laser therapy (HILT) on pain relief and functional improvement in patients with knee osteoarthritis (KOA). A total of 53 male patients participated in this study, with a mean (SD) age of 54.6 (8.49) years. Patients were randomly assigned into three groups and treated with HILT and exercise (HILT + EX), LLLT and exercise (LLLT + EX), and placebo laser plus exercise (PL + EX) in groups 1, 2, and 3, respectively. The outcomes measured were pain level measured by visual analog scale (VAS) and knee function measured by Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC). Statistical analyses were performed to compare the differences between baseline and posttreatment measurements. The level of statistical significance was set as $P < 0.05$. The result showed that HILT and LLLT combined with exercise were effective treatment modalities in decreasing the VAS and WOMAC scores after 6 weeks of treatment. HILT combined with exercises was more effective than LLLT combined with exercises, and both treatment modalities were better than exercises alone in the treatment of patients with KOA.

4. Bajrai LH, Kumosani T, El-Kafrawy S, El-Daly M, Hindawi S, **Ashshi A** and Azhar EI (2014). *Distribution of HBV genotypes from two blood transfusion centers in western Saudi Arabia*. **Future Virology**; 9:457-464. (ISI, IF = 1.01).

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(***Laboratory Medicine Department***)

ABSTRACT

Aim: To determine the distribution of HBV genotypes among HBsAg-positive blood donors in Makkah and Jeddah. **Materials & methods:** A total of 158 volunteered HBsAg-positive male blood donors donated blood samples at two transfusion centers in western Saudi Arabia. RFLP digestion was performed on 83 PCR products of the *S* gene. A subset of 77 positive samples were sequenced and aligned with reference Genbank sequences. **Results:** RFLP showed the following genotype distribution: 71 (85.6%) D; two (2.4%) E; one (1.2%) A; one (1.2%) B; one (1.2%) C; five (6.0%) untypable; one (1.2%) mixed genotypes D+A; and one (1.2%) mixed genotype D+C. Seventy-seven samples were genotyped by sequencing as follows: 73 (94.8%) D, three (3.9%) E; and one (1.3%) A. The study showed that there is concordance in the results of RFLP and sequencing in 67 samples and discrepancy in ten samples: genotypes B, genotype C, one of genotype E and dual genotypes by RFLP could only been detected as genotype D by sequencing. Sequencing showed the RFLP untypable samples as genotypes D and E. **Conclusion:** HBV type D is the most prevalent genotype in western Saudi Arabia. RFLP is a reliable tool for predicting genotype D in Saudi population.

5. **Ashshi AM, El-Shemi AG**, AlZanbagi A and **Refaat B** (2014). *Prevalence of thyroid disorders and the correlation of thyroid profile with liver enzymes, serum activin-A and follistatin during the treatment of Saudi patients with chronic hepatitis C genotype 1 and 4*. **J Clin Exp Invest**; 5(3):343-353. (Non-ISI).

http://www.dergipark.ulakbim.gov.tr/jcei/article/.../5000103**114**/5000096226

(***Laboratory Medicine Department***)

ABSTRACT

Objectives: Chronic hepatitis C (CHC) and peg-interferon-α (Peg-INF-α) modulate serum activins and follistatin and are associated with thyroid disorders (TD).The aim of this study was to determine the frequency of CHC induced TD and to investigate the correlation of liver damage, serum activin-A and follistatin with the thyroid function parameters and thyroid autoantibodies. **Methods:** The study was cross-sectional and sera were obtained from 132 patients with CHC who were divided into 3 groups: 56 patients with no treatment, 30 after 24 weeks of Peg-INF-α and 46 at the end of 48 weeks Peg-INF-α. Thyroid stimulating hormone (TSH), free thyroxin (FT4), thyroid antibodies (Tabs), serum activin-A and follistatin levels were measured using ELISA. **Results:** Thyroid disorders were detected in 15% (n=20), more frequent in females (70%) and the majority were autoimmune thyroiditis (80%). TSH receptor antibodies (TSHRAbs) were significantly prevalent compared to the other antibodies ($p < 0.05$) and significantly increased in the 24 weeks group ($p<0.05$). TSH and FT4 correlated significantly with liver enzymes ($p<0.05$). There was no significant difference in activin-A and follistatin values between thyroid disorder and euthyroids. However, significant correlations were found between TSHR-Abs concentration with follistatin, activin-A and activin/follistatin ratio ($p<0.05$). **Conclusion:** Thyroid disorders induced by CHC and/or PegINF-α were common in our patients, more prevalent in females and the majority are autoimmune. Additionally, activinA and/or follistatin could be involved in the induction/aggravation of TSHR-Abs. Further studies are needed to confirm our findings and to explore the mechanisms by which CHC induces thyroid disorders.

6. Ashshi A, Azhar E, Johargy A, Asghar A, Momenah A, Turkestani A, **Alghamdi S**, Memish Z, Al-ghamdi A, Alawi M, El-kafrawy S, Farouk M, Harakeh S, Kumosani T, Makhdoum H and Barbour E (2014). *Demographic distribution and transmission potential of influenza A and 2009 pandemic influenza A H1N1 in pilgrims.* **J Infect Dev Ctries**; 8:1169-1175. (ISI; IF = 1.2).

http://www.jidc.org/index.php/journal/article/view/25212081

(***Laboratory Medicine Department***)

ABSTRACT

INTRODUCTION: The World Health Organization's persistent reporting of global outbreaks of influenza A viruses, including the 2009 pandemic swine A H1N1 strain (H1N1pdm09), justified the targeted surveillance of pilgrims during their annual congregation that pools more than two million people from around 165 nations in a confined area of Makkah city in the Kingdom of Saudi Arabia (KSA). **METHODOLOGY:** A total of 1,600 pilgrims were included in the targeted surveillance of influenza A and the 2009 pandemic swine H1N1 strain in the Hajj (pilgrimage) season of 2010. Each pilgrim responded to a demographic and health questionnaire. Collected oropharyngeal swabs were analyzed by real-time PCR for influenza A viruses, and positive samples were further analyzed for the presence of H1N1pdm09. Fisher's exact test was applied in the analysis of the significance of the distribution of influenza-positive pilgrims according to demographic characters. **RESULTS:** A total of 120 pilgrims (7.5%) tested positive for influenza A viruses by real-time PCR. Nine out of the 120 influenza-A-positive pilgrims (7.5%) were positive for H1N1pdm09. Demographics played a significant role in those pilgrims who tested positive for influenza A. **CONCLUSIONS:** The detection of H1N1pdm09 in pilgrims at their port of entry to the KSA was alarming, due to the high potential of trans-boundary transmission. This situation necessitates the implementation of specific prevention and control programs to limit infection by influenza A viruses.

7. Angelakis E, Yasir M, Azhar EI, Papadioti A, Bibi F, Aburizaiza AS, Metidji S, Memish ZA, **Ashshi AM**, Hassan AM, Harakeh S, Gautret P, Raoult D (2014). *MALDI-TOF mass spectrometry and identification of new bacteria species in air samples from Makkah, Saudi Arabia*. **BMC Res Notes**. 2014 Dec 9;7:892. (Non-ISI).

http://bmcresnotes.biomedcentral.com/articles/10.1186/1756-0500-7-892

(***Laboratory Medicine Department***)

ABSTRACT

BACKGROUND: During the Hajj season, respiratory symptoms are very common among pilgrims. Here, we investigated the viable bacterial population in air samples collected around the slaughterhouses used during the Hajj. **METHODS AND RESULTS:** We collected air samples on three days from four different sites: slaughterhouses at Al-Kakia, Al-Meaisim and Al-Sharaia, and from a waste disposal area designated for the remnants of slaughter. Samples were cultured on blood agar plates for 48 h, and bacterial isolates were identified using MALDI-TOF MS. A dendrogram using the spectra of the unidentified bacterial species was constructed, and PCR amplification and sequencing of the 16S rRNA gene was performed for one isolate per cluster. In total, 2500 colonies appeared on the nutrient agar plates, and 244 were purified for further analysis. Good identification was obtained for 202 (83%) isolates by MALDI-TOF MS. The most common genera were Bacillus (n=94, 45%) and Staphyloccocus (n=55, 26%). Poor identification was obtained for 42 (17%) isolates, and their spectra clustering revealed that these isolates belonged to 10 species. Four of these were considered to be new species. **CONCLUSIONS:** During the Hajj, the air was contaminated by many environmental bacterial agents, and MALDI-TOF MS was successfully adapted for their rapid identification.

8. Uthman NA, Sohrab SS, Kamal IH, Farraj SA, Masri BE, **Ashshi AM**, Kumosani TA, and Azhar EI (2014). *Genetic diversity of the pandemic influenza A (H1N1) virus in Saudi Arabia*. **J Infect Dev Ctries**; 8: 1563-1573. (ISI; IF = 1.2).

http://www.jidc.org/index.php/journal/article/view/25500654

(***Laboratory Medicine Department***)

ABSTRACT

INTRODUCTION: Pandemic influenza A (H1N1) virus emerged and spread globally in the spring of 2009. Saudi Arabia also witnessed a severe H1N1 pandemic virus epidemic with considerable morbidity and mortality in different parts of the kingdom beginning in June 2009. The influenza A(H1N1)pdm09 virus was detected in samples collected between May 2009 and November 2010 from Makkah region. This study provides data on the viral diagnosis and genetic diversity of hemagglutinin (HA) and neuraminidase (NA) genes of influenza A (H1N1)pdm09 virus from Saudi Arabia. **METHODOLOGY:** Nasopharyngeal swabs from 100 clinically infected patients in the peak of the outbreak were collected from Makkah region and processed for viral diagnosis by viral culture and real-time polymerase chain reaction (PCR). HA and NA genes of 10 selected samples were sequenced and analyzed. **RESULTS:** A total of 100 samples were collected; only 10 samples were found to be positive for influenza A virus infection by real-time PCR. Nucleotide sequence analysis of the HA and NA genes of influenza A (H1N1) from Saudi Arabia showed significant similarities with selected isolates. The phylogenetic tree constructed for both HA and NA genes formed close clusters with selected reference isolates. **CONCLUSIONS:** Nucleotide sequence analysis and phylogenetic relationships of the HA and NA genes of influenza A (H1N1) virus from Saudi Arabia with selected

reference isolates indicates that they were genetically close and most probably originated from influenza A(H1N1)pdm09.

9. El-Sayed ZMF, Al-Ghamdi AK, Azhar EI, Khalifa NA, **Ashshi AM** and Faidaha HS (2015). *Multidrug Resistant Bacterial Strains and their Associated Plasmid Profile*. **Life Science Journal**;12:1-8. (Non-ISI).

http://www.lifesciencesite.com/lsj/life120115/001_26922life120115_1_8.pdf

(***Laboratory Medicine Department***)

ABSTRACT

Development and spread of bacterial resistance is usually attributed to the abuse of antibiotics. The emergence of resistance to different antibiotics is a particular problem when treating infections. The study aimed to evaluate plasmid profiles of different bacterial strains which proved to be multi drug resistant. Four strains of isolated *Staphylococcus aureus* (S. aureus), *Escherichia coli* (E. coli), *Klebsiella pneumoniae* (K. pneumoniae) and *Pseudomonas aeruginosa* (P. aeruginosa) were tested for their sensitivity to plasmid profile of the four selected isolates. *S. aureus* showed presence of plasmid with molecular weight (23.130 Kbp), *E. coli* showed presence of plasmid with molecular weight between (23.130 Kbp and 9.416 Kbp), *K. pneumoniae* showed presence of plasmid with molecular weight (23.130 Kbp) and for *P. aeruginosa* showed presence of plasmid with molecular weight between (23.130 Kbp and 9.416 Kbp). These results indicated that the resistance to antibiotics for all isolates due to the presence of plasmids in all isolates. In conclusion drug resistance is serious problem over the entire world, the results showed that the resistance to antibiotics for all isolates was due to the presence of plasmids.

10. Ashshi AM (2015). *Serodetection of Dengue virus and its antibodies among blood donors in the western region of Saudi Arabia: a preliminary study*. **Blood Transfusion***; 13:135. (ISI; IF = 2.37).*

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4317098/pdf/blt-13-135.pdf

(***Laboratory Medicine Department***)

NO ABSTRACT

11. Baker E and Elsawy NA (2014). *Therapeutic Role of Aqueous Extract of Milk Thistle (Silybum adans L.) and Burdock (Arctium lappa) in Hyperglycemic Rats*. **VRI Bio Med Chem**; 2:20-28. (Non-ISI).

(Clinical Nutrition & ***Laboratory Medicine Departments***)

http://vripress.com/index.php/BMC/article/view/135

ABSTRACT

Bakground: Diabetes mellitus (DM), the third killer of the mankind health along with cancer, cardiovascular and cerebrovascular diseases, is one of the most challenging diseases facing health care professionals today **Opjective:** Therapeutic role of acques extract of Milk thistle (Silybum adans, L.) and Burdock (Arctium lappa) and their mixture in hyperglycemic rats. **Material and**

methods: Forty mature male albino rats weighing 180-200g then divided into 8 equal groups; one group was kept as a (C –ve) group, while the other 7 groups were injected s/c by 150 mg/kg body weight alloxan to induce hyperglycemia. Hyperglycemic rats were disparted into seven equal groups (n= 5 rats) one of them left as control positive while other eight groups orally fed using two doses (250 and 500 mg/kg of milk thistle, burdock , and mixture of them, respectively). At the end of experimental period (45 days), blood samples were collected for serum separation to determine serum glucose, liver enzymes (ALT, AST, ALP,) total protein, albumin, globulin, total cholesterol, triglycerides, lipoprotein fractions (HDLc, LDLc and VLDLc), kidney function (creatinine, urea and uric acid) and histopathological changes. **Results:** Data showed that that acques extract of milk thistle (Silybum adans, L.) and burdock (Arctium lappa) milk thistle and burdock showed a significant decrease in serum glucose and improving liver and kidney status specially the mixture of 500 mg of milk thistle snd burdock . **Conclusion:** According to these results, milk thistle and burdock could be used for hyperglycemia and impaired liver and kidney function.

12. **Dabbour IR**, Al-Ismail KM, Takruri HR and **Azzeh FS** (2014) *Chemical Characteristics and Antioxidant Content Properties of Cold Pressed Seed Oil of Wild Milk Thistle Plant Grown in Jordan*. **Pakistan Journal of Nutrition**; 13:67-78. (ISI, No IF).

http://www.pjbs.org/pjnonline/fin2863.pdf

(***Clinical Nutrition Department***)

ABSTRACT

This study aimed to examine the chemical characteristics and antioxidant content properties of cold-pressed milk thistle seed oil. Acidity and peroxide value were determined by chemical standard titration method and oxidative stability index was determined by Rancimate. Using GLC, fatty acid composition, phytosterols and squalene were measured. While, alpha-tocopherol content was determined by HPLC. The total phenolic content, radical-scavenging capacity and total antioxidant capacity were determined spectrophotometrically. The chemical characteristics of cold-pressed oil were as follows: acidity (0.64%), peroxide value (0.34 meq O2/kg of oil), oxidative stability index (55.7 and 12.9 h at 80 and 100°C, respectively), fatty acid composition (19.5, 22.9 and 57.6% for SAT, MUFA and PUFA, respectively), phytosterol (2520 mg/kg), squalene (9.35 mg/kg), alpha-tocopherol content (237.4 mg/kg), total phenolic content (1.16 mg GAE/g oil), radical-scavenging capacity against stable DPPH radical (IC50 = 3.34 mg/mL) and total antioxidant capacity (2.29 mmol/L). These data suggest that cold-pressed milk thistle seed oil may serve as dietary source of high PUFA and MUFA, phytosterols, phenolic compounds and natural antioxidants and can be a remarkable candidate for use in healthy food preparations mixed with other vegetable oils or alone.

13. **El-Boshy M**, El-Ashram A, Risha E, Abdelhamid F, Zahran E and Gab-Alla A (2014). *Dietary fucoidan enhance the non-specific immune response and disease resistance in African catfish, Clarias gariepinus, immunosuppressed by cadmium chloride.* **Vet Immunol Immunopathol**;162:168-73. (ISI; IF = 1.53).

http://www.sciencedirect.com/science/article/pii/S0165242714002268

(***Laboratory Medicine Department***)

ABSTRACT

Fucoidan is sulfated polysaccharide extracted from seaweed brown algae. This study was designed to evaluate the immunomodulatory effects and disease resistance of dietary fucoidan on catfish, Clarias gariepinus, immunosuppressed by cadmium. Three hundred and sixty African catfish, C. gariepinus, was allocated into six equal groups. The first group served as a control. Groups (F1 and F2) were fed on fucoidan supplemented ration at concentrations of 4 and 6g/kg diet respectively for 21 days. Groups (Cd, CdF1 and CdF2) were subjected throughout the experiment to a sub-lethal concentration of 5ppm cadmium chloride solution and groups (CdF1 and CdF2) were fed on a ration supplemented with fucoidan. Macrophages oxidative burst, phagocytic activity percentages and lymphocytes transformation index were a significant increase in the fucoidan-treated groups (F1 and F2), while serum lysozyme, nitric oxide and bactericidal activity were enhanced only in group (F2) when compared with controls. These parameters as well as absolute lymphocyte count and survival rate were significantly increased in group (CdF2) when compared with cadmium chloride immunosuppressed group (Cd). It could be concluded that the fucoidan can be used as immunostimulant for the farmed African catfish, C. gariepinus as it can improve its resistance to immunosuppressive stressful conditions.

14. Abdalla, Abdelhamid F, **El-Boshy M** and Huda S (2014). *Studies on the Protective Effects of Ginger Extract and in Combination with Ascorbic Acid against Aluminum Toxicity Induced Hematological Disorders, Oxidative Stress and Hepatorenal Damage in Rats*. **Annals of Veterinary and Animal Science**; 1:136-150 (Non-ISI).

http://naturepub.org/archive/avas/v1/i4/AVAS-1(4)-1.pdf

(***Laboratory Medicine Department***)

ABSTRACT

The present study was conducted to evaluate the protective effect of ginger extract and in combination vitamin C (AA) against the toxicity of aluminum chloride (AlCl3). Sixty rats were divided into 6 equal groups. Group 1(GP 1): served as control, GP 2 : treated with AlCl3 (150 mg/kg BW) , GP 3: treated with ginger (100 mg/kg BW), GP 4: treated with vitamin C (50 mg/kg BW), GP 5 : treated with AlCl3 & ginger , GP 6: treated with AlCl3 ,ginger & vitamin C with those a previous mentioned doses. Rats were orally treated daily for 4 weeks. Whole blood, serum samples and liver specimens were collected to evaluate hematological, biochemical alterations and hepatic antioxidant parameters. Our Result revealed that AlCl3 treatment induced a decrease in erythrocytes (RBCs) count, hemoglobin (Hb) concentration and hematocrit (Hct) , meanwhile total leukocyte (TL) and neutrophil counts as well as liver enzymes (ALT, AST, ALP and LDH) activities , glucose, cholesterol , triglyceride (TG) levels and hepatic malondialdehyde (MDA) were elevated . In contrast hepatic reduced glutathione (GSH), superoxide dismutase (SOD), catalase (CAT) and serum total antioxidant capacity (TAC) were decreased. The ginger treatment improved the adverse effects induced by AlCl3, moreover coadministration with vitamin C upgrade action of ginger and ameliorate the toxic effect of AlCl3 on hematological, hepatorenal damage and antioxidant parameters. In conclusion, ginger showed an apparent protective effect against AlCl3 induced toxicity especially if in combination with vitamin C.

15. **El-Boshy ME**, Taha RM, Abdelhamid F, Risha E, Mubarak MS, and Ben Hadda T (2014). I*mmunomodulatory and Antioxidant Protective Effect of Zingiber officinale, in Lead Intoxicated Rat*. **Prensa Med Argent** 101:3. (Non-ISI).

http://www.scitechnol.com/immunomodulatory-and-antioxidant-protective-effect-of-zingiber-officinale-in-lead-intoxicated-rat-4QMh.php?article_id=3225

(***Laboratory Medicine Department***)

NO ABSTRACT

16. El-Boshy MS, Header EA, ElSawy NA, Basalamah MB, Mubarak MS and Ben Hadda T (2015). *Studies on the Constituents of Rosmarinus officinalis and Their Synergistic Effect in Experimental Diabetic Rats*. **J Invest Biochem**.; 4: 36-43. (Non-ISI).

http://www.scopemed.org/?mno=179029

(***Laboratory Medicine and Clinical Nutrition Departments***)

ABSTRACT

Aim and Background: Antioxidant effects of aqueous extracts of Rosmarinus officinalis (RO) leaves on kidneys of streptozotocin (STZ)-induced experimental diabetic rats were assessed.Methods:The experiment was carried out on 4 groups with 6 rats in each group and extracts were administered orally at a dose of 200 mg/ Kg, body weight for 45 consecutive days. Blood samples drawn from all rats and analysed for glucose, reduced glutathione (GSH), superoxide dismutase (SOD), catalase (CAT), and malondialdehyde (MDA) as well as kidney function test. Results:The present study, revealed a significant decrease in blood glucose level in the animals given herb extract as compared with diabetic rats. In addition, results also revealed that antioxidant markers, GSH and CAT were significantly reduced in diabetic rats, while MDA, uric acid, urea and creatinine have increased as compared with control rats. On the other hand, both the diabetic group and the treated with extract showed significant improvement in the antioxidant markers and renal function towards the control group. Petra/ Osiris/ Molinspiration (POM) analyses of principal bioactive constituents of rosemary showed that these compounds have no side effect. Conclusions: Thus, Rosemary extract could be a promising therapeutic agent for the treatment of diabetic-related diseases.

17. El-Boshy ME, Husien HS, Abdulla OA, Abdelhamid FM and Risha EF (2015). *Evaluate therapeutic efficacy of Triclabendazole and Mirazid in Guinea Pigs infected with Fasciola gigantica*. **J Invest Biochem**.; 4: 44-49. (Non-ISI).

http://www.scopemed.org/?mno=179099

(***Clinical Nutrition Department***)

ABSTRACT

Aim and Background: Fascioliasis is the most important parasitic diseases that affect the human and animal all over the world. Triclabendazole (TCBZ), and Mirazid is the most common trematodicidal drug used in Egypt The present study, aimed to evaluate the therapeutic efficacy of the TCBZ and

Mirazid in Guinea pigs experimentally infected with Fasciola gigantica **Methods:** Thirty two, Guinea pig (1-2 month old) was allocated into four equal groups to study the efficacy of treatment of facioliasis with triclabendazole (TCBZ) and mirazid. Group (Gp.1) was the control, GPs (2 -4) were orally inoculated with 20 Fasciola giganticametacercariae (FGM) for each as a single dose by using stomach tube. Gps (3&4) were treated orally, with TCBZ, as a single dose (36 mg/Kg Bw) and mirazid 200 mg/ Kg Bw for six successive days respectively. The drugs were administered in the 8th week post-infection to evaluate their efficacy against adult stages of Fasciola gigantica. Blood samples were collected at the end of the 1st and 2nd week post treatment for hematological and serum biochemical examination. **Results:**TCBZ treated groups (GP 3) showed macrocytic hypochromic anemia, which disappeared at the end of the 2nd week post treatment. Heterophilia, esinophilia and lymphopenia were encountered in non treated group (GP 2) and mirazid treated group (GP 4). The liver transaminase (ALT, AST), gamma glytamyl transferase (GGT) and alkaline phosphatase (ALP) as well as total bilirubin, urea and creatinine, were elevated while serum albumin was decreased in GP (2) and returned to the normal value in GP (3) and GP (4) after two weeks post-treatment. **Conclusion:**It could be concluded that; the triclabendazole is more effective than mirazid in the treatment of Fasciola giganticainfection. Further research should be done for more precise knowledge about the efficacy of mirazid as a fasciolicidal drug.

18. **El-Boshy ME**, Husien SH, Fatma MA, Engy FR and Osama AM (2015). *Comparative Studies on Triclabendazole and Mirazid in Guinea Pigs Experimentally Infected with Fasciola gigantica*. **J Bioanal Biomed** 7:013-017. (Non-ISI) .

http://www.omicsonline.org/open-access/comparative-studies-on-triclabendazole-and-mirazid-in-guinea-pigs-experimentally-infected-with-fasciola-gigantica-1948-593X.1000117.php?aid=37668

(***Laboratory Medicine Department***)

ABSTRACT

Forty Guinea pigs (1-2 month old) were divided into 4 equal groups to study the efficacy of treatment of facioliasis with triclabendazole (TCBZ) and mirazid. Group (Gp.1) was the control, GPs (2-4) were orally inoculated with 20 Fasciola gigantic metacercariae (FGM) for each as a single dose by using stomach tube. Gps (3 and 4) were treated orally, with TCBZ, as a single dose (36 mg/Kg Bw) and mirazid 200 mg/Kg Bw for six successive days respectively. The drugs were administered in the 8th week post-infection to evaluate their efficacy against adult stages of Fasciola gigantica. Blood samples were collected at the end of the 1st and 2nd week post treatment for hematological and serum biochemical examination. TCBZ treated groups (GP 3) showed macrocytic hypochromic anemia, which disappeared at the end of the 2nd week post treatment. Heterophilia, esinophilia and lymphopenia were encountered in non treated group (GP 2) and mirazid treated group (GP 4). The liver transaminase (ALT, AST), gamma glytamyl transferase (GGT) and alkaline phosphatase (ALP) as well as total bilirubin, urea and creatinine, were elevated while serum albumin was decreased in GP (2) and returned to the normal value in GP (3) and GP (4) after two weeks post-treatment. It could be concluded that; the triclabendazole is more effective than mirazid in the treatment of Fasciola gigantica infection. Further research should be done for more precise knowledge about the efficacy of mirazid as a fasciolicidal drug.

19. Abdllaa O, **Elboshy ME, Reisha EF, Gadlla HA and El-Khodery SA** (2015). *Tumor Necrosis Factor-α, Interleukins-12(p40), 6, and 10 levels in cerebrospinal fluid and outcome prediction in Ossimi sheep with encephalitic listeriosis*. **Cytokine**; 73:283–287. (ISI; IF = 2.66).

http://www.sciencedirect.com/science/article/pii/S1043466615001106

(***Clinical Nutrition Department***)

ABSTRACT

Encephalitic listeriosis in sheep is a life-threatening disease. However, little is known about the cytokine response and their predictive value in this disease. The aim of present study was to assess the prognostic significance of Tumor Necrosis Factor-α (TNF-α), Interleukin-12(p40) (IL-12 p40), Interleukin-6 (IL-6), and Interleukin 10 (IL-10) levels in cerebrospinal fluid (CSF) in sheep with encephalitic listeriosis. Fifty-nine ewes in 14 flocks were diagnosed clinically as having listeriosis. CSF was collected and subjected to bacteriological examination and estimation of selected cytokines. Twenty-eight ewes were confirmed to be infected with Listeria monocytogenes. Based on antimicrobial sensitivity test, sheep were treated and the outcome was recorded as survivors (n=10) and non-survivors (n=18). Cutoff points for CSF cytokines were determined by Receiver operating characteristic analysis (ROC). Association between levels of CSF cytokines and outcome of listeriosis was assessed by logistic regression. TNF-α, IL-6 and IL-12(p40) levels as well as TNF-α/IL-10 ratio were significantly higher in non-survivors than survivors (p=0.002, 0.0021, 0.0033, and 0.001, respectively). However, IL-10 level was significantly lower in non-survivors than survivors (p=0.0058). ROC analysis revealed that IL-6 and TNF-α/IL-10 ratio had the highest AUC values (0.98, 0.984, respectively). Final multivariate logistic regression model showed that TNF-α/IL-10 ratio was the only variable that has predictive value for mortality in diseased sheep (p: 0.001; OR: 7.2; 95% CI: 5.7-9.8). TNF-α showed a positive correlation with IL-12β (r=0.917) and IL-6 (r=0.965). IL-12 (p40) showed also a positive correlation with IL-6 (r=0.906). However, IL-10 showed a negative correlation with TNF-α (r=-0.915), IL-12(p40) (r=-0.790), and IL-6 (r=-0.902). In conclusion, TNF-α/IL-10 ratio may provide predictive information about outcome of encephalitic listeriosis in sheep.

20. El Kafy EMA and Hela OF (2014). *Effect of Rowing on Pulmonary Functions in Children With Down Syndrome*. **Pediatr Phys Ther**; 26:437-45. (ISI; IF = 1.035).

http://journals.lww.com/pedpt/pages/articleviewer.aspx?year=2014&issue=26040&article=00015&type=abstract

(***Physiotherapy Department***)

ABSTRACT

PURPOSE: To examine effects of a rowing exercise regimen versus a chest physical therapy program on pulmonary function in children with Down syndrome. **METHODS:** Twenty-nine participants of both sexes, between 8 to 12 years of age, participated in this study. They were assigned randomly into 2 study groups. The first group (A) received a chest physical therapy program, while the second group (B) received an aerobic exercise regimen using a rowing ergometer. Vital capacity, forced vital capacity, forced expiratory volume after 1 second, and peak expiratory flow rate were measured before and after 12 successive weeks of treatment. **RESULTS:** Significant improvements in all measured variables were found posttreatment in both study groups. No significant difference between the 2 groups was found posttreatment. **CONCLUSION:** Rowing exercise could be effective in improving pulmonary functions in children with Down syndrome.

21. ElSawy NA, Hadda TB, **Bakr EH, Eslam Header EA**, Fakim AG, Mabkhot YN and Aljofan M (2013). *Effects of Crude Aqueous Extract of Origanum vulgaris in Developing Ovary of Rabbits Following in Utero,*

Adolescent and Postpubertal Exposure. **VRI Phytomedicine**; 2: 73-80. (Non-ISI).

http://vripress.com/index.php/PM/article/view/142

(***Laboratory Medicine and Clinical Nutrition Departments***)

ABSTRACT

We evaluated the impact on rabbits after having been treated with *Origanum vulgaris* (Lamiaceae) (OV) at a dose level known to adversely affect ovarian functions in rodents without causing systemic toxicity. The choice of rabbits has been guided by the fact that rabbits have a relatively long phase of reproductive development and hence simulation of reproductive development is better as opposed to dealing with rodents. The use of rabbits facilitates multiple evaluations of mating ability. An attempt has also been made at determining whether OV affected ovarian development and hence the use of animal model. Rabbits were exposed to 80 mg OV/kg/day *in utero* (gestation days [GD] 0 to23) or during adolescence (postnatal weeks [PNW] 4 by breast feeding and orally from 4w to 12 w), and the offspring were examined at the end of the 12 W period. Another group was treated after puberty (for 12 weeks) till age of 24 [PNW] of age and examined at the conclusion of exposure and follicles were categorized as primordial, primary, small preantral, large preantral or small antral follicles. The most pronounced reproductive effects were in female rabbits group which had been exposed from *in utero* till post-puberty period, in weights of ovaries (at 12 and 24 weeks, down 23%; $p< 0.05$). Serum Gonadotropin levels were down (at 24 weeks, 32%; $p < 0.05$); a slight increase in histological alterations of the ovaries ($p < 0.05$) at 24 weeks, of abnormal follicles.

22. El-Shamy SM and Mahran HG (2014). *Effect of Pulsed Magnetic Field on Bone Density in Juvenile Rheumatoid Arthritis*. **International Journal of Advanced Research**; 2:1023-1031. (Non-ISI).

https://www.researchgate.net/publication/269517357_Effect_of_Pulsed_Magnetic_Field_on_Bone_Density_in_Juvenile_Rheumatoid_Arthritis

(***Physiotherapy Department***)

ABSTRACT

Introduction: Juvenile rheumatoid arthritis (JRA) has long been suspected to affect bone mineralization because of poor linear and skeletal growth, an increased number of fractures, and osteopenia, observed by radiography, in children with the disease. **Methods:** 30 children, with polyarticular JRA, aged 8 to 12 years were included. Children were randomized for treatment in two groups. In the study group received pulsed magnetic field therapy 3 times per week for successive 3 months. In the control group received the conventional physical therapy program only. Evaluation of bone mineral density (BMD) using Dual Energy X-ray Absorptiometry (DEXA) was performed before and after the treatment. **Results:** BMD of femur post treatment for the control and study groups was 0.735±0.166 and 0.866±0.125 (g/cm²) respectively. BMD of the lumbar spine for the control and study groups were 0.657±0.121 and 0.75±0.102 (g/cm²) respectively. BMD of total body for the control and study groups were 0.723±0.097 and 0.807±0.11 (g/cm²) respectively. The differences between both groups in their post treatment mean values of BMD was statistically significant as ($p<0.05$). **Conclusions:** Pulsed electromagnetic field therapy is effective, innovative, non-invasive, non-expensive and can be used as a new trend physical therapy modality in the treatment of osteoporosis in JRA.

23. **Khan MM**, Faiz A, **Ashshi AM** (2014). *Clinically significant Coagulase Negative Staphylococci and their antibiotic resistance pattern in a tertiary care hospital*. **J Pak Med Assoc**.;64:1171-4. (ISI; IF = 0.49).

http://jpma.org.pk/full_article_text.php?article_id=7011

(***Laboratory Medicine Department***)

ABSTRACT

OBJECTIVES: To identify various species of coagulase negative staphylococci involved in neonatal septicaemia and determine their antimicrobial resistance pattern. **METHODS:** The prospective descriptive study was carried out from January 2012 to October 2013, at Umm Al-Qura University, Makkah, Saudi Arabia, and comprised clinical isolates of coagulase negative staphylococci recovered from the blood of neonates at Maternity and Children Hospital, Makkah..The identification of species and antibiotic sensitivity for each isolate was done using Microscan Walk Away system. **RESULTS:** Of the 190 clinical isolates S. epidermidis was the most common species found 144(75.8%).The overall drug resistance among the species ranged from 1.6% to 99.5% to all the drugs tested, except to vancomycin and linezolid which were 100% sensitive.The highest drug resistance was exhibited by penicillin 189 (99.5%), ampicillin 188 (99%), oxacillin 178 (93.6%) and augmentin 177 (93%). The minimum drug resistance was shown by synercid 4 (2.2%) and daptomycin 3 (1.6%). All species were 100% resistant to penicillin and ampicillin, except S. hyicus and one isolate of S. hominis-homin which was sensitive to ampicillin. **CONCLUSION:** High rates of antibiotic resistance was seen among coagulase negative staphylococci to commonly-used antibiotics and majority of them were methicillin-resistant. The newer drugs tested can be used as an alternative.

24. **Khan MM** and Faiz A (2014). *Efficacy of Cefoxitin Disk Diffusion in predicting mecA Gene Mediated Oxacillin Resistance in Coagulase Negative Staphylococci*. **J Pak Med Assoc**.;53:84-88. (ISI; IF = 0.49).

http://web.a.ebscohost.com/abstract?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=00309842&AN=100337213&h=MHJI46vhlqi3AGwmrkr%2fpBz0h5K6n74etF7AmwsJm9fj3Flz1lhjYn9xy03vFlZ%2fk1J1wopTV7htpyJv19cj0A%3d%3d&crl=c&resultNs=AdminWebAuth&resultLocal=ErrCrlNoProfile&crlhashurl=login.aspx%3fdirect%3dtrue%26profile%3dehost%26scope%3dsite%26authtype%3dcrawler%26jrnl%3d00309842%26AN%3d100337213

(***Laboratory Medicine Department***)

ABSTRACT

Background: Accurate detection of mecA gene mediated resistance to oxacillin is necessary for appropriate antimicrobial chemotherapy for staphylococcal infections. **Objectives:** To determine the efficacy of cefoxitin disk diffusion tests in detecting mecA gene mediated oxacillin resistance in coagulase negative staphylococci. **Study type, settings and duration:** This descriptive study was carried out after the approval of Bioethical Committee of the Faculty of Applied Medical Sciences, Umm Al Qura University, Makkah, Saudi Arabia. Clinical isolates of coagulase negative staphylococci from blood culture of neonates suspected to be suffering from septicemia from January 2012 to December 2013 at Maternity and Children hospital Makkah, Saudi Arabia were studied. **Materials and Methods:** In this study 241 coagulase negative staphylococci clinical isolates from Maternity and Children hospital, Makkah were included. Identification of coagulase negative staphylococci species and their antibiotic susceptibility testing i.e., minimum inhibitory concentration was performed using Microscan Walk Away system. Concurrently, all isolates were subjected to disk diffusion tests (oxacillin 1µg disc, cefoxitin 30µg disc) following Clinical and Laboratory Standards Institute guidelines. **Results:** A total of 241 coagulase negative staphylococci strains isolated from neonatal blood cultures included S.epidermidis 99(41.1%), S.haemolyticus 71(29.4%), S.hominis 38(15.7%), S.xylosus 14(5.9%), S.capitis 9(3.9%) and others 10(4.2%). The results of phenotypic detection of mecA gene by cefoxitin and oxacillin disk diffusion were compared with their MIC results. The cefoxitin disk diffusion predicted mecA gene in 89.6% isolates and oxacillin disk diffusion in 83.8%. The cefoxitin minimum inhibitory concentration results matched totally with cefoxitin disk diffusion results but oxacillin minimum inhibitory concentration results did not match totally with its disk diffusion results. Minimum inhibitory concentration results of oxacillin were same as that of the cefoxitin minimum inhibitory concentration and disk diffusion results. **Conclusion:** Cefoxitin disk diffusion has an edge over oxacillin disk diffusion in predicting mecA mediated oxacillin resistance in coagulase negative staphylococci. Those using disk diffusion as their routine susceptibility testing method for staphylococci may replace 1µg oxacillin disc with 30µg cefoxitin disc for routine testing but should report oxacillin in its place.

25. Kazi AM, Warraich GJ, Qureshi S, Qureshi H, **Khan MM**, Zaidi AK and members of the Pakistan Rotavirus Study Group (2014). *Sentinel hospital-based surveillance for assessment of burden of rotavirus gastroenteritis in children in Pakistan*. **PLoS One**; 9(10):e108221. (ISI; IF = 3.23).

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0108221

(***Laboratory Medicine Department***)

ABSTRACT

OBJECTIVES: To determine the burden and molecular epidemiology of rotavirus gastroenteritis in children hospitalized with severe acute watery diarrhea in Pakistan prior to introduction of rotavirus vaccine. **METHODS:** A cross-sectional study was carried out over a period of two years from 2006 - 2008 at five sentinel hospitals in the cities of Karachi, Lahore, Rawalpindi, and Peshawar. Stool samples collected from children under five years of age hospitalized with severe acute watery diarrhea were tested for rotavirus antigen via enzyme immunoassay (EIA) (IDEA REF K6020 Oxoid Ltd (Ely), Cambridge, United Kingdom). A subset of EIA positive stool samples were further processed for genotyping. **RESULTS:** 6679 children were enrolled and stool specimens of 2039 (30.5%) were positive for rotavirus. Rotavirus positivity ranged from 16.3% to 39.4% in the 5 hospitals with highest positivity in Lahore. 1241 (61%) of all rotavirus cases were in infants under one year of age. Among the strains examined for G-serotypes, the occurrence of G1, G2, G9 and G4 strains was found to be 28%, 24%, 14% and 13%, respectively. Among P-types, the most commonly occurring strains were P6 (31.5%) followed by P8 (20%) and P4 (12%). Prevalent rotavirus genotype in hospitalized children of severe diarrhea were G1P[8] 11.6% (69/593), followed by G2P[4] 10.4% (62/593), and G4P[6] 10.1% (60/593). **CONCLUSIONS:** Approximately one third of children hospitalized with severe gastroenteritis in urban centers in Pakistan have rotavirus. Introduction of rotavirus vaccine in Pakistan's national immunization program could prevent many severe episodes and diarrheal deaths.

26. **Header E, ElSawy N, El-Boshy M,** Basalamah M, Mubarak MS, et al. (2015). *POM Analyses of Constituents of Rosmarinus officinalis and Their Synergistic Effect in Experimental Diabetic Rats*. **J Bioanal Biomed** 7: 18-23. (Non-ISI).

https://www.researchgate.net/publication/275893453_POM_Analyses_of_Constituents_of_Rosmarinus_officinalis_and_Their_Synergistic_Effect_in_Experimental_Diabetic_Rats

(***Clinical Nutrition and Laboratory Medicine Department***)

ABSTRACT

Background: Antioxidant effects of aqueous extracts of Rosmarinus officinalis (RO) leaves on kidneys of streptozotocin (STZ)-induced experimental diabetic rats were assessed. **Methods:** The experiment was carried out on 4 groups with 6 rats in each group and extracts were administered orally at a dose of 200 mg/kg bw for 45 consecutive days. Blood samples were drawn from all rats and analysed for glucose, antioxidant system, reduced glutathione (GSH), superoxide dismutase (SOD), catalase (CAT), and lipid peroxidation malondialdehyde (MDA) as well as kidney function test. **Results:** Results of this investigation revealed a significant decrease in blood glucose level in the animals given herb extract as compared with diabetic rats. In addition, results also revealed that antioxidant markers, GSH and CAT were significantly reduced in diabetic rats, while MDA, uric acid, urea and creatinine have increased as compared with control rats. On the other hand, both the diabetic group and the treated with extract showed significant improvement in the antioxidant markers and renal function towards the control group. Petra/Osiris/Molinspiration (POM) analyses of principal bioactive constituents of rosemary showed that these compounds have no side effects. **Conclusions:** The Rosemary extract could be a promising therapeutic agent for the treatment of diabetic-related diseases.

27. **Helal OF** (2014). *Impact of smoking on adults lung age and ventilatory function*. **Int J Physiother Res**; 2:453-59. (Non-ISI).

https://www.ijmhr.org/ijpr_articles_vol2_2/IJPR-2014-626.pdf

(***Physiotherapy Department***)

ABSTRACT

Background: Although a large body of evidence exists on the effect of smoking on lung age and pulmonary function, much less attention has been dedicated to using these effects as an effective strategy in smoking cessation. **Objective:** The present study was carried out to investigate the impact of smoking on lung age and ventilatory function in adult Saudi in order to use these effects in a future strategy for smoking cessation. **Methods:** Eighty one smoker students with their mean age 23.88 ± 2.7 years were enrolled in this study. Every student performed a ventilatory function tests in order to measure lung age, forced vital capacity (FVC), forced expiratory volume at the end of the first second (FEV1), FEV1/FVC ratio and peak expiratory flow rate PEFR. **Results:** The result showed significant

deterioration in the mean value of FEV1, PEFR and the estimated lung age and a non-significant difference in the mean values of FVC. **Conclusion:** Smoking has a significant effect on ventilaroty function and deteriorating estimated lung age.

28. El-Fiky AA and **Helal OF** (2014). *Correlation Between Balance and Cognition in Normal Young and Elderly Subjects*. **Jokull**; 64:46-66. (ISI; IF = 0.7).

https://www.researchgate.net/publication/261249705_Correlation_Between_Balance_and_Cognition_in_Normal_Young_and_Elderly_Subjects

(***Physiotherapy Department***)

ABSTRACT

Background: Aging is a complex phenomenon in which the amount of lifetime remaining decreases and the physical and psychological abilities decline. The most widely acknowledged psychological change with age is the decline in cognitive processes, especially memory. Balance is achieved by complex integration and coordination of multiple body systems, but most of these systems undergo deterioration as people age, resulting in a decline in the ability of elderly to maintain balance. **Objectives:** The aim of this study was to determine the relationship between the balance and cognition and their relation to age. Methods: Correlation study was carried out on twenty eight male subjects divided equally into two groups. All subjects were assessed for; Mini Mental State Examination (MMSE), Short Form of Berg Balance Scale (SFBBS), and Postural Stability on Biodex stability system. **Results:** A highly statistical significant difference in the mean values of the Mini Mental State Examination (MMSE), Short Form of Berg Balance Scale (SFBBS), and overall stability indexes on Biodex stability system of young group with a high significant positive correlation between the Mini Mental Scale Examination (MMSE) and the Short form of Berg Balance Scale (SFBBS) and a high significant negative correlation between the Mini Mental Scale Examination (MMSE) and the overall stability index. **Conclusion:** Balance and cognition, affect each other during normal functional activity and had a deterioration with the aging process.

29. Ibrahim MM, Alayat MS and Shousha TM (2014). *Evaluation of Postural Stability in Patellofemoral Pain Syndrome Patients*. **Indian Journal of Physiotherapy and Occupational Therapy**; 8: 100-104. (Non-ISI).

http://www.indianjournals.com/ijor.aspx?target=ijor:ijpot&volume=8&issue=2&article=021

(***Physiotherapy Department***)

ABSTRACT

Objective: To assess the effect of patella femoral pain syndrome (PFPS) on the postural stability. **Materials and Method:** Two groups, each of 30 subjects participated in this study. The first group consisted of 30 patients who had PFPS with mean age 20.50 (±0.97) years, mean weight 69.3(±3.71) Kg. and mean height 173.8(±4.29) Cm. The second group consisted of 30 normal subjects with mean age 20.90 (± 0.99) years, mean weight 70.0 (± 2.75) Kg. and mean height 173.3 (±5.42) Cm. Both groups were tested by athletes' single leg test including overall stability (OASI), medio-lateral

stability (MLSI), antero-posterior stability (APSI) indexes and the fall risk test (FR) by using the Biodex balance system. Testing was performed for single and double leg stance conditions over a period of 20 seconds, 3 trials were done for each test and the mean value was recorded. **Results:** Using the unpaired t - test to compare between the PFPS and control groups; revealed a significant difference between both groups regarding fall risk test (t = 4.548 and p = 0.0001). In addition, there was a significant difference between both groups regarding athletes' single leg test (OASI, p = 0.0001 and t = 4.653), (APSI, p = 0.0001 and t = 4.723) and (MLSI, p = 0.0001 and t = 4.330). **Conclusion:** This study had shown that PFPS causes significant reduction in postural stability that may require further attention during rehabilitation.

30. **Mohamed AM, Ashshi AM**, Asghar AH, Abd El-Rahim IH**, El-Shemi AG** and Zafar T (2014). *Seroepidemiological survey on Rift Valley fever among small ruminants and their close human contacts in Makkah, Saudi Arabia, in 2011*. **Rev Sci Tech**.; 33:903-15. (ISI; IF = 0.91).

http://www.ncbi.nlm.nih.gov/pubmed/25812214

(***Laboratory Medicine Department***)

ABSTRACT

This study describes a seroepidemiological survey on Rift Valley fever (RVF) among small ruminants and their close human contacts in Makkah, Saudi Arabia. A total of 500 small ruminants (126 local, 374 imported) were randomly selected from the sacrifice livestock yards of Al-Kaakiah slaughterhouse, in the holy city of Makkah, during the pilgrimage season 1432 H (4-9 November 2011). In addition, blood samples were collected from 100 local workers in close contact with the animals at the slaughterhouse. An RVF competition multi-species enzyme-linked immunosorbent assay (ELISA) detecting anti-RVF virus immunoglobulin G (IgG)/ immunoglobulin M (IgM) antibodies and an RVF IgM-specific ELISA were used for serological investigations. In total, 84 (16.8%) of the 500 sacrificial sheep and goats tested seropositive in the competition ELISA but no IgM antibodies were detected in the IgM-specific assay. All seropositive samples, comprising 17.91% of the imported animals and 13.49% of the local ones, were therefore designated positive for anti-RVF virus IgG antibody. Among the local personnel working in close contact with the animals, 9% tested seropositive in the RVF competition ELISA. The study indicates that two factors may increase the likelihood of an RVF outbreak among sacrificial animals and pilgrims: i) the large-scale importation of small ruminants into Saudi Arabia from the Horn of Africa shortly before the pilgrimage season, and ii) the movement of animals within Saudi Arabia, from the RVF-endemic south-western area (Jizan region) to the Makkah region, particularly in the few weeks before the pilgrimage season. From these findings, it is recommended that i) all regulations concerning the import of animals into Saudi Arabia from Africa should be rigorously applied, particularly the RVF vaccination of all ruminants destined for export at least two weeks before exportation, and ii) the movement of animals from the RVF-endemic south-western area (Jizan region) of Saudi Arabia to the Makkah region should be strictly prohibited.

31. Asghar AH, Abd El-Rahim IHA, **Mohamed AM** and Ahmed OB (2014). *Clinical and molecular investigations of johne's disease among small ruminants in Makkah, Saudi Arabia*. **International Journal of Bioassays**; 3:3445-3451. (Non-ISI).

http://www.ijbio.com/index.php/ijb/article/view/576

(***Laboratory Medicine Department***)

ABSTRACT

Paratuberculosis (PTB) or Johne's disease (JD) is a chronic debilitating disease caused by the*Mycobacterium avium* subsp. *paratuberculosis* (MAP). JD affects a wide range of animals including ruminants and characterized by enteritis and progressive diarrhea. The current study aimed to implement molecular tools for detection and identification of MAP among clinically suspected small ruminants in Makkah region, Kingdom of Saudi Arabia (KSA). A total of 2660 small ruminants from five different farms around Makkah were clinically investigated for characteristic signs of JD during the period of November 2013 to February of 2014. Out of investigated animals, 16 cases were selected as being suspected of JD infection based on the associated clinical symptoms (emaciation and unthriftiness with or without persistent diarrhea). Rectal scrapings were collected from all suspected animals and were subjected for molecular examination. Three different genetic targets were evaluated including 16S rDNA, insertion sequence 900 (IS900) and intergenic spacer (IGS). Initial examination of suspected specimens by amplification of universal bacterial primers for 16S rDNA revealed positive results in 6 out of 16 cases (37.5%). Further amplification of the *Mycobacterium*-specific IGS target from 16s rDNA-positive samples revealed the detection of 4 *Mycobacterium* species. Sequence analysis of the IGS sequence of these 4 *Mycobacterium* species revealed 2 cases only as*Mycobacterium avium paratuberculosis*. This finding was confirmed by the detection of MAP-specific IS900 target only from the same 2 cases. In conclusion, the current study genetically documented the first report of MAP (the causative agent of JD) among small ruminants of Makkah region.

32. <u>Osfor MH</u>, Basalamah MA, **<u>Ashshi AM</u>**, Hegazy A, Abdelmoaty MI, **<u>Elsawy NA</u>** and Abourehab MAS (2015). *Hypocholesterolemic effect of some plant by-products in bakery production: Biochemical and histological study*. **IJBPAS**; 4:4289-4310. (Non-ISI).

http://ijbpas.com/pdf/2015/June/1434624713MS%20IJBPAS%202015%202877.pdf

(***Clinical Nutrition & Laboratory Medicine Departments***)

ABSTRACT

The current study was conducted to investigate the hypocholesterolemic effect of a mixture of three plant by-products (orange albedo, potato peel and carrot pomace), as a source of natural fibers on hypercholesterolemia and hyperglycemia in hypercholesterolemic rats. Furthermore, production of bread containing high natural fiber contents, formed from these by-products. The diet was supplemented with 10% and 20% of this mixture. The obtained results revealed that the hypercholesterolemic rats which fed on the diet supplemented with 20% mixture showed the highest significant improve in lipid profile, liver function, kidney function, blood picture and plasma glucose compared to positive and negative control. Also the results showed a high significant decrease in body weight gain compared to positive control. In addition, the sensory evaluation of the bread which formed from these by-products showed that the addition of the mixture to the bread significantly decreased the bread quality compared with control Balady Bread, but the bread that contained 10% mix showed a high values in [taste, aroma, mouth feel, crumb texture, crumb color, (break & shred) and crust color] compared to the bread containing 20% mix.

33. Refaat B (2014). *Role of Activins in embryo implantation and diagnosis of ectopic pregnancy: A Review*. **Reprod Biol Endocrinol**; 12(1):116. (ISI; IF = 2.22).

http://rbej.biomedcentral.com/articles/10.1186/1477-7827-12-116

(***Laboratory Medicine Department***)

ABSTRACT

Embryo implantation is a major prerequisite for the successful establishment of pregnancy. Ectopic implantation outside the intrauterine cavity and the development of ectopic pregnancy (EP) is a major cause of maternal morbidity and occasionally mortality during the first trimester. EP may be induced by failure of tubal transport and/or increased tubal receptivity. Activins, their type II receptors and follistatin have been localised in the human endometrial and tubal epithelium and they are major regulators of endometrial and tubal physiology during the menstrual cycle. Pathological expression of activins and their binding protein, follistatin, was observed in tissue and serum samples collected from EP. Several studies with different designs investigated the diagnostic value of a single measurement of serum activin-A in the differentiation between normal intrauterine and failing early pregnancy and the results are controversial. Nevertheless, the diagnostic value of activins in EP, including the other activin isoforms (activin-B and –AB) and follistatin, merits further research. This review appraises the data to date researching the role of activins in the establishment of normal pregnancy and, pathogenesis and diagnosis of tubal EP.

34. Refaat B (2014). *Prevalence of thyroid disorders and the characteristics of the associated anaemia in primigravida Saudi women during the first trimester: A cross-sectional study*. **Gazzetta Medica Italiana Archivio per le Scienze Mediche**;173(11): 567-78. (Non-ISI).

http://www.minervamedica.it/en/journals/gazzetta-medica-italiana/article.php?cod=R22Y2014N11A0567

(***Laboratory Medicine Department***)

ABSTRACT

AIM: Aim of the study was to measure the prevalence and types of thyroid disorders using the American Thyroid Association guidelines and to investigate their relationship with anemia frequency in primigravida females during the first trimester. **METHODS:** Blood samples were collected from 500 primigravida females with no history of thyroid disease, chronic diseases and/or anaemia to measure serum TSH, free T4, erythrocyte indices and iron parameters. **RESULTS:** Thyroid disorders were detected in 162 participants (32.4%) and the most prevalent disorder was occult hypothyroidism (102/162), followed by overt hypothyroidism (32/162) and hypothyroxinaemia (24/162). Anaemia was detected in 66 females with abnormal thyroid profile (40.7%) and the prevalence was significantly higher ($P<0.05$) compared to euthyroid (15.4%). The RBCs count, haemoglobin, haematocrit value, serum iron and serum ferritin were significantly lower in thyroid disorder compared to euthyroid group ($P<0.05$). Serum free T4 significantly correlated with RBCs count, haemoglobin and haematocrit, while TSH correlated with ferritin and total iron binding capacity ($P<0.05$). **CONCLUSION:** Thyroid disorders are common in primigravida Saudi females during the first trimester and they are associated with an increase in the frequency of anaemia. Further studies are needed to identify the mechanism(s) by which thyroid dysfunction induces anaemia during pregnancy.

35. Refaat B, Ashour TH and El-Shemi AG (2014). *Ribavirin induced anaemia: the effect of vitamin D supplementation on erythropoietin and erythrocyte indices in normal Wistar rat*. **Int J Clin Exp Med**; 7: 2667-2676. (ISI; IF = 1.2).

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4211774/

(***Laboratory Medicine Department***)

ABSTRACT

OBJECTIVES: To measure the effect of vitamin D3 (VitD) supplementation on erythrocyte indices, serum and kidney erythropoietin (EPO) in normal rats treated with Pegylated interferon-α (Peg-INF-α) and ribavirin (RBV). **MATERIALS AND METHODS:** Eighty male Wistar rats were divided equally into 8 groups. 'Control'; 'P': only received Peg-INF-α; 'PD': Peg-INF-α/VitD; 'PR': Peg-INF-α/RBV; 'PRD': Peg-INF-α/RBV/VitD; 'R': only received RBV; 'RD': RBV/VitD and 'VitD': only received vitamin D3. Peg-INF-α-2a was injected subcutaneously (6 µg/rat/week) for 4 weeks. RBV (4 mg/rat/day) and VitD (500 IU/rat/day) were given orally for 5 weeks. Blood samples were collected to measure erythrocyte indices and serum 25(OH) vitamin D. EPO was measured in serum samples and kidney specimens by ELISA. **RESULTS:** Peg-INF-α alone did not affect the RBCs count, haemoglobin, serum and kidney EPO compared to control ($P > 0.05$). RBV significantly decreased ($P < 0.05$) the erythrocyte count, haemoglobin and EPO levels in kidney and serum, either individually (R group) or combined with Peg-INF-α (PR group), compared to 'Control' and 'P' groups. VitD prevented the development of anaemia and significantly increased the concentrations of EPO at serum and kidney levels in the 'RD' and 'PRD' groups compared to 'R' and 'PR' groups. There was a significant positive correlation between blood levels of VitD with serum and kidney EPO, Red cell count and haemoglobin concentrations. **CONCLUSION:** VitD could have a potential beneficial role in the prevention of ribavirin-induced anaemia by promoting endogenous EPO. Further studies are needed to explore the role of vitamin D in the prevention of ribavirin associated anaemia.

36. Refaat B, Ashshi AM, Batwa SA, **El-Shemi AG** (2014). *Seroprevalence of Chlamydia trachomatis, Cytomegalovirus, Herpes simplex virus 1&2 in Saudi women in Saudi women with normal and abnormal early pregnancy: A case control study*. **African Journal of Microbiology Research**; 8(40), 3565-3569. (ISI; IF = 0.5).

http://www.academicjournals.org/journal/AJMR/article-abstract/3483CDB48059

(***Laboratory Medicine Department***)

ABSTRACT

This work measured the seroprevalence of *Chlamydia trachomatis*, cytomegalovirus, herpes simplex virus-1 and 2 in Saudi women with normal and abnormal early pregnancy. This is a case-control study; serum samples were collected from 250 women as follows: 100 normal pregnancies, 70 ectopic

pregnancies and 80 spontaneous abortions. IgG and IgM antibodies against candidate organisms were measured using enzyme linked immunosorbant assay (ELISA). The prevalence of *C. trachomatis* IgG, but not IgM, was significantly higher in ectopic pregnancy (18.5%) and abortion (10%) as compared to normal pregnancy (5%) ($P < 0.05$). The frequency of HSV-1 IgG, but not HSV-2, was also higher in ectopic pregnancy (94.3%) and abortion (87.5%) than in normal pregnancy (64%). However, the rate of detecting both IgM and IgG antibodies together either against HSV-1 or HSV-2 was higher in the ectopic (41.1 and 30%, respectively) and abortion groups (28.7 and 36.2%, respectively) as compared to the control (9 and 16%, respectively). Correspondingly, the frequency of cytomegalovirus (CMV) IgG was significantly higher in ectopic pregnancy (91.4%) and abortion (75%) as compared to normal pregnancy (58%). Similar results were also observed for CMV IgM antibodies either alone or with IgG antibodies in the ectopic and abortion groups as compared to control ($P < 0.05$). Candidate organisms were common by serology in Saudi females with abnormal early pregnancy. Additionally, the high frequency rate in normal pregnancy alarms the potential high risk of congenital infection. Further studies are needed to measure the true prevalence of these sexually transmitted infections (STIs) and their associated pregnancy complications in Saudi Arabia.

37. <u>Refaat B,</u> Dalton E and Ledger W (2015). *Ectopic pregnancy secondary to in vitro fertilisation-embryo transfer: Pathogenic mechanisms and management strategies*. **Reprod Biol Endocrinol**; 13(1):30. doi: 10.1186/s12958-015-0025-0. (ISI; IF = 2.22).

http://rbej.biomedcentral.com/articles/10.1186/s12958-015-0025-0

(***Laboratory Medicine Department***)

ABSTRACT

BACKGROUND: Ectopic pregnancy (EP) is the leading cause of maternal morbidity and mortality during the first trimester and the incidence increases dramatically with in vitro fertilisation and embryo transfer (IVF-ET). The co-existence of an EP with a viable intrauterine pregnancy (IUP) is known as heterotopic pregnancy (HP) affecting about 1% of patients during assisted conception. EP/HP can cause significant morbidity and occasional mortality and represent diagnostic and therapeutic challenges, particularly during fertility treatment. Many risk factors related to IVF-ET techniques and the cause of infertility have been documented. The combination of transvaginal ultrasound (TVS) and serum human chorionic gonadotrophin (hCG) is the most reliable diagnostic tool, with early diagnosis of EP/HP permitting conservative management. This review describes the risk factors, diagnostic modalities and treatment approaches of EP/HP during IVF-ET and also their impact on subsequent fertility treatment. **METHODS:** The scientific literature was searched for studies investigating EP/HP during IVF-ET. Publications in English and within the past 6 years were mostly selected. **RESULTS:** A history of tubal infertility, pelvic inflammatory disease and specific aspects of embryo transfer technique are the most significant risk factors for later EP. Early measurement of serum hCG and performance of TVS by an expert operator as early as gestational week 5 can identify cases of possible EP. These women should be closely monitored with repeated ultrasound and hCG measurement until a diagnosis is reached. Treatment must be customised to the clinical condition and future fertility requirements of the patient. In cases of HP, the viable IUP can be preserved in the majority of cases but requires early detection of HP. No apparent negative impact of the different treatment approaches for EP/HP on subsequent IVF-ET, except for risk of recurrence. **CONCLUSIONS:** EP/HP are tragic events in a couple's reproductive life, and the earlier the diagnosis the better the prognosis. Due to the increase incidence following IVF-ET, there is a compelling need to develop a diagnostic biomarker/algorithm that can predict pregnancy outcome with high sensitivity and specificity before IVF-ET to prevent and/or properly manage those who are at higher risk of EP/HP.

38. Refaat B (2015). *Prevalence and characteristics of anemia associated with thyroid disorders in non-pregnant Saudi women during the childbearing age: A case-control study*. **Biomed J.;** 38:307-16. (ISI; No IF).

http://biomedj.cgu.edu.tw/pdfs/2015/38/4/images/BiomedJ_2015_38_4_307_151032.pdf

(***Laboratory Medicine Department***)

ABSTRACT

Background: Little is known about the prevalence of thyroid disorders and their associated anemia in the Kingdom of Saudi Arabia. The aim of the current study was to measure the prevalence and types of thyroid disorders and their rela- tionship with anemia frequency and types in non-pregnant Saudi females during the childbearing age. **Methods:** Blood samples were collected from 600 non-pregnant females (between ≥18 and ≤45 years) with no history of thyroid dysfunction, chronic diseases, and/or anemia to measure serum thyroid stimulating hormone (TSH), free T4, erythrocyte indices, and iron parameters. **Results:** Thyroid disorders were detected in 118 partici- pants (19.6%), and occult hypothyroidism was the most prevalent type (70/118) followed by overt hypothyroid- ism (38/118) and hyperthyroidism (10/118). Anemia was detected in 52 females with abnormal thyroid (44%) and the prevalence was significantly higher ($p < 0.05$) compared to euthyroid (14.3%). The red blood cell (RBC) count, hemoglobin, hematocrit value, serum iron, and serum ferritin were significantly lower in thyroid disor- der compared to euthyroid group ($p < 0.05$). Erythrocyte indices correlated significantly with serum free T4, while iron parameters correlated with serum TSH ($p < 0.05$). **Conclusion:** Thyroid disorders are common in non-pregnant females in the Western province of Saudi Arabia, and they are associated with an increase in the prevalence of both anemia and iron deficiency. Further studies are needed to determine the underlying mechanism (s) contributing to the development of thyroiditis-induced anemia in the kingdom and the role of thyroid hormones in iron metabolism.

39. Refaat B, Ashshi AM, El-Shemi AG and Azhar E (2015). *Activins and follistatin in chronic hepatitis C and its treatment with pegylated interferon-α based therapy: A review***. Mediators Inflamm**. 2015;2015:287640. (ISI; IF = 3.23).

http://www.hindawi.com/journals/mi/2015/287640/

(***Laboratory Medicine Department***)

ABSTRACT

Pegylated-interferon-α based therapy for the treatment of chronic hepatitis C (CHC) is considered suboptimal as not all patients respond to the treatment and it is associated with several side effects that could lead to dose reduction and/or termination of therapy. The currently used markers to monitor the response to treatment are based on viral kinetics and their performance in the prediction of treatment outcome is moderate and does not combine accuracy and their values have several limitations. Hence, the development of new sensitive and specific predictor markers could provide a useful tool for the clinicians and healthcare providers, especially in the new era of interferon-free therapy, for the

classification of patients according to their response to the standard therapy and only subscribing the novel directly acting antiviral drugs to those who are anticipated not to respond to the conventional therapy and/or have absolute contraindications for its use. The importance of activins and follistatin in the regulation of immune system, liver biology, and pathology has recently emerged. This review appraises the up-to-date knowledge regarding the role of activins and follistatin in liver biology and immune system and their role in the pathophysiology of CHC.

قائمة الأبحاث المنشورة 1436 – 1437

[الأجمالى 29 ورقة علمية]

1. Soliman MM, Ho Attia HF and **Abou El-Ella GA** (2015). Genetic and histopathological alterations induced by cypermethrin in rat kidney and liver: Protection by sesame oil. International journal of immunopathology and pharmacology; 28:508-520. (ISI; IF = 1.61).

2. Alayat MS, Mohamed AA, Helal OF, Khaled OA (2016). Efficacy of high-intensity laser therapy in the treatment of chronic neck pain: a randomized double-blind placebo-control trial. Lasers Med Sci. 2016 Feb 25. [Epub ahead of print]. (ISI; IF = 2.48).

3. Bukhari SZ, Banjar A, Baghdadi SS, Baltow BA, **Ashshi AM** and Hussain WM (2015). Central line associated blood stream infection rate after intervention and comparing outcome with national healthcare safety network and international nosocomial infection control consortium data. Annals of medical and health sciences research;4:682-686. (Non-ISI).

4. Ashshi AM, Batwa SA, Kutbi SY, Malibary FA, Batwa M and **Refaat B** (2015). Prevalence of 7 sexually transmitted organisms by multiplex real-time PCR in Fallopian tube specimens collected from Saudi women with and without ectopic pregnancy. BMC Infect Dis.;15:569. (ISI; IF = 2.61).

5. Azhar EI, Hashem AM, El-Kafrawy SA, Abol-Ela S, Abd-Alla AMM, Sohrab SS, Farraj SA, Othman NA, Ben-Helaby HG, **Ashshi A**, Madani TA and Jamjoom G (2015). Complete genome sequencing and phylogenetic analysis of dengue type 1 virus isolated from Jeddah, Saudi Arabia. Virology Journal;12:1-8. (ISI; IF = 2.18).

6. Batwa SA, **Ashshi AM,** Kamfar FF, **Ahmad J, Idris S,** Khojah A, Al-Qadi NM and **Refaat B** (2015)**.** Prevalence of cytomegalovirus and its effect on the expression of inducible and endothelial nitric oxide synthases in Fallopian tubes collected from women with and without ectopic pregnancy**.** Eur J Clin Microbiol Infect Dis.; 35:103-10. (ISI; IF = 2.66).

7. Obeidat AA, Ahmad MN, Haddad FH and **Azzeh FS** (2015). Evaluation of several anthropometric indices of obesity as predictors of metabolic syndrome in Jordanian adults. Nutr Hosp.; 32:667-77. (ISI; IF = 1.04).

8. Azzeh FS and Kensara OA (2015). Vitamin D Is a Good Marker for Disease Activity of Rheumatoid Arthritis Disease. Disease Markers; 2015, Article ID 260725, 6 pages 05. (ISI; IF = 1.56).

9. Obeidat AA, Ahmad MN, Haddad FH and **Azzeh FS** (2016). Alarming high prevalence of metabolic syndrome among Jordanian adults. Pak J Med Sci; 31:1377-82. (ISI; IF = 0.23).

10. Abdel Galil SM, Ezzeldin N and **El-Boshy ME** (2015). The role of serum IL-17 and IL-6 as biomarkers of disease activity and predictors of remission in patients with lupus nephritis. Cytokine;76:280-7. (ISI; IF = 2.66).

11. Abdel Galil SM, Ezzeldin N, Said D and **El-Boshy ME** (2015). IL-17 is a key cytokine correlating with disease activity and clinical presentation of systemic lupus erythematosus. Indian Journal of Rheumatology; 10:196–201. (Non-ISI).

12. Filimban WAH, **El-Fiky AA, Helal OF, Abdelaal AAM** (2015)**.** Effect of Magnetic Therapy on Balance Deficits in Patients with Diabetic Polyneuropathy: Randomized Controlled Trial. Jokull 65:187-196. (ISI; IF = 0.7).

13. Filimban WAH, **ElSawy N, Header E and El-Boshy M** (2015). Evaluation of aqueous extract of Salvadora persica and Glycyrrhiza glabra in treatment of gastric ulcer. Jokull; 65: 1-12. (ISI; 0.77)

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15. El-Shemi AG, Refaat B, Kensara OA, Mohamed AM, Idris S and Ahmad J (2016). Paricalcitol Enhances the Chemopreventive Efficacy of 5-Flurouracil on an Intermediate-term Model of Azoxymethane- Induced Colorectal Tumors in Rats**.** Cancer Prev Res (Phila). 2016 Mar 28. pii: canprevres.0439.2015. [Epub ahead of print]. (ISI; IF = 4.44).

16. Kensarah OA, Jazar AS, and Azzeh FS (2015). Hypovitaminosis D in Healthy Toddlers and Preschool Children from Western Saudi Arabia. Int J Vitam Nutr Res.; 85:50-60. (ISI; IF = 0.87)**.**

17. Khan MA and Faiz A (2016). Antimicrobial resistance patterns of Pseudomonas aeruginosa in tertiary care hospitals of Makkah and Jeddah. Ann Saudi Med.;36:23-8. (ISI; IF = 0.48).

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20. **Header E,** Hashish AE, **ElSawy NA**, Al-Kushi A and **El-Boshy ME** (2016). Gastroprotective effects of dietary honey against acetylsalicylate induced experimental gastric ulcer in albino rats. Life Science Journal 13:42-47. (ISI; IF = 0.17).

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25. **Osfor MMH, Ashshi AM, ElSawy NA**, Alkushi AG, **Qusty NFH, Bakr EH,** Hijazi HMH and El-Nabarawy IM (2016). Nutritional and Biochemical Parameters of Honey Contaminated with Insecticide Residues in Male Albino Rats. Pakistan Journal of Nutrition; 15. (ISI, No IF)

26. **Refaat B, El-Shemi AG, Ashshi AM** (2015). The effects of pegylated interferon-α and ribavirin on liver and serum concentrations of activin-A and follistatin in normal Wistar rat: a preliminary report. BMC Res Notes; 8:265. doi: 10.1186/s13104-015-1253-2. (Non-ISI).

27. **Refaat B, El-Shemi AG, Ashshi AM** and Azhar E (2015). Vitamin D and chronic hepatitis C: Effects on success rate and prevention of side effects associated with pegylated interferon-α and ribavirin. Int J Clin Exp Med;8(7):10284-10303. (ISI; IF = 1.2).

28. **Refaat B, El-Shemi AG, Ashshi AM**, Mohamadi AE and Al-Qadi NM (2015). Pegylated interferon-α modulates liver concentrations of activin-A and its related proteins in normal Wistar rat. Mediators Inflamm.; 2015:414207. doi: 10.1155/2015/414207. (ISI; IF = 3.23).

29. **Refaat B, El-Shemi AG, Kensara OA, Mohamed AM, Idris S, Ahmad J**, Khojah A (2015). Vitamin D3 enhances the tumouricidal effects of 5-Fluorouracil through multipathway mechanisms in azoxymethane rat model of colon cancer**.** J Exp Clin Cancer Res.; 34:71. doi: 10.1186/s13046-015-0187-9. (ISI; IF = 4.43).

ملخص الأبحاث المنشورة 2015 – 2016:

1. Soliman MM, Ho Attia HF and **Abou El-Ella GA** (2015). *Genetic and histopathological alterations induced by cypermethrin in rat kidney and liver: Protection by sesame oil*. **International journal of immunopathology and pharmacology**; 28:508-520. (ISI; IF = 1.61).

http://iji.sagepub.com/content/28/4/508.abstract

(***Laboratory Medicine Department***)

ABSTRACT

Pesticides are widespread synthesized substances used for public health protection and agricultural programs. However, they cause environmental pollution and health hazards. This study aimed to examine the protective effects of sesame oil (SO) on the genetic alterations induced by cypermethrin (CYP) in the liver and kidney of Wistar rats. Male rats were divided into four groups, each containing 10 rats: the control group received vehicle, SO group (5 mL/kg b.w), CYP group (12 mg/kg b.w), and protective group received SO (5 mL/kg b.w) plus CYP (12 mg/kg b.w). Biochemical analysis showed an increase in albumin, urea, creatinine, GPT, GOT, and lipid profiles in the CYP group. Co-administration of SO with CYP normalized such biochemical changes. CYP administration decreased both the activity and mRNA expression of the examined antioxidants. SO co-administration recovered CYP, downregulating the expression of glutathione-S-transferase (GST), catalase, and superoxide dismutase. Additionally, SO co-administration with CYP counteracted the CYP- altering the expression of renal interleukins (IL-1 and IL-6), tumor necrosis factor alpha (TNF-α), heme

oxygenase-1 (HO-1), anigotensinogen (AGT), AGT receptors (AT1), and genes of hepatic glucose and fatty acids metabolism. CYP induced degenerative changes in the kidney and liver histology which are ameliorated by SO. In conclusion, SO has a protective effect against alterations and pathological changes induced by CYP in the liver and kidney at genetic and histological levels.

2. **Alayat MS, Mohamed AA, Helal OF**, Khaled OA (2016). *Efficacy of high-intensity laser therapy in the treatment of chronic neck pain: a randomized double-blind placebo-control trial*. **Lasers Med Sci**. 2016 Feb 25. [Epub ahead of print]. (ISI; IF = 2.48).

http://link.springer.com/article/10.1007%2Fs10103-016-1910-2

(***Physiotherapy Department***)

ABSTRACT

The aim of the study was to investigate the effect of high-intensity laser therapy (HILT) in treatment of patients with chronic neck pain (CNP) on cervical range of motion (ROM), pain, and functional activity. Sixty male patients participated in this study with mean (SD) age of 35.47 (4.18) years. Patients were randomly assigned into two groups and treated with HILT plus exercise (HILT + EX) and placebo laser plus exercise (PL + EX) in groups 1 and 2, respectively. The outcomes measured were cervical ROM, pain level by visual analog scale (VAS), and functional activity by neck disability index (NDI) score. Statistical analyses were performed to compare the differences between baseline and post-treatment. The level of statistical significance was set as $p < 0.05$. Cervical ROM significantly increased after 6 weeks of treatment in all groups. VAS and NDI results showed significant decrease post-treatment in both groups. HILT + EX effectively increased cervical ROM and decreased VAS and NDI scores after 6 weeks of treatment compared to PL + EX. HILT + EX is an effective physical therapy modality for patients with CNP compared to PL + EX therapy. The combination of HILT + EX effectively increased cervical ROM, functional activity, and reduced pain after 6 weeks of treatment.

3. Bukhari SZ, Banjar A, Baghdadi SS, Baltow BA, **Ashshi AM** and Hussain WM (2015). *Central line associated blood stream infection rate after intervention and comparing outcome with national healthcare safety network and international nosocomial infection control consortium data*. **Annals of medical and health sciences research**;4:682-686. (Non-ISI).

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4199155/

(***Laboratory Medicine Department***)

ABSTRACT

Background: Benchmarking of central line associated blood stream infection (CLABSI) rates remains a problem in developing countries due to the variations in surveillance practices and/or infection risk as non-availability of national data. **Aim:** The aim of the following study was to find out the CLABSI rate before and after central line (CL) bundle intervention and compare the outcome with international surveillance data. **Subjects and Methods:** This prospective longitudinal cohort study on adult intensive care unit patients was conducted at Hera General Hospital, Makkah Saudi Arabia from January 1 to December 31, 2012. Five key components of bundle were selected; hand hygiene, maximal barrier precautions upon insertion, skin antisepsis, optimum site selection and daily review

of line necessity with prompt removal of unnecessary lines. Post-intervention CLABSI rate was compared with National Healthcare Safety Network (NHSN) and International Nosocomial Infection Control Consortium (INICC) rates. Statistical Package for the Social Sciences (SPSS) 14.0 software (SPSS Inc., 233 South Wacker Drive, 11th floor Chicago, USA) was used for statistical analysis included regression analysis for correlation. Statistical significance was set at $P < 0.05$. **Results:** CLABSI rate was reduced from 10.1 to 6.5 per 1000 CL days after interventions and had significant correlation with overall bundle compliance rate 87.6% ($P = 0.02$) On benchmarking, CLABSI rate after the intervention was similar to mean pool value of INICC (6.8) while higher than NHSN (3.1). The most common microorganisms isolated were; methicillin-resistant *Staphylococcus aureus* (30.8%),*Acinetobacter baumanii* (23.3%) and *Enterococcus faecalis* (15.4%). **Conclusion:** We found that INICC data was a better benchmarking tool comparative to NHSN because it represents the countries that are developing the surveillance system. A multicenter national study is recommended.

4. **Ashshi AM**, Batwa SA, Kutbi SY, Malibary FA, Batwa M and **Refaat B** (2015). *Prevalence of 7 sexually transmitted organisms by multiplex real-time PCR in Fallopian tube specimens collected from Saudi women with and without ectopic pregnancy*. **BMC Infect Dis**.;15:569. (ISI; IF = 2.61).

http://bmcinfectdis.biomedcentral.com/articles/10.1186/s12879-015-1313-1

(***Laboratory Medicine Department***)

ABSTRACT

BACKGROUND: Ectopic pregnancy (EP) is associated with maternal morbidity and occasionally mortality during the first trimester. A history of sexually transmitted infection (STI) and pelvic inflammatory disease have been implicated as major risk factors for EP. Our aim was to measure the prevalence of Chlamydia trachomatis (CT), Neisseria gonorrhoeae, Mycoplasma genitalium (MG), Ureaplasma parvum/urealyticum, Gardnerella vaginalis, Trichomonas vaginalis and herpes simplex virus (HSV)-1&2 in Fallopian tubes collected from EP and the results were compared with those obtained from total abdominal hysterectomy (TAH) and tubal ligation. **METHODS:** This was a prospective case-control study and tubal samples were collected from 135 Saudi women recruited from 3 centres in the Western region as follow: 84 EPs, 20 TAH and 31 tubal ligations. Multiplex TaqMan PCR was performed using an IVD CE kit for the simultaneous detection of candidate pathogens following DNA extraction. **RESULTS:** Infections were detected in 31.8 % of the 135 participants either as single (11.1 %) or co-infections (20.7 %) and the frequencies were significantly higher in EP (42.85 %) compared with control (13.72 %). The rates of CT (27.4 %; $P = 0.001$); MG (20.2 %; $P = 0.009$) and HSV-1/2 (21.4 %; $P = 0.01$) were significantly higher in EP. No significant difference between the study groups was observed for the other pathogens ($P > 0.05$). Binary logistic regression also showed that infection with ≥ 2 pathogens (OR 4.9; 95 % CI: 2.2 - 11.6; $P = 0.006$), CT (OR 3.07; 95 % CI: 1.3 - 12.3; $P = 0.002$), MG (OR 2.3; 95 % CI: 1.1 - 8.6; $P = 0.03$) and HSV-1/2 (OR 1.7; 95 % CI: 0.75 - 5.7; $P = 0.004$) were associated with a significantly higher risk of developing EP. **CONCLUSIONS:** STIs are frequent in the upper genital tract of Saudi women during the reproductive age and, CT, MG and HSV-1/2 were more prevalent in EP. The observed high rates of co-infection advocate the necessity of establishing national guidelines and/or screening program utilising multiplex PCR approach for the detection of common STIs among high risk groups in the kingdom. Further studies are needed to measure the adverse reproductive outcomes associated with STIs in Saudi Arabia.

5. Azhar EI, Hashem AM, El-Kafrawy SA, Abol-Ela S, Abd-Alla AMM, Sohrab SS, Farraj SA, Othman NA, Ben-Helaby HG, **Ashshi A**, Madani TA and Jamjoom G (2015). *Complete genome sequencing and phylogenetic analysis of dengue type 1 virus isolated from Jeddah, Saudi Arabia*. **Virology Journal**;12:1-8. (ISI; IF = 2.18).

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4310205/

(***Laboratory Medicine Department***)

ABSTRACT

Background: Dengue viruses (DENVs) are mosquito-borne viruses which can cause disease ranging from mild fever to severe dengue infection. These viruses are endemic in several tropical and subtropical regions. Multiple outbreaks of DENV serotypes 1, 2 and 3 (DENV-1, DENV-2 and DENV-3) have been reported from the western region in Saudi Arabia since 1994. Strains from at least two genotypes of DENV-1 (Asia and America/Africa genotypes) have been circulating in western Saudi Arabia until 2006. However, all previous studies reported from Saudi Arabia were based on partial sequencing data of the envelope (E) gene without any reports of full genome sequences for any DENV serotypes circulating in Saudi Arabia. **Findings:** Here, we report the isolation and the first complete genome sequence of a DENV-1 strain (DENV-1-Jeddah-1-2011) isolated from a patient from Jeddah, Saudi Arabia in 2011. Whole genome sequence alignment and phylogenetic analysis showed high similarity between DENV-1-Jeddah-1-2011 strain and D1/H/IMTSSA/98/606 isolate (Asian genotype) reported from Djibouti in 1998. Further analysis of the full envelope gene revealed a close relationship between DENV-1-Jeddah-1-2011 strain and isolates reported between 2004–2006 from Jeddah as well as recent isolates from Somalia, suggesting the widespread of the Asian genotype in this region. **Conclusions:** These data suggest that strains belonging to the Asian genotype might have been introduced into Saudi Arabia long before 2004 most probably by African pilgrims and continued to circulate in western Saudi Arabia at least until 2011. Most importantly, these results indicate that pilgrims from dengue endemic regions can play an important role in the spread of new DENVs in Saudi Arabia and the rest of the world. Therefore, availability of complete genome sequences would serve as a reference for future epidemiological studies of DENV-1 viruses.

6. Batwa SA, **Ashshi AM,** Kamfar FF, **Ahmad J, Idris S,** Khojah A, Al-Qadi NM and **Refaat B** (2015)**.** *Prevalence of cytomegalovirus and its effect on the expression of inducible and endothelial nitric oxide synthases in Fallopian tubes collected from women with and without ectopic pregnancy***. Eur J Clin Microbiol Infect Dis**.; 35:103-10. (ISI; IF = 2.66).

http://link.springer.com/article/10.1007%2Fs10096-015-2514-7

(***Laboratory Medicine Department***)

ABSTRACT

To measure the prevalence of cytomegalovirus (CMV) infection in ectopic pregnancy (EP) and its effect on the expression of inducible and endothelial nitric oxide synthases (iNOS, eNOS) by Fallopian tubes (FT) bearing an EP. This was a prospective case-control study. Blood and tubal samples were collected from 84 Eps and 51 controls (20 total abdominal hysterectomy (TAH) during the luteal phase and another 31 tubal ligations). CMV IgM and IgG antibodies were measured by ELISA, and an IVD CE PCR kit was used to detect CMV in the FTs. iNOS and eNOS were measured by immunohistochemistry and quantitative RT-PCR in FTs obtained from CMV-positive EP (n = 12), and the results were compared with those obtained from CMV-negative EP (n = 11) and TAH (n = 8).

The frequencies of CMV IgM (51.2 % vs 17.6 %), IgG (77.4 % vs 52.9 %) or both antibodies (41.6 % vs 11.7 %) were significantly higher in EP compared with control. CMV was more common by PCR in FTs from EP (21.4 %) than controls (5.9 %). Twelve women from the PCR positive EP cases (66.6 %) were also simultaneously positive for both CMV IgM & IgG antibodies and had higher expression of eNOS and iNOS at the protein and gene levels compared with negative EP and TAH. Tubal infection with CMV may lead to EP by increasing the production of endothelial and inducible NOS by the FT epithelial cells. Further studies are required to illustrate the role of CMV in the pathogenesis of EP.

7. Obeidat AA, Ahmad MN, Haddad FH and **Azzeh FS** (2015). *Evaluation of several anthropometric indices of obesity as predictors of metabolic syndrome in Jordanian adults.* **Nutr Hosp**.; 32:667-77. (ISI; IF = 1.04).

http://www.nutricionhospitalaria.com/pdf/9063.pdf

(***Clinical Nutrition Department***)

ABSTRACT

INTRODUCTION: anthropometric indices have all been tested for their relation to metabolic syndrome (MetS), but with no consistent cut-off points are yet established among different population group. **OBJECTIVE:** this study aims to evaluate the predictive power of several anthropometric indices of central obesity as predictors of MetS in a group of Jordanian adults. **METHODS:** in this cross sectional study, 630 adult subjects (308 men and 322 women) aged between 20-70 years were recruited at the King Hussein Medical Center in Amman (Jordan). The diagnosis of MetS was defined by the International Diabetes Federation criteria. Anthropometric measurements (waist circumference [WC]; waist to hip ratio [WHpR]; waist to height ratio [WHtR]; body mass index [BMI]) were performed and recorded following standard procedures. Receiver operating characteristic (ROC) curves were used to determine the efficacy of anthropometric measurements as predictors of MetS. **RESULTS:** the results indicated that, in men for identifying subjects with MetS risk, area under curve (AUC) from the ROC curves for WC was 0.851, AUC for WHpR was 0.842, AUC for WHtR was 0.85, and AUC for BMI was 0.83. In women, AUC for WC, WHpR, WHtR, and BMI were 0.866, 0.871, 0.872, and 0.831, respectively. **CONCLUSION:** it could be concluded that among anthropometric indices, both WHtR and WC had the strongest predictive power for identifying subjects with MetS in men and women. WHtR appears to be the best indicator of central obesity in women and individuals of short stature.

8. Azzeh FS and Kensara OA (2015). *Vitamin D Is a Good Marker for Disease Activity of Rheumatoid Arthritis Disease*. **Disease Markers**; 2015, Article ID 260725, 6 pages 05. (ISI; IF = 1.56).

h http://www.hindawi.com/journals/dm/2015/260725/

(***Clinical Nutrition Department***)

ABSTRACT

Aim. This study was conducted to find out the optimal vitamin D cutoff point in predicting activity of RA disease. **Materials and Methods.** One hundred and two rheumatoid arthritis Saudi patients of both genders were recruited in this study. Vitamin D as 25-hydroxy-vitamin D [25(OH)D] was measured and serum level less than 20 ng/mL defined as deficient patient. Disease activity was measured based on the disease activity score index of a 28-joint count (DAS28) using serum erythrocyte sedimentation rate levels. Receiver operating characteristic (ROC) curves were used to determine the optimal vitamin D cutoff points for identifying disease activity. **Results**. It has been

observed that vitamin D levels were lower ($P < 0.05$) in patients with high disease activity. A significant inverse correlation between serum 25(OH)D levels and DAS28 ($r = -0.277$, $P = 0.014$) was shown. ROC curves results showed that vitamin D less than 12.3 ng/mL predicted high disease activity, and vitamin D more than 17.9 ng/mL predicted low disease activity, with good sensitivity and accuracy results regarding vitamin D. **Conclusion.** Study results concluded that vitamin D is a good predictor of RA disease activity in Saudi patients.

9. Obeidat AA, Ahmad MN, Haddad FH and **Azzeh FS** (2016). *Alarming high prevalence of metabolic syndrome among Jordanian adults*. **Pak J Med Sci**; 31:1377-82. (ISI; IF = 0.23).

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4744285/

(***Clinical Nutrition Department***)

ABSTRACT

Objective: To evaluate the prevalence and the individual components of metabolic syndrome (MetS) in Jordanian adults. **Methods:** In this cross sectional study, 630 adult subjects (308 men and 322 women) aged between 20-70 years were recruited from the clinics at the King Hussein Medical Center. The diagnosis of MetS was made according to the International Diabetes Federation (IDF) criteria-2005. Blood samples were collected after 10-12 hours overnight fasting and serum was obtained for biochemical analysis. **Results:** The prevalence of metabolic syndrome according to IDF criteria was 51% (46.4% in men and 55.3% in women). Prevalence of increased waist circumference in the total sample was 71.6%, 46% for high blood pressure, 42.4% for elevated fasting blood glucose, 43.5% for low high density lipoprotein, and 50.2% for hypertriglyceridemia. **Conclusion:** The prevalence and individual components of MetS in Jordan were high. Screening of MetS is needed at national level to reduce the incidence of Type 2 diabetes mellitus (T2DM) and cardiovascular disease (CVD).

10. Abdel Galil SM, Ezzeldin N and **El-Boshy ME** (2015). *The role of serum IL-17 and IL-6 as biomarkers of disease activity and predictors of remission in patients with lupus nephritis*. **Cytokine**;76:280-7. (ISI; IF = 2.66).

http://www.sciencedirect.com/science/article/pii/S1043466615001878

(***Laboratory Medicine Department***)

ABSTRACT

AIM: To determine the role of IL-17 and IL-6 in the pathogenesis of SLE as biomarkers of disease activity and predictors of remission and outcome of therapy in patients with active lupus nephritis. **METHODS:** The study was carried out on 72 SLE female patients and 70 sex- and age-matched normal healthy subjects as controls. SLE disease activity was assessed in all patients with (SLEDAI-2k scores). Plasma levels of IL-6, and IL-17 were measured by enzyme linked immunosorbent assay and their levels were correlated with clinical manifestations of the disease and (SLEDAI-2k). ROC curve analysis was performed to determine the validity of both cytokines in prediction of activity and remission of active lupus nephritis. **RESULTS:** SLE patients were found to have significantly higher levels of IL-17 ($p<0.001$) and IL-6 ($p<0.001$), in relation to normal subjects. Active group of patients had higher levels of both cytokines than the inactive one ($P<0.001$). Elevated serum levels of both cytokines were associated with active lupus nephritis, anemia and positively correlated with SLEDAI-2k scores ($P=0.025$ for IL-17 and $P<0.001$ for IL-6). There was a significant positive correlation between IL-6 and IL-17 serum concentrations during periods of disease activity ($r=0.497$, $P=0.005$) as well as during remission ($r=0.662$, $P<0.001$). ROC curve analysis for IL-6 and IL-17, as predictor of disease activity reviled, optimal cutoff level of 12.3 pg/ml and 19.7 pg/ml, with AUC=0.93, and 0.95,

for both cytokines respectively, while as predictors of remission of active lupus nephritis, provide a cutoff value of IL-6 at 20.8 pg/ml, with AUC 0.80, and a cutoff value of IL-17 at 27.0 pg/ml, with AUC 0.82. **CONCLUSION:** In conjunction with their major role in pathogenesis of SLE, baseline serum levels of IL-6 and IL-17 can be used as sensitive biomarkers for disease activity, as well as predictors of remission of lupus nephritis.

11. Abdel Galil SM, Ezzeldin N, Said D and **El-Boshy ME** (2015). *IL-17 is a key cytokine correlating with disease activity and clinical presentation of systemic lupus erythematosus*. **Indian Journal of Rheumatology**; 10:196–201. (Non-ISI).

http://www.sciencedirect.com/science/article/pii/S097336981500120X

(***Laboratory Medicine Department***)

NO ABSTRACT

Aims: To determine the role of IL-17 cytokine in systemic lupus erythematosus (SLE) patients and its association with clinical presentation of the disease and disease activity. **Methods** 72 SLE patients and 70 healthy age and sex matched controls were included in the study. SLE disease activity was assessed in all patients with SLE disease activity index (SLEDAI-2K) scores. Plasma levels of IL-6, and IL-17 were measured by enzyme-linked immunosorbent assay and correlated their levels with clinical manifestations of the disease and SLEDAI-2K. **Results** Plasma levels of IL-6 and IL-17 were significantly elevated in SLE patients than in control subjects (13.98 ± 6.95 versus 7.47 ± 1.23 pg/mL) and (19.47 ± 10.21 versus 9.93 ± 1.89 pg/mL), respectively. IL-6 and IL-17 were positively correlated with SLEDAI-2K scores ($r = 0.684$ at $P < 0.001$, $r = 0.322$ at $P = 0.006$), and lupus nephritis ($r = 0.364$ at $P = 0.002$, $r = 0.474$ at $P < 0.001$) respectively; similarly, the IL-17/IL-6 ratio was positively correlated with SLEDAI-2K ($r = 0.243$ at $P = 0.039$). Also, the level of both cytokines was positively correlated to each other during periods of disease activity ($r = 0.755$, $P < 0.001$) as well as during remission ($r = 0.384$, $P = 0.040$). **Conclusion** Over-expression of IL-17 correlates with disease activity of SLE. A longitudinal study in a larger cohort of SLE patients can help validate the results.

12. Filimban WAH, **El-Fiky AA, Helal OF, Abdelaal AAM** (2015)**.** *Effect of Magnetic Therapy on Balance Deficits in Patients with Diabetic Polyneuropathy: Randomized Controlled Trial*. **Jokull**; 65:187-196. (ISI; IF = 0.7).

(***Physiotherapy Department***)

https://www.researchgate.net/publication/275022571_Effect_of_Magnetic_Therapy_on_Balance_Deficits_in_Patients_with_Diabetic_Polyneuropathy_Randomized_Controlled_Trial

ABSTRACT

Background: Diabetes mellitus (DM) is one of the most common chronic diseases all over the world. Incidence of and complications of DM has been increased over the last decade. Diabetic polyneuropathy (DPN) plays a significant role in falling among elderly patients because of significantly impaired sensation in the feet and reduced ability to properly control balance during daily activities. The aim of this study was to evaluate the effect of low frequency pulsed magnetic therapy (LFPMT) on balance in patients with DPN. **Methods:** Thirty male patient with DPN were randomly assigned into two groups G1 (Study group) and G2 (Control group). Balance was evaluated

pre and post-study using the Biodex Stability System and Short Form of Berg Balance Scale (SFBBS). G1 was treated with LFPMT for 30 min in session, 3 sessions in a week, for six weeks, while G2 received identical sham sessions**. The results:** Pre-study (between groups) comparison revealed that the mean values of the overall stability indices (OSI) were (1.75 ± 0.75, 2.12 ± 0.45) for G1 and G2 respectively (P=0.11), the mean values of the SFBBS were (18.8± 3.61, 19.8± 1.93) for G1 and G2 respectively (P=0.35). At the end of the study (within groups) comparison revealed that the mean values of the OSI were (1.41 ± 0.78, 2.16 ± 0.7) for G1 (P=0.02) and G2 (P= 0.77) respectively, the mean values of the SFBBS were (23.07 ± 3.61,19.6 ±1.18) for G1 (P=0.00002) and G2 (P= 0.68) respectively. Post-study (between groups) comparison revealed that there were significant differences in SFBBS (P= 0.002) and OSI (P = 0.01), but in favor of G1. **Conclusions:** LFPMT is an effective therapeutic modality in improving balance in patients with DPN.

13. Filimban WAH, **ElSawy N, Header E and El-Boshy M** (2015). *Evaluation of aqueous extract of Salvadora persica and Glycyrrhiza glabra in treatment of gastric ulcer*. **Jokull;** 65: 1-12. (ISI; 0.77).

https://www.researchgate.net/publication/277076557_Evaluation_of_aqueous_extract_of_Salvadora_persica_and_Glycyrrhiza_glabra_in_treatment_of_gastric_ulcer

(***Laboratory Medicine & Clinical Nutrition Departments***)

ABSTRACT

Salvadora persica extract have been demonstrated to possess antimicrobial activity, antioxidant and anti-inflammatory. Glycyrrhiza glabra, is one of the oldest and most commonly prescribed herbs in Eastern traditional medicine, and has been used to treat tuberculosis, peptic ulcers, and liver injury in a number of clinical disorders. Meanwhile mastic gum was removed to measured the length of gastric ulcer.The peptic ulcer will induce in rat by oral administration aspirin at a dose of 200 mg/ Kg.bw and oral administration aqueous plants extract extract at a dose of 200 & 400 mg/ Kg. Bw for 7 days.

14. **ElSawy NA**, Shaheen UY, Filimban WA, El Malki WH, **Header EA and El-Boshy ME** (2015)**.** *Antiurolithic and antihypertensive activities of Origanum vulgaris on urolithic rats*. **J. Med. Plants Res**.; 9:986-997. (ISI; IF = 0.88.

https://www.researchgate.net/publication/282764148_Antiurolithic_and_antihypertensive_activities_of_Origanum_vulgaris_on_urolithic_rats

(***Laboratory Medicine & Clinical Nutrition Departments***)

ABSTRACT

Origanum vulgaris (Oregano) has been used in the fluky medicinal for treating various diseases including urolithiasis and hypertension. This study was designed to investigate the possible antioxidant and antiurolithic activities of different standardized extracts of Oregano ethanol extract n-hexane, ethyl acetate, and aqueous fraction on rats. The dried hydroalcoholic extract of 70% ethyl alcohol Oregano was suspended in water and successively extracted with n-hexane and ethyl acetate. Each active extract was screened of phytochemical and standardized spectrophotometricaly by estimation of total phenol and total flavonoid content. Antiurolithic and antioxidant activities were studied on live rat model by oral doses of ethylene glycol and NH4Cl. The active extracts of Oregano (20 mg/kg) were given to different groups and one group without extracts was used as control. At the

end of the experimental period, blood samples were obtained from studying biochemical parameters and a kidney specimen for histopathology using scanning electron microscope. Ethanol extract, n-hexane and aqueous fractions prevented as well as opposed toxic changes, including loss of body weight gain and appetite, raised serum urea, uric acid and creatinine levels, and crystal deposition in the kidneys. These potential urolithitic effects of ethylene glycol should be taken into considerations with close monitoring of kidney function tests at frequent intervals. The oregano antioxidant effect might be more effective in the amelioration of ethylene glycol induced kidney injury and urolithiasis.

15. El-Shemi AG, Refaat B, Kensara OA, Mohamed AM, Idris S and Ahmad J (2016). *Paricalcitol Enhances the Chemopreventive Efficacy of 5-Flurouracil on an Intermediate-term Model of Azoxymethane- Induced Colorectal Tumors in Rats.* **Cancer Prev Res (Phila).** 2016 Mar 28. pii: canprevres.0439.2015. [Epub ahead of print]. (ISI; IF = 4.44).

http://cancerpreventionresearch.aacrjournals.org/content/early/2016/03/26/1940-6207.CAPR-15-0439.long

(***Laboratory Medicine & Clinical Nutrition Departments***)

ABSTRACT

Colorectal cancer (CRC) is a common cancer with high mortality rate. Despite it is the standard anti-CRC drug, 5-Fluorouracil (5-FU) exhibits only limited therapeutic benefits. Herein, we investigated would paricalcitol (Pcal), a synthetic vitamin D analog with potential antitumor properties, enhance the chemopreventive efficacy of 5-FU on an intermediate-term (15 weeks) model of colorectal tumors induced by azoxymethane (AOM) in rats. Post-AOM injection, 5-FU was administered during the 9th and 10th weeks (12 mg/kg/day for 4 days, then 6 mg/kg every other day for another 4 doses), while Pcal (2.5 μg/kg/day; three days/week) was given from the 7th to the 15th week. At week 15, the animals were euthanized and their resected colons were examined macroscopically and microscopically. Quantitative RT-PCR was used to measure the transcription activities of Wnt, β-catenin, DKK-1, CDNK-1A, NF-κB, and COX-2 genes; and ELISA was used to quantify the protein levels of β-catenin, COX-2, HSP-90, and VEGF. Immunohistochemistry was additionally used to measure β-catenin, HSP90, and iNOS. Compared with their individual therapy, combination of 5-FU and Pcal showed more significant reducing effect on numbers of grown tumors and large aberrant crypts foci. Mechanistically, Pcal and 5-FU had cooperated together to more repress the expression of pro-cancerous Wnt, β-catenin, NF-κB, COX-2, iNOS, VEGF and HSP-90, and to upregulate the expression of anti-tumorigenesis DKK-1 and CDNK-1A, compared with their monotherapies. Our findings suggest that combined use of Pcal with 5-FU exhibits an augmenting chemopreventive effect against colorectal tumors, and might potentially be useful for chemoprevention in CRC patients.

16. Kensarah OA, Jazar AS, and Azzeh FS (2015). *Hypovitaminosis D in Healthy Toddlers and Preschool Children from Western Saudi Arabia*. **Int J Vitam Nutr Res**.; 85:50-60. (ISI; IF = 0.87)**.**

http://econtent.hogrefe.com/doi/abs/10.1024/0300-9831/a000223?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3dpubmed

(***Clinical Nutrition Department***)

ABSTRACT

BACKGROUND: Vitamin D deficiency is common in Saudi Arabia. No sufficient data are available on the vitamin D status of preschool children. **AIMS:** To investigate the vitamin D status among toddlers and preschool children and to evaluate the factors associated with hypovitaminosis D in Western Saudi Arabia. **METHODS:** A cross-sectional study was conducted on 503 preschool children in Makkah. The children were divided into two age categories: 1 - 3 years (toddlers) and 3 - 6 years (preschool). Sociodemographic factors, life-style factors, eating habits, body mass index (BMI), 25-(OH)-vitamin D3, parathyroid hormone, calcium, phosphorous, and alkaline phosphatase concentrations were determined. **RESULTS:** Sixty-three % of children had a vitamin D deficiency. Vitamin D in toddlers was significantly higher than in preschool children. Vitamin D levels were negatively correlated with BMI (r = - 0.419, P < 0.001), and duration of breast feeding (r = - 0.270, P = 0.027), but a significant positive correlation with vitamin D intake (r = 0.335, P = 0.021), calcium intake (r = 0.25, P = 0.029), duration of formula feeding (r = 0.354, P = 0.019), and outdoor physical activity (r = 0.381, P = 0.011) was found. Multivariable predictors of hypovitaminosis D were preschool age (OR = 11, [95 % CI: 2.78 - 43.57], P < 0.001), outdoor physical inactivity (OR = 2.44, [95 % CI: 0.93 - 14.12], P < 0.001), obesity (OR = 2.3, [95 % CI: 1.25 - 7.08], P = 0.008), overweight (OR = 2.16, [95 % CI: 1.18 - 6.01], P = 0.039), inadequate vitamin D intake (OR = 1.65, [95 % CI: 1.12 - 2.53], P = 0.012), exclusive formula feeding (OR = 0.53, [95 % CI: 0.41 - 0.72], P < 0.001), and breast and formula feeding (OR = 0.62 [95 % CI: 0.39 - 0.88], P = 0.002). **CONCLUSION:** Hypovitaminosis D is a public health concern, especially in preschool children. Possible determinants of low vitamin D status in preschool children in the Makkah region could be related to age, high BMI, inadequate vitamin D intake, exclusive breastfeeding, and outdoor physical inactivity.

17. **Khan MA** and Faiz A (2016). *Antimicrobial resistance patterns of Pseudomonas aeruginosa in tertiary care hospitals of Makkah and Jeddah*. **Ann Saudi Med**.;36:23-8. (ISI; IF = 0.48).

http://www.ncbi.nlm.nih.gov/pubmed/26922684

(***Laboratory Medicine Department***)

ABSTRACT

BACKGROUND: The clinical significance of Pseudomonas aeruginosa has greatly increased due to its ability to rapidly develop resistance to major groups of antibiotics. **OBJECTIVES:** Our objective was to determine the pattern of antimicrobial resistance of P aeruginosa. **DESIGN:** Prospective, descriptive study. **SETTING:** Four tertiary care hospitals in Makkah and Jeddah. **METHODS:** Clinical isolates of P aeruginosa were processed following standard microbiological procedures. A Microscan Walk Away system was used for the identification and antibiotic susceptibility of P aeruginosa isolates. **MAIN OUTCOME MEASURES:** Percentage of resistance of P aeruginosa to antibiotics. **RESULTS:** The overall drug resistance among 121 strains of P aeruginosa was low to moderate to commonly used anti-pseudomonal drugs (4.9% to 30.6%). Significantly less resistance was exhibited by piperacillin tazobactam (4.9%; P < .05) and meropenem showed significantly high resistance (30.6%; P < .05) as compared to other antibiotics, followed by ticarcillin (22.3%) and imipenem (19%), irrespective of the site of infection. The antibiotics with < 10% resistance were cefepime (8.3%), amikacin (7.4%) and piperacillin-tazobactam, which showed lowest resistance (4.9%). Although, data varied between hospitals, meropenem and ticarcillin had the highest drug resistance in all hospitals. Multidrug resistance was 10.7%. **CONCLUSION:** Low-to-moderate rates of drug resistance among P aeruginosa isolates were observed. Meropenem resistance was high irrespective of the site of infection. This pattern of resistance indicates probable overuse of broad-

spectrum antibiotics like carbapenems. Overuse needs to be addressed by each institution, and consideration given to regulating use of broad-spectrum antibiotics. **LIMITATIONS:** Results cannot be generalized as the study did not include all tertiary hospitals in these cities.

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18. Khan MA, Faiz A and **Ashshi AM** (2015). *Maternal colonization of group B streptococcus: prevalence, associated factors and antimicrobial resistance*. **Ann Saudi Med**.; 35:423-427. (ISI; IF = 0.48).

http://www.ncbi.nlm.nih.gov/pubmed/26657224

(***Laboratory Medicine Department***)

ABSTRACT

BACKGROUND AND OBJECTIVES: Group B streptococcus (GBS, Streptococcus agalactiae) can be transferred during delivery to neonates from mothers who are colonized with GBS in the genital tract. GBS can cause sepsis and meningitis in newborns. This study was conducted to determine GBS colonization rates among pregnant women and the antibiotic sensitivity patterns. **DESIGN AND SETTING:** Prospective descriptive study at the Maternity and Children Hospital, Makkah. **PATIENTS AND METHODS:** Vaginal swabs from 1328 pregnant women (>=35 weeks of gestation) attending antenatal clinic were cultured in Todd-Hewitt broth supplemented with gentamicin and nalidixic acid. After 36 hours of incubation, subculture was made onto sheep blood agar and incubated in 5% carbon dioxide for 18 to 24 hours. A Microscan Walk Away system was used for the identification and antibiotic susceptibility of GBS isolates. Each isolate was also tested for group B by using latex slide agglutination test. Information such as maternal age, gestational age and parity was collected using a predesigned questionnaire. **RESULTS:** The study population ranged between ages 17-47 years. The GBS colonization in all age groups was found to be 13.4%. A higher colonization rate was seen in pregnant women > 40 years of age (27.4%). Women with gestational age > 42 weeks were colonized (25%) more frequently that women with a gestational age from 41-42 weeks (20.2%). An increased rate of colonization was found in women who delivered > 5 times and no colonization in women who delivered once. All GBS isolates were 100% sensitive to penicillin G, ampicillin and vancomycin. Erythromycin and clindamycin showed resistance-15.7% and 5.1%, respectively. **CONCLUSION:** The high prevalence of GBS colonization in pregnant women demands for screening in women attending an antenatal clinic so that intrapartum antimicrobial prophylaxis can be offered to all women who are colonized with GBS, thus preventing its transfer to the newborn.

19. Header E, Hashish AE, **ElSawy N**, Abdullah Al-Kushi and **El-Boshy M** (2016). *Effect of dietary honey on healing of gastric ulcer in experimental rats*. **Global Advanced Research Journal of Medicine and Medical Sciences**; 4. (Non-ISI).

https://www.researchgate.net/publication/287813434_Gastroprotective_effect_of_dietary_honey_against_acetylsalicylate_induced_expermental_ulcer_in_albino_rat

(***Clinical Nutrition & Laboratory Medicine Departments***)

ABSTRACT

Honey is a substance produced by bees from the nectar of plants. It is used as a medicine. It is known forits biological properties, having antibacterial, antifungal and healing properties. This work was designed to explorethe effect of honey extracts on healing of gastric ulcer in experimental rats. Thirty

male albino rats (170+5g bw)were used and allocated into 6 equal groups. Group1 (Gp-1) used as negative control while the Gp2-5 were givenaspirin orally (200mg/kg bw), and Gp3-5 were treated with honey at doses of 3.5, 7 and 14 ml/kg bw, for seven daysrespectively. The length of gastric ulcer, volume of gastric juice, total acidity, pH value, and histopathologicalchanges of the stomach were examined. The results revealed that treated orally with honey extracts reduced thelength of gastric ulcer, total acidity, volume of gastric juice, and ameliorate histopathological changes caused byAcetylsalicylate. It is concluded that, honey could be used for healing acute gastric ulcer.

20. Header E, Hashish AE, **ElSawy NA**, Al-Kushi A and **El-Boshy ME** (2016). *Gastroprotective effects of dietary honey against acetylsalicylate induced experimental gastric ulcer in albino rats*. **Life Science Journal** 13:42-47. (ISI; IF = 0.17).

https://www.researchgate.net/publication/287813434_Gastroprotective_effect_of_dietary_honey_against_acetylsalicylate_induced_expermental_ulcer_in_albino_rat

(***Clinical Nutrition & Laboratory Medicine Departments***)

ABSTRACT

Honey is a substance produced by bees from the nectar of plants. It is used as a medicine. It is known forits biological properties, having antibacterial, antifungal and healing properties. This work was designed to explorethe effect of honey extracts on healing of gastric ulcer in experimental rats. Thirty male albino rats (170+5g bw)were used and allocated into 6 equal groups. Group1 (Gp-1) used as negative control while the Gp2-5 were givenaspirin orally (200mg/kg bw), and Gp3-5 were treated with honey at doses of 3.5, 7 and 14 ml/kg bw, for seven daysrespectively. The length of gastric ulcer, volume of gastric juice, total acidity, pH value, and histopathologicalchanges of the stomach were examined. The results revealed that treated orally with honey extracts reduced thelength of gastric ulcer, total acidity, volume of gastric juice, and ameliorate histopathological changes caused byAcetylsalicylate. It is concluded that, honey could be used for healing acute gastric ulcer.

21. Helal OF and El-Fiky AA (2015). *Early Adult Detection is a Good Protector from Balance Disturbance in Elderly.* **Journal of Physical Therapy and Health Promotion**; 3:47-51. (Non-ISI).

http://www.bowenpublishing.com/pthp/paperInfo.aspx?PaperID=17067

(***Physiotherapy Department***)

ABSTRACT

Balance has often been used as a measure of lower extremity function, and any disturbance is considered a critical problem that has a great risk in elderly subjects. Thus, the early recognition of balance disturbance in adults is highly recommended. To determine the balance disturbances and risk of falling among University students as well as to establish a database for balance levels in this university community, cross sectional study was carried out on random samples of 31 young adult male volunteers aged between 18 to 25 years using the Biodex Balance System (BBS) to measure postural stability and risk of falling. The results showed that there is a prevalence of balance disturbance as well as a positive correlation between body mass index (BMI) and postural instability index. There are signs of a high proportion of balance disorder among adult university students, and

there is a positive correlation between BMI and postural instability; when BMI increases, postural control deteriorates.

22. **Helal OF, Kensara OA, Azzeh FS and El Kafy EMA** (2016). *Effect of Parathyroid Hormone and Body Mass Index on Overall Stability Index in Saudi Males with Vitamin D Deficiency*. **Life Science Journal**; 13 (2). (ISI; IF = 0.165).

http://www.lifesciencesite.com/lsj/life130216/001_30150lsj130216_1_6.pdf

(***Physiotherapy and Clinical Nutrition Departments***)

ABSTRACT

The purpose of this study is to determine the correlation between parathyroid hormone (PTH) and body mass index (BMI) on the overall stability index (OSI) in Saudi males with vitamin D deficiency. **Method:** A total of 669 adult Saudi males with mean age of 19.9 years suffering from vitamin D deficiency were participated in this study. The subjects were divided according to their PTH status into two groups; group 1 (n=619) having a normal PTH values; and group 2 (n=50) suffering from hyperparathyroidism. Participants were also categorized based on their BMI into; underweight (BMI30). The OSI protocol was used to compare vitamin D deficiency subjects' that having normal PTH values with those suffering from hyperparathyroidism for different BMI categories. The Biodex Balance System was used to measure the OSI values. **Results:** No significant differences were observed between normal and high PTH groups in age, weight, height, BMI, OSI, vitamin D, calcium, phosphorus, and alkaline phosphatase. A significant positive correlation between OSI and PTH ($r=0.135$, $P=0.011$) was perceived. The results also revealed that the BMI had a significant positive association with OSI ($r=0.521$, $P<0.001$). In addition, BMI had positive correlation with PTH ($r=0.109$, $P=0.042$). The highest average OSI value was observed in the subjects having both obesity and hyperparathyroidism. **Conclusion:** The PTH and BMI have a positive correlation with OSI, which means that hyperparathyroidism and obesity synergistically increase the risk of falling in Saudi males with vitamin D deficiency.

23. Dabbour IR, **Jazar AS and Azzeh FS** (2016). *Vitamin D Status in Patients with Type 2 Diabetes Mellitus in Makkah Region of Saudi Arabia*. **Pakistan Journal of Nutrition**; 15:203-210. (ISI, No IF).

http://www.pjbs.org/pjnonline/fin3477.pdf

(***Clinical Nutrition Department***)

ABSTRACT

Deficiency of vitamin D is still a worldwide health problem. Although the sun is replete all over the year in Saudi Arabia, it has been shown that deficiency of vitamin D is an important health problem. The aim of this study was to investigate the association of serum 25-hydroxy vitamin D [25(OH)-D] in type 2 diabetic patients (T2DM) compared to control healthy subjects. A randomized case-control study was conducted and a total of 200 subjects were equally categorized in each group. A detailed basic information questionnaire was used. Serum levels of 25(OH)-D and others related biochemical analysis were also measured. According to our results, there were no significant differences ($p>0.05$) in age, serum 25(OH)-D level, parathyroid hormone (PTH), alkaline phosphatase (ALP) and BMI between case and control groups. On the other hand, there was a significant inverse relationship between age and serum 25(OH)-D level ($r = -0.37$, $p<0.05$), while a significant positive correlation

between serum 25(OH)-D and intakes of vitamin D (r = 0.33, p<0.05) was observed. The mean value of serum 25(OH)-D was significantly higher (p<0.05) for the subjects who regularly played outdoor physical activities than those subjects who did not play regularly. Respect of income, the mean value of serum 25(OH)-D for subjects with low income was significantly (p<0.05) higher than those subjects with high income. Additionally, the mean value of serum 25(OH)-D for subjects who can write and read was significantly (p<0.05) higher than those illiterate subjects and subjects hold a university degree. The mean value of serum 25(OH)-D level for small family size was significantly (p<0.05) higher than those with large family size. The subjects in our study were generally deficient in 25(OH)-D irrespective of having T2DM, indicating a greater need for vitamin D supplementation.

24. Osfor MMH, Ashshi AM, ElSawy NA, **Qusty NFH** and Alkushi AG (2016). *Effect of wheat bran consumption on serum lipid profile of hypercholesterolemia patients residence in holly Makkah*. **Asian Journal of Natural & Applied Sciences**; 5:1-9 (Non-ISI).

http://www.ajsc.leena-luna.co.jp/AJSCPDFs/Vol.5(1)/AJSC2016(5.1-01).pdf

(***Clinical Nutrition & Laboratory Medicine Departments***)

ABSTRACT

Background: Hypercholesterolemia is a metabolic disorder resembling a major risk factor for cardiovascular diseases. It is associated with hypertension, atherosclerosis, diabetes and hypertriglyceredemias. Therefore, it is not surprising that hypercholesterolemia subjects have more susceptibility to sudden death. Dietary intervention is the first-line approach. Increasing dietary fiber has been discussed recommended as a safe and practical approach for cholesterol reduction (Truswell, 2000). **Objective:** This study was performed to quantify the cholesterol-lowering effect of wheat bran as dietary fibers in hypercholesteremia patients. Design: a study design was conducted and used to test the effect of wheat bran consumption on serum lipid profile. Independent variables were the type and the amount of insoluble fiber, initial cholesterol concentration, and other important study characteristics. **Results:** Insoluble fiber was associated with slight but significant decreases in serum total cholesterol, low density lipoprotein (LDL), triglycerides and total serum cholesterol, (149.67±39.62 to121.89±44.38), (157.89±49.19 to156.67±68.13) and (214.11±43.052 to 193.89 ±42.30) respectively. LDL/HDL and total cholesterol/HDL ratios had been decreased significantly after wheat bran consumption (3.76±1.35 to 3.17±1.62) and (4.85±2.05 to 4.71 ±1.78) respectively. Serum levels of high density lipoprotein (HDL) were elevated in respondents following wheat bran consumption for one month (42.45±12.47 to 43.22±13.69). **Conclusions:** wheat bran as dietary fibers can decrease serum levels of total and LDL cholesterol. The positive effect of wheat bran consumption on lipid profile was little within the practical range of intake. Increasing insoluble fiber as dietary therapy can lower blood cholesterol level in patients suffering from hypercholesterolemia

25. Osfor MMH, Ashshi AM, ElSawy NA, Alkushi AG, **Qusty NFH, Bakr EH,** Hijazi HMH and El-Nabarawy IM (2016). *Nutritional and Biochemical Parameters of Honey Contaminated with Insecticide Residues in Male Albino Rats*. **Pakistan Journal of Nutrition**; 15. (ISI, No IF).

https://www.researchgate.net/publication/301294839_Nutritional_and_Biochemical_Parameters_of_Honey_Contaminated_with_Insecticide_Residues_in_Male_Albino_Rats

(***Laboratory Medicine Department***)

ABSTRACT

The effect of insecticides contaminating honey on nutritional and biochemical parameters were investigated in male albino rats. Administration of honey containing malathione and dimethoate at levels of 0.003±0.24 and 0.006±0.02 ppm, respectively, significantly decreased body weight of the animals. These levels also significantly decreased the weight of testis, epididymis and suprarenal gland, while it significantly increased the weight of the parenchymatous organs (heart, liver, kidney and spleen). Serum levels of triglycerides, albumin, total protein, alanine transaminase (ALT), creatinine and bilirubin were significantly increased, while there were non-significant differences in levels of cholesterol, aspartate transaminase (AST), alkaline phosphatase (AP), urea and glucose. These results suggest that further studies should be conducted on various nutritional, biochemical, physiological, hormonal and immunological parameters to confirm the adverse impact of insecticide contaminated honey on animals and humans. Moreover, intensive studies are required on the types and levels of honey flavonoids and their impact against harmful action of the insecticides. Additional studies should also be conducted on different vegetables and fruits that could be contaminated with different insecticides and other contaminants.

26. Refaat B, El-Shemi AG, Ashshi AM (2015). *The effects of pegylated interferon-α and ribavirin on liver and serum concentrations of activin-A and follistatin in normal Wistar rat: a preliminary report*. **BMC Res Notes**; 8:265. doi: 10.1186/s13104-015-1253-2. (Non-ISI).

http://bmcresnotes.biomedcentral.com/articles/10.1186/s13104-015-1253-2

(***Laboratory Medicine Department***)

ABSTRACT

BACKGROUND: Activin-A and follistatin regulate the liver and the immune system. **AIMS:** To measure the effects of treatment with pegylated-interferon-α (Peg-IFN-α) and ribavirin on the concentrations of mature activin-A and follistatin in serum and liver tissue homogenates in rats. **METHODS:** A total of 28 male Wistar rats were divided equally into four groups as follow: 'Control group' (n = 7), 'PEG only group' consisted of those that only received a weekly injection of Peg-IFN-α (6 µg/rat) for 4 weeks, 'RBV only group' received ribavirin only (4 mg/rat/day) orally for 35 days and the last group received both Peg-IFN-α and ribavirin 'PEG & RBV group'. The concentrations of candidate proteins in serum and liver samples were measured using ELISA. **RESULTS**: Pegylated-interferon-α decreased activin-A and increased follistatin significantly in serum and liver of 'PEG only' and 'PEG & RBV' groups compared with the 'Control' and 'RBV only' groups ($P < 0.05$). There was no significant difference between the 'RBV only' and 'Control' groups ($P > 0.05$) in the concentrations of candidate proteins. A significant positive correlations between serum and liver activin-A ($r = 0.727$; $P = 0.02 \times 10(-3)$) and follistatin ($r = 0.540$; $P = 0.01$) was also detected.

CONCLUSION: Pegylated-interferon-α modulates the production of activin-A and follistatin by the liver, which is reflected and can be detected at the serum level. Further studies are needed to explore the role of Peg-IFN-α based therapy on the production of activins and follistatin by the liver and immune cells.

27. Refaat B, El-Shemi AG, Ashshi AM and Azhar E (2015). *Vitamin D and chronic hepatitis C: Effects on success rate and prevention of side effects associated with pegylated interferon-α and ribavirin.* **Int J Clin Exp Med**;8(7):10284-10303. (ISI; IF = 1.2).

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4565203/

(***Laboratory Medicine Department***)

ABSTRACT

Chronic hepatitis C (CHC) is one of the most common causes of liver diseases worldwide, affecting 3% of the world population and 3 to 4 million people acquire new infection annually. Despite the recent introduction of novel antiviral drugs for the treatment of CHC, these drugs are expensive and the access to them is not an option for many patients. Hence, the traditional therapy by pegylated interferon-α (Peg-IFN-α) and ribavirin may still have a role in the clinical management of CHC especially in developing countries. However, this standard therapy is associated with several severe extra-hepatic side effects and the most common adverse events are hematological abnormalities and thyroid disorders and they could result in dose reduction and/or termination of therapy. Vitamin D has been shown to be a key regulatory element of the immune system, and its serum concentrations correlate with the severity of liver damage and the development of liver fibrosis/cirrhosis. Furthermore, supplementation with vitamin D with Peg-IFN-α based therapy for the treatment of CHC could be beneficial in increase the response rate to Peg-INF-α based therapy. Vitamin D has also been shown to regulate the thyroid functions and the process of erythropoiesis. This review appraises the data to date researching the role of vitamin D during the treatment of CHC and the potential role of vitamin D in preventing/treating Peg-IFN-α induced thyroiditis and anemia during the course of treatment.

28. Refaat B, El-Shemi AG, Ashshi AM, Mohamadi AE and Al-Qadi NM (2015). *Pegylated interferon-α modulates liver concentrations of activin-A and its related proteins in normal Wistar rat*. **Mediators Inflamm**.; 2015:414207. doi: 10.1155/2015/414207. (ISI; IF = 3.23).

http://www.hindawi.com/journals/mi/2015/414207/

(***Laboratory Medicine Department***)

ABSTRACT

Aims. To measure the expression of activin βA-subunit, activin IIA and IIB receptors, Smad4, Smad7, and follistatin in the liver and the liver and serum concentrations of mature activin-A and follistatin in normal rat following treatment with pegylated interferon-α (Peg-INF-α) and ribavirin (RBV). **Materials and Methods.** 40 male Wistar rats were divided equally into 4 groups: "control," "Peg-only" receiving 4 injections of Peg-INF-α(6 μg/rat/week), "RBV-only" receiving ribavirin (4 mg/rat/day) orally, and "Peg & RBV" group receiving both drugs. The expression of candidate molecules in liver was measured by immunohistochemistry and quantitative PCR. The concentrations

of mature proteins in serum and liver homogenate samples were measured using ELISA. **Results.** Peg-INF-α ± RBV altered the expression of all candidate molecules in the liver at the gene and protein levels and decreased activin-A and increased follistatin in serum and liver homogenates compared with the other groups . There were also significant correlations between serum and liver activin-A and follistatin. **Conclusion.** Peg-INF-α modulates the hepatic production of activin-A and follistatin, which can be detected in serum. Further studies are needed to explore the role of Peg-INF-α on the production of activins and follistatin by the liver and immune cells.

29. Refaat B, El-Shemi AG, Kensara OA, Mohamed AM, Idris S, Ahmad J, Khojah A (2015). *Vitamin D3 enhances the tumouricidal effects of 5-Fluorouracil through multipathway mechanisms in azoxymethane rat model of colon cancer***. J Exp Clin Cancer Res**.; 34:71. doi: 10.1186/s13046-015-0187-9. (ISI; IF = 4.43).

http://jeccr.biomedcentral.com/articles/10.1186/s13046-015-0187-9

(***Laboratory Medicine & Clincal Nutrition Departments***)

ABSTRACT

Background: Vitamin D3 and its analogues have recently been shown to enhance the anti-tumour effects of 5- Fluorouracil (5-FU) both in vitro and in xenograft mouse model of colon cancer. This study measured the potential mechanism(s) by which vitamin D3 could synergise the tumouricidal activities of 5-FU in azoxymethane (AOM) rat model of colon cancer. **Methods:** Seventy-five male Wistar rats were divided equally into 5 groups: Control, AOM, AOM-treated by 5-FU (5-FU), AOM-treated by vitamin D3 (VitD3), and AOM-treated by 5-FU + vitamin D3 (5-FU/D). The study duration was 15 weeks. AOM was injected subcutaneously for 2 weeks (15 mg/kg/week). 5-FU was injected intraperitoneally in the 9th and 10th weeks post AOM (8 total injections were given: 12 mg/kg/day for 4 successive days, then 6 mg/kg every other day for another 4 doses) and oral vitamin D3 (500 IU/rat/day; 3 days/week) was given from week 7 post AOM till the last week of the study. The colons were collected following euthanasia for gross and histopathological examination. The expression of β-catenin, transforming growth factor-β1 (TGF-β1), TGF-β type 2 receptor (TGF-βR2), smad4, inducible nitric oxide synthase (iNOS), and heat shock protein-90 (HSP-90) proteins was measured by immunohistochemistry. In colonic tissue homogenates, quantitative RT-PCR was used to measure the mRNA expression of Wnt, β-catenin, Dickkopf-1 (DKK-1) and cyclooxygenase-2 (COX-2) genes, while ELISA was used to measure the concentrations of TGF-β1, HSP-90 and COX-2 proteins. **Results:** Monotherapy with 5-FU or vitamin D3 significantly decreased the number of grown tumours induced by AOM ($P < 0.05$); however, their combination resulted in more significant tumouricidal effects ($P < 0.05$) compared with monotherapy groups. Mechanistically, vitamin D3/5-FU co-therapy significantly decreased the expression of Wnt, β-catenin, iNOS, COX-2 and HSP-90 and significantly increased the expression of DKK-1, TGF-β1, TGF-βR2, smad4 ($P < 0.05$), in comparison with their corresponding monotherapy groups. **Conclusions**: Vitamin D3 and 5-FU synergise together and exhibit better anticancer effects by modulating Wnt/β-catenin pathway, TGF-β1 signals, iNOS, COX-2 and HSP-90. Further studies are required to illustrate the clinical value of vitamin D supplementation during the treatment of colon cancer with 5-FU in human patients.