



جامعة نجران
NAJRAN UNIVERSITY

وكالة الجامعة للدراسات
العلية والبحث العلمي
عمادة البحث العلمي

تقرير إنجازات

مركز البحوث

الصحية

١٤٣٦هـ - ١٤٣٨هـ



وكالة الجامعة للدراسات العليا والبحث العلمي

عمادة البحث العلمي

مركز البحوث الصحية

تقرير إنجازات

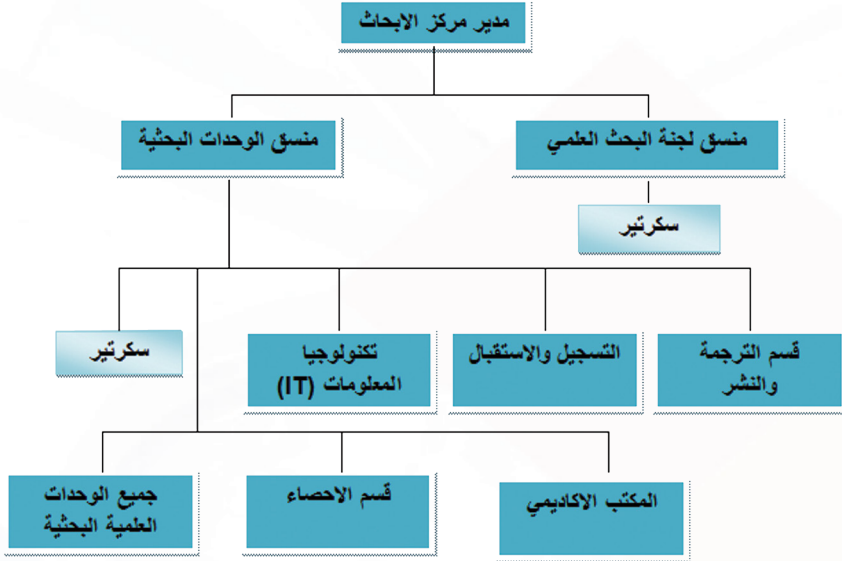
مركز البحوث الصحية

١٤٣٦هـ - ١٤٣٨هـ

مقدمة

انطلاقاً من أن البحث العلمي من ركائز الجامعة، ومؤشراً على تقدمها وتميزها، تسعى عمادة البحث العلمي في جامعة نجران من خلال المراكز البحثية إلى: تحقيق التميز البحثي في المجالات ذات الأهمية الوطنية بصفة عامة، والمجتمع المحلي بصفة خاصة، بإجراء البحوث في المجالات الاستراتيجية المختلفة للكليات التي تقع تحت مجال كل مركز؛ وتطوير العملية التعليمية بتوفير بيئة بحثية محفزة؛ وتنمية مهارات الابتكار والإبداع، والتوسع في الشراكات البحثية، من خلال توفير متطلبات ومستلزمات الباحثين حسب اختصاصاتهم للنهوض بمستوى أبحاثهم. وتعمل عمادة البحث العلمي على تشجيع الباحثين من أعضاء هيئة التدريس والطلاب (من الجنسين) على إجراء البحوث الأصيلة والمبتكرة التي تساهم في إثراء وخدمة المجتمع، وتعلن عن المشاريع البحثية السنوية وفق آلية موحدة، حيث تقوم المراكز المتخصصة بالإشراف عليها والتحكيم الأولي لها، دون تحديد عدد معين لكل مركز، وقبول جميع المشاريع البحثية المقترحة من أعضاء هيئة التدريس التي تؤدي إلى تطوير التخصص العلمي والمجتمع المحلي. كما تهتم المراكز البحثية بالخدمات المجتمعية بتقديم الاستشارات وإقامة الشراكات في مجالات كل مركز، وإثراء الوسط الجامعي من الناحية العلمية بتنفيذ مجموعة من الأنشطة التي تشمل إقامة وتنظيم المؤتمرات والندوات العلمية والدورات التدريبية (سواء الموجهة للطلاب أو أعضاء هيئة التدريس) بالتنسيق مع الكليات والأقسام المعنية، وتشجيع النشر العلمي والإشراف عليه، والتنسيق بين الباحثين من مختلف الكليات والتخصصات العلمية لإجراء بحوث مشتركة في المجالات المختلفة.

الهيكل التنظيمي للمركز



عن المركز:

إيماناً من الإدارة العليا بجامعة نجران لأهمية البحث العلمي عامةً، والبحوث الصحية بشكل خاص، فقد ناقش مجلس الجامعة في إحدى جلساته فكرة إنشاء مركز للبحوث الصحية، يعنى بإجراء المسح الصحي للأمراض المستوطنة في منطقة نجران. ثم وافق مجلس التعليم العالي في جلسته السادسة والخمسون بتاريخ ١٤٣٠/١٠/٢٢ هـ على إنشاء مركزين للبحوث، أحدهما مركز للبحوث الصحية، وتمت موافقة خدام الحرمين الشريفين، رئيس مجلس الوزراء، رئيس مجلس التعليم العالي على محضر الجلسة بتاريخ ١٤٣٠/١١/١٤ هـ

مجلس إدارة المركز

رئيساً	د. محمد سعيد زايد آل عايض
عضواً	د. أحمد ذاكر المغربي
عضواً	د. عبد الجبار هادي المراني
عضواً	أ.د. فؤاد حافظ شهيبي
عضواً	د. باسل عبد النعيم
عضواً	د. محمد خليل سعيد صالح

الرؤية:

أن يكون مركز الابحوث الصحية بجامعة نجران مرجعا محليا و دوليا في الابحاث العلمية والاجراءات المسحبية و تطوير البحث العلمي بالجامعة بما يساهم في خدمة اهالي منطقة نجران خاصة والمملكة العربية السعودية عامة.

الرسالة:

ان يساعد المركز بجمع البيانات الاولية واجراء المسوحات الميدانية وتتبع سيرة الامراض ومتابعة البلاغات التي ترد بشأنها من مديرية الشؤون الصحية بمنطقة نجران و دراستها بهدف ايجاد الطرق العلمية للوقاية منها و مكافحتها. كذلك ان يقوم المركز بتطبيق برامج بحثية مبتكرة في مختلف التخصصات لجميع الكليات الصحية بالجامعة.

تنفذ هذه المهام الطموحة بالتعاون بين جميع الكليات الصحية بالجامعة لتحقيق التميز الاكاديمي من خلال تقديم أفكار لتطوير طرق البحث العلمي التجريبي وامكانية استخدامها وتطبيقها علي المستوي المحلي والدولي.

أهداف المركز :

١. المساهمة في رصد الأمراض الوبائية، والمستوطنة في منطقة نجران، وإيجاد
٢. الحلول اللازمة للحد منها، وترسيخ مفهوم العلاج الوقائي لها.
٣. توفير قاعدة بيانات صحية تكون أساساً مرجعياً في مجال تجميع وتصنيف
البحوث والدراسات التطبيقية في كافة المجالات الصحية والعمل علي
الاستفادة من نتائجها التطبيقية في منطقة نجران خصوصاً والمملكة
العربية السعودية عموماً.
٤. تحقيق أحد أهداف الجامعة في تشجيع ودعم البحث العلمي.
٥. تشجيع وتطوير الباحثين من العاملين في المجال الصحي من الكوادر الوطنية
وغيرها على إجراء البحوث الصحية ذات القيمة العلمية العالية وتوفير
الإمكانات اللازمة للبحث العلمي الرصين.
٦. وضع الاطار العام للبحث العلمي في المجالات الصحية والدوائية في ضوء
الاهداف والاختصاصات المحددة وتحديد اولويات البحث العلمي في المجالات
الطبية والدوائية وقرار المشاريع البحثية المقدمة من الباحثين والخبراء
حسب اولويات البحث العلمي المعتمدة في هذا المجال.
٧. التعاون والتنسيق مع المراكز والمنظمات والهيئات الصحية المحلية والدولية،
المهتمة بشئون البحث العلمي، ومتابعة نشاطاتها، والاشتراك في مؤتمراتها
 واجتماعاتها وتبادل الخبرات والتعاون معها في تنفيذ البرامج البحثية في
الداخل والخارج.
٨. متابعة ما يستجد في مجال الأمراض المعدية والوبائية على المستويين المحلي
والدولي.

٩. المساهمة في نشر الوعي الصحي وتوعية المواطنين بالأمراض التي تهدد الصحة العامة من خلال وسائل الإعلام المقررة والمسموعة، بالتعاون والتنسيق مع المكاتب واللجان الفنية المتخصصة.
١٠. إجراء الدراسات والبحوث لتطوير وإنتاج اللقاحات، المصول، والادوية، والمساعدة على إمكانية تصنيعها محلياً.
١١. المساهمة في حماية المرضى والعاملين في الحقل الصحي من التعرض للجرعات الاشعاعية الزائدة من خلال إجراء مسوحات شاملة في منطقة نجران.
١٢. القيام بتطبيق البحوث علي ارض الواقع واستثمارها.

إنجازات المركز:

- تحكيم البحوث المدعومة والمقدمة من قبل أعضاء هيئة التدريس للكليات المنطوية تحت مظلة المركز بالجامعة، حيث يتم تشكيل لجنة متخصصة لفرز البحوث المقدمة من قبل الكليات المنطوية تحت مظلة المركز، لتقوم بفرز البحوث وتقييمها وتحكيمها، وتقديم توصية بعد ذلك بقبولها أو رفضها بناء على مجموعة من الأسس والمعايير، والرفع بهذه التوصيات لعمادة البحث العلمي. وقد بلغ عدد البحوث التي تم تحكيمها في المراحل البحثية الستة السابقة قرابة (١٨٠) بحث.
- بناء على الخطوة السابقة فقد ساهم المركز بتقديم بحوث نوعية تم نشرها في مجالات علمية محكمة، عربية، وأجنبية مصنفة، من قبل أعضاء هيئة التدريس في جميع الكليات المنطوية تحت مظلة المركز (كلية الطب، كلية العلوم الطبية التطبيقية، كلية طب الأسنان، كلية الصيدلية، كلية المجتمع).

ندوات مركز البحوث الصحية لعام ١٤٣٦/٢٥هـ - ١٤٣٧/٢٦هـ:

التاريخ	المنشط	المحاضر
١٤٣٦/١/١٨هـ	طرق وفنيات كتابة البحث العلمي	د. عادل وداد
١٤٣٦/٢/١٧هـ	نماذج وتحليل البيانات الإحصائية	د. عادل وداد
١٤٣٦/٥/١٢هـ	النشر الدولي للأبحاث الصحية	د. محمد فرج
١٤٣٦/٧/٢هـ	تحديد العينات في الأبحاث الصحية	د. عادل وداد
١٤٣٧/٤/٩هـ	المنهج العلمي لاختيار البحث الصحي	د. معاوية الشيخ
١٤٣٧/٤/٢٣هـ	تصميم نموذج الدراسة في الأبحاث الصحية	د. عادل وداد



ملخصات أبحاث المركز

معدل حدوث مرض التصلب المتعدد للإناث في مستشفى الملك خالد المكتشفة
بواسطة جهاز الرنين المغنطيسي بمنطقة نجران للعام 1437هـ
Maha Esmeal Ahmed Esmeal

Abstract:

Multiple sclerosis (MS) is part of a spectrum of idiopathic inflammatory demyelinating diseases (IIDDs) of the central nervous system that vary from each other by lesion size and number, pathology and clinical outcome, The study is funded by Najran university –dean ship of scientific research –seven phase funded research study it is the first incidence study done in Najran provience concern multiple sclerosis in Najran –king khlied hospital Diagnosis for 5 years latter (2011-2017)is achieved using consensus clinical and magnetic resonance imaging (MRI) criteria that document white matter disease disseminated in time and space .

The clinical manifestations, temporal course and pathology of MS are heterogeneous, in part because it results from complex interactions of multiple genetic and environmental factors. Researcher review recent advances in understanding the incidence rate of the disease in Najran base on the genetic and environmental epidemiology and the natural history of MS. The first incidence study in Najran provience at king kalied hospital -Najran university –Funded Research Project –Seven phase , Number of research project: NU/MID/15/003.The study achieved that multiple sclerosis is common in women rather than men have tendency for later disease onset with worse prognosis in the study researcher find that women who have MS in sample was 84.6% of the sample and men were 15.4% only of the sample so the

findings agree with literature review The study reveal that MS below 19 years was 38.5% of the sample have disability form ,100% all the study cases have relapsing remitting (RRMS)multiple sclerosis type so the study findings agree with literatre review 85% of MS cases were (RRMS). The first clinical study of MS in an Arab country was in 1958 and largely reflects the practice of a neurologist in Baghdad, Iraq. In summary, the aetiology of MS is environmental trigger(s). It is reasonable to conclude that MS is less common in Arabs than western countries, while acknowledging that rural and remote cases, especially mild, have not been captured for Arab populations. researcher recommended that another incidence study ,clinical manifestations will be done in near future in Najran provience.

<http://www.lifesciencesite.com>

التصوير الطبي وآثاره الفقهية - دراسة فقهية
Abdullah B. Al-Shomrani

ملخص البحث :

هذا البحث يتعلق بمسألة التصوير الطبي والآثار الفقهية والشرعية المترتبة عليه، وقد عرض البحث ذلك في مقدمة وثلاثة مباحث وخاتمة لأهم النتائج التي توصل إليها البحث. تم التعريف بالتصوير الطبي وبيان أهميته وأشهر أقسامه في المبحث الأول من البحث، وذلك من خلال مطلبين:

الأول: تعريف التصوير الطبي وأهميته. الثاني: أشهر أقسام التصوير الطبي ومجالات الاستفادة منه طبيًا، وفيه سبعة فروع: التنظير الداخلي، والتصوير الحراري، والتخطيط الدماغي الإلكتروني، والتصوير بالرنين المغناطيسي، والتصوير بالطب النووي، والتصوير بالموجات فوق الصوتية، والتصوير بالأشعة السينية (أشعة اكس).

الثاني: التكيف الفقهي والتطبيق القضائي للتصوير الطبي في المحاكم الشرعية السعودية. وقد اشتمل المبحث الثالث على بيان الآثار الفقهية المترتبة على التصوير الطبي، وفيه سبعة مطالب:

- 1- أثر التصوير الطبي على الصيام.
 - 2- أثر التصوير الطبي في التخفيف في العبادات.
 - 3- أثر التصوير الطبي في انقضاء العدد واستبراء الأرحام.
 - 4- أثر التصوير الطبي في تحديد جنس الخنثى المشكل.
 - 5- أثر التصوير الطبي في الميراث.
 - 6- أثر التصوير الطبي في إثبات الجنايات.
 - 7- حكم التصوير الطبي في إجراء التجارب والعمليات الطبية.
- وقد تمت دراسة هذه المسائل من خلال ما يلي:

- الربط بين العمل الطبي المتبع في التصوير الطبي والآثر الفقهي المترتب عليه.
- الاستدلال للأحكام الفقهية المترتبة على المسائل الطبية، والقياس على المسائل المنصوص عليها.

- مناقشة الأدلة المتعلقة بالمسائل الطبية، مع ذكر الخلاف المقارن.

- الترويج في المسائل التي لم يظهر الخلاف فيها متكافئاً.

الجمعية الفقهية السعودية

An Audit of Joint Hypodontia Clinic

Ahmed Mohammed Yahia Alassiry

Abstract:

Objective: To assess the type and demographics of patients referred onto the multidisciplinary hypodontia clinic at Queen Mary's Hospital, Sidcup. **Design and setting:** Retrospective audit carried out between December 2012 - 2013 of patients referred to the hypodontia clinic at Queen Mary's Hospital, Sidcup. **Gold Standard:** -100% of all patients with hypodontia are referred onto the hypodontia clinic for treatment planning prior to commencing orthodontic treatment. **Materials and Methods:** The clinical notes of 50 patients were assessed for patient demographics, number and type of missing teeth, skeletal and dental malocclusion, presence of any primary dental disease, and the treatment outcome. **Results:** The most prevalent teeth affected in this study group were lower 2nd premolars, followed by upper lateral incisors. 28% of the patients had a family history of hypodontia. The largest percentage of patients with hypodontia (42%) was treated using a combination of fixed appliances and resin bond bridges **Conclusion:** The audit confirmed that the most prevalent teeth affected by hypodontia were upper laterals and lower second premolars. The audit supports the evidence that hypodontia has a genetic cause.

Journal of Applied Dental and Medical Sciences

A Serological Survey on Cryptosporidiosis in Najran Region Southwestern Saudi Arabia with Reference to some Epidemiological Features of the Infection

Ismail Saad Ismail El Shahawey

Abstract:

Background: Cryptosporidium infection remains a major public health issue, but its epidemiology in humans is still unclear, particularly in Southwestern Saudi Arabia. Hence, this study was designed to determine the infection status of Cryptosporidium and the reservoir hosts in southwestern Saudi Arabia community and to recognize the associated risk factors, with evaluating the diagnostic performance of the techniques used. Methods: A total of 576 stool specimens and sera were screened for cryptosporidiosis using modified Ziehl-Neelsen technique and a newly developed enzyme-linked immunosorbent assay (ELISA) respectively, between September 2015 and December 2016. Results: Of the 576 samples assayed, 9.5 and 20.8% were positive for Cryptosporidium oocyst and anti-Cryptosporidium antibody, respectively. The seropositivity was positively correlated with age, especially in the age group less than 6 years old. Likewise, the prevalence of Cryptosporidium infections in males was significantly higher than in female counterparts ($P < 0.05$). The current study revealed that the maximum number of cases, 22.4%, was observed during the months of January to April, indicating marked significant seasonal variation. Sensitivity and specificity of newly developed ELISA technique when compared to acid-fast were 100% and 88.24%, respectively. Conclusions: This is the first study highlighting that Cryptosporidium infections are still an important public health problem in

Southwestern Saudi Arabia. Therefore, health education would be the best way to prevent the infections and the serological assays proved to be useful mean to provide more accurate information regarding community levels of Cryptosporidium infection.

International Journal of Advances in Medicine

Spectrophotometric Study for the Reaction of Pentoxifylline Hydrochloride with 1,2-Naphthoquinone-4-Sulphonate: Kinetics, Mechanism and Application for Development of High-Throughput Kinetic Microwell Assay for Pentoxifylline in Quality Control Laboratory

Saad Ahmed Alkahtani, Ashraf Mohamed Mahmoud Sayed

Abstract:

Spectrophotometric study was carried out, for the first time, to investigate the reaction between the vasodilator pentoxifylline hydrochloride (POX) and 1,2-naphthoquinone-4-sulphonate (NQS) reagent. The reaction occurs in alkaline medium to activate the nucleophilic substitution reaction producing an orange-colored product measured spectrophotometrically at λ_{\max} 472 nm. The variables affecting the reaction were carefully studied and the conditions were optimized. The kinetics of the reaction was investigated and its activation energy was found to be 0.262 cal/mol. Owing to its low activation energy, the reaction proceeded easily and was successfully used for simple and rapid assay of POX. The stoichiometry of the reaction was determined (1:1), and the reaction mechanism was suggested. To develop a high-throughput methodology used in quality control laboratory, a comparative study of the reaction using the conventional spectrophotometric versus microwell assay was applied. Under the optimum reaction conditions, the initial rate and fixed time methods were utilized for constructing the calibration graphs for determination of POX

concentrations. The linear range was 10 - 120 $\mu\text{g/ml}$ with good correlation coefficients (0.9987 - 0.9998). The LOD was 2.5 and 3.4 $\mu\text{g/ml}$ for initial rate and fixed time methods, respectively. The intra- and inter-day accuracy and precision of the developed methods were satisfactory, where RSD was $\leq 3.94\%$. The present methods have been successfully applied to the determination of POX in its pharmaceutical tablets, and the percentage recovery values were 97.9% - 101.9%. Therefore, we strongly recommend the proposed methods for determination of POX in quality control laboratories.

American Journal of Analytical Chemistry

Biochemical and Technological Studies on the Effect of Pomegranate Peel in Addition to Pan Bread and Its Effect on the Pollution of Cadmium Chloride in Mice

Asma Ahmed Easa Elgindy, Enath Samir Mohamed Alsarha

Abstract:

Pomegranate (*Punica granatum L.*) peels have achieved a great attention for its health benefits in the last years. pomegranate peel powder (PPP) as a good source of fiber ingredient and antioxidant bioactive compounds to produce value add bakery product based on pomegranate peel powder 2 %, 4%, and 6% and decreased of bad effect of CdCl₂ in rats fed on diet contained CdCl₂. Chemical composition, total phenols, total flavonoids and anti-oxidative activity (DPPH) of PPP and pan breads were Physical properties and staling of pomegranate peel powder fortified pan bread, sensory evaluation properties of pan breads were investigated. Pan bread fortified with PPP had higher score in overall acceptability and physical properties when compared to control pan bread and other various concentration (6%) of PPP. Thirty- twenty four male albino adult rats with an average weight (166 ±4 g) were divided into four groups 6 rats for each. The first group (G1) fed on basal diet as a (negative control group). The other mice (18 rat) were divided as follow : (G2) fed on Basal diet + 40 g ppp/kg diet, (G3) fedon Basal diet + CdCl₂ 0.05 mg CdCl₂ / kg diet, (G4) Basal diet + CdCl₂(0.05 mg CdCl₂kg diet) + ppp(40 g ppp/kg diet), body weight, gain %, epididymal adipose tissue (g) and

organs weight were recorded. Changes in plasma total protein (TP), albumin (A), globulin (G) A/G, ratio bilirubin, urea, plasma aspartate aminotransferase (AST) alanine aminotransferase (ALT) alkaline phosphatase (AIP) , TBARS and GSH, blood (Hb), total erythrocyte count (TEC) total leukocyte count (TLC) and hematocrit male rats as affected by different diets of male mice as affected by different diets. In conclusion,our results concluded that pomegranate peel powder fortified breads with high fiber and anti-oxidative activities is recommended to gain nutritional and healthy benefits to reduce the harmful effect of CdCl₂.Histological study revealed that more seen in liver in case of mice fed on diet contained cadmium chloride (group 3),. Also more extensive renal alterations were also seen in kidneys in case of feeding mice on diets of (group 3) also. The moderately affected liver and kidneys in the present study.

Advances in Environmental Biology

المكورات العنقودية السالبة والمسببة لعدوى المستشفيات في منطقة نجران

Ahmed Mohamed Morad Asaad, Muhammad Ansar. Qureshi

ملخص البحث :

يُعتبر التعرف على المكورات العنقودية الذهبية السالبة لأنزيم التخثر في عدوى مجرى الدم بالمستشفيات هام وضروري للأطباء وعلماء الكائنات الدقيقة. هدفت هذه الدراسة إلى تحديد معدل العدوى بهذه الميكروبات داخل مستشفى الملك خالد بنجران وفحص حساسيتها وأنماط مقاومتها للمضادات الحيوية المستخدمة وكذلك تحديد عوامل الخطر المرتبطة بهذه النوعية من عدوى المستشفيات. شملت الدراسة 208 معزولة من المكورات العنقودية الذهبية السالبة لأنزيم التخثر من عينات الدم للمرضى بالمستشفى وتم التعرف عليها باستخدام الطرق المعيارية والمقاييس الدولية وكانت 75 (32.2%) منها مرتبطة بعدوى حقيقية بينما 133 (67.8%) كانت مرتبطة بالتلوث. كان استخدام القسطرة الوريدية المركزية ، والتعرض للعديد من المضادات الحيوية ، والإقامة بالعناية المركزة هي أهم عوامل الخطر المرتبطة بعدوى المستشفيات. وأظهرت نتائج حساسية هذه الميكروبات معدلات مقاومة مرتفعة لغالبية المضادات الحيوية مثل البنسيلين والأوكساسيلين والإيرثروميسين والفانكوميسين مما يشكل صعوبة بالغة على الأطباء لعلاج المرضى. كما أوضحت الدراسة أن الدابتوميسين له تأثير قوي على هذه الميكروبات وقد يكون في المستقبل القريب بديل فعال في علاج عدوى الدم بالمكورات العنقودية الذهبية السالبة لأنزيم التخثر والمقاومة للعديد من المضادات الحيوية.

مجلة الأمراض المعدية

The Attitudes General Education Pre-Service Teachers Toward the Inclusion Program

Ragea Mohammed Ali Alqahtani

Abstract:

The purpose of this study was to examine the attitudes of general education pre-service teachers toward the inclusion program. This study has a great interest to different stakeholders, coordinators, and third parties. This study was conducted as a collective case study. It also relied on constructivism, combined with interpretivism, focused on identifying the main attitudes, perceptions, and beliefs of the general education pre-services teachers. The participants in the study were two students from a western state university; each from a different culture. There were two face-to-face interviews conducted with each participant. The interviews were audio-taped and then transcribed.

مجلة التربية الخاصة والتأهيل

Mohammed Helmy Faris Shalayel, Amar Babikir Elhusein Elhassan,

Ahmed Mohamed Morad Asaad, Muhammad Ansar. Qureshi

Abstract:

Various plant extracts have great potential against infectious agents and can be used for therapeutic purposes. This study was carried out to evaluate the antimicrobial activities of peppermint (*Mentha piperita*) extracts against 10 multidrug resistant (MDR) pathogenic bacterial clinical isolates. The antibacterial activities of ethanol, methanol, ethyl acetate and chloroform peppermint extracts were assessed using the standard minimal inhibitory concentration (MIC) and minimal bactericidal concentration (MBC) methods. Overall, the ethyl acetate extract of peppermint had strong growth inhibitory effects on the tested pathogens, followed by the chloroform, ethanol and methanol extracts. The inhibitory activity of the ethyl acetate extract against all Gram-negative pathogens was higher than that of chloroform (10–80 mg/ml), methanol (10– > 80 mg/ml) and ethanol (40– > 80 mg/ml). The lowest MIC value was seen for *Streptococcus pyogenes* (1.25 mg/ml for ethyl acetate extract), followed by methicillin-resistant *Staphylococcus epidermidis* (MRSE) and *Enterococcus faecalis* (2.5 mg/ml for ethyl acetate extract). The MBC values of all extracts were higher than the corresponding MIC values for the majority of pathogens. This study highlights the potential antibacterial activity for *M. piperita* extracts, especially the ethyl acetate extract, against MDR

S. pyogenes, *E. faecalis*, methicillin-resistant *Staphylococcus aureus* (MRSA), MRSE and carbapenem-resistant *E. coli*, and *Klebsiella pneumoniae* clinical isolates. Further in vitro and in vivo studies on a large number of clinical isolates of MRSA, *Acinetobacter baumannii* and *Stenotrophomonas maltophilia* are necessary to further investigate and standardize the inhibitory effect of peppermint extracts against these emerging pathogens.

Journal of Herbal Medicine

The Antimicrobial Potential of Miswak, *Salvadora Persica*, Extract Compared with the Commercial Mouthwashes against Oral Microbial Pathogens a Clinical and Laboratory Study

Mohammed Saeed Alayed, Abdujabbar Hadi Almarrani

Abstract:

Much effort has focused on examining the inhibitory effect of *Salvadora persica* (miswak) on oral microorganisms, but information concerning its antibacterial activity against other human pathogens, particularly multidrug resistant (MDR) isolates, is scarce. Therefore, this study aimed to assess the *in vitro* antibacterial activities of *Salvadora persica* L. extracts against 10 MDR bacterial clinical isolates other than oral pathogens. The antibacterial activity of aqueous and methanol miswak extracts was assessed using the agar dilution and minimum inhibitory concentration (MIC) methods. Overall, the 400mg/mL of miswak extract was the most effective on all strains. The methanol extract exhibited a stronger antibacterial activity against Gram-negative (3.3–13.6 mm) than Gram-positive (1.8–8.3 mm) bacteria. The lowest MIC value was seen for *E. coli* (0.39, 1.56 µg/mL), followed by *Streptococcus pyogenes* (1.56 µg/mL). The highest MIC value (6.25, 12.5 µg/mL) was recorded for (MRSA), *Acinetobacter baumannii*, and *Stenotrophomonas maltophilia*. This study demonstrates, for the first time, the moderate to strong antibacterial activity of miswak extracts against all tested MDR-pathogens. Methanol extract appears to be a

potent antimicrobial agent that could be considered as complementary and alternative medicine against resistant pathogens. Further studies on a large number of MDR organisms are necessary to investigate and standardize the inhibitory effect of miswak extracts against these emerging pathogens.

Evidence-Based Complementary and Alternative Medicine

Seroprevalence of Amebiasis in Najran Saudi Arabia

Mousa Mohamed Mohamed Bhnass, Ismail Saad Ismail El Shahawey

Abstract:

Amoebiasis is still one of major health problem and a common life-threatening parasitic disease affecting 12% of the world population. Therefore, the present study was undertaken to evaluate the seroepidemiology of amoebiasis in Najran City, Saudi Arabia. A total number of 455 blood samples from apparently healthy persons and surplus serum from different hospitals serology laboratory, over a one year period, from September 2014 to September 2015 were screened for the presence of Amoeba antibody in their blood serum using an indirect hem agglutination assay (IHA). Out of the 455 samples of sera tested, 158 (40.7%) were found to be positive with a titer ranging from 1:32 to 1:512. The young age groups had the highest significant positivity rates than the other groups ($P < 0.00001$) additionally, prevalence of infection was more prevalent in females (57.3%) than males (29.8%), and showed statistical significance ($P < 0.001$). Similarly, there was significant association between the presence of Amoeba antibodies and the nationality of residence, and the seasonal dynamics of infection ($P < 0.05$). The present study also noticed that stray cats are potential reservoirs of infections and should be considered important to public health. The present findings highlighted that Entamoeba histolytica parasite is prevalent in Najran area. The establishment of such data will be beneficial for the public health authorities in the planning and implementation of specific prevention and control strategies of this infection in Saudi Arabia.

Tropical Biomedicine

Role of Circulating Minerals levels in the Pathogenesis of Type 2 Diabetes Mellitus

**Walid Gaafar Hamid Babikr, Abdulaziz Saad Alturki Alshahrani,
Hassan Gumaa Mustafa Hamid, Ahmed Hassan Khear Abdelraheem**

Abstract:

Glycosylated hemoglobin (HbA1c) is a routinely used marker for long-term glycemic control. This study aimed to reveal the correlation of HbA1c with BMI and HDL-cholesterol in Type 2. This is an observational hospital based- case control study that was conducted in Najran University Hospital (Najran, Saudi Arabia). Patients' sera were used to measure the concentration of HbA1c and lipid profile. Significant differences between groups were assessed by one-way ANOVA and t- test. Pearson correlation was done and the r values were calculated at level of ($P < 0.05$) Significance. HDL-cholesterol was significantly lower in diabetic patients than in healthy non-diabetic control group. Pearson correlation coefficient of HbA1c in diabetic patients with BMI was statistically significant (in spite of being weak) at the 0.0001 level. Moreover, there was a statistically significant positive correlation between HbA1c and LDL-cholesterol $r = 0.271$, $p < 0.0001$, between BMI and LDL-cholesterol $r = 0.240$, $p < 0.0001$, and between BMI and TG $r = 0.196$, ($P < 0.001$). It was concluded that HbA1c can be used as a helpful prospective biomarker that sustains the ability of prognosticating serum lipid profile in diabetic patients. The strong negative correlation between BMI and HDL-cholesterol in

diabetic patients and the statistically significant positive correlation between BMI and LDL-cholesterol and between BMI and TAG make BMI to be an imposing predictor of dyslipidemia in type 2 diabetic patients.

Biomedical & Pharmacology Journal

Prevalence of Autoimmune Disorders among Type 1 Diabetic Saudi Children in Najran City

Elhashimi Eltayb Hassan Homada, Ehab Abdulaziz Mohamed Elagab, Ahmed Elbasheir Ahmed Abdelgadir, Hassan

Abstract:

Introduction: Associations of subclinical autoimmune thyroiditis with type 1DM were frequently studied, but their role on the glyce-mic state was not well investigated. Nevertheless, very little data are available from KSA, despite an increase in incidence of disease. **Aim of study:** This study aimed to investigate the prevalence of subclinical autoimmune thyroiditis in patients with type 1DM and to evaluate their effect on HbA1c level as glycemic marker. **Methods:** The study comprised 132 Saudi children with type 1 diabetes mellitus, and 72 matched healthy control in age and sex. Patients diagnosis based on WHO criteria. The study excluded patients with thyroid disease, renal disease, liver disease, and anemia. HbA1c was measured using chromatography technique. The sera were used to assay the TSH concentrations using ELC (Electro chemiluminescent) technology while GAD antibodies, TPO antibodies & TG antibodies were measured by ELISA (Enzyme-Linked Immunosorbent Assay) from abcam –UK. The data were analyzed by SPSS. **Result:** The study showed a higher distribution of anti-GAD, and thyroid autoantibodies (anti-TPO and anti-TG) among type1 DM patients 56.8%, 36.4% and 19.7% in contrast to lower distribution in controls 5.6%, 9.7% and 4.2% respective-

ly. Furthermore a group of patients whom had positive autoimmune thyroid antibodies associated with a significant raising of HbA1c in compare to other patients group with negative auto thyroid antibodies P value <0.001 On the other hand, about 9.8% of diabetic patient showed high-level TSH and only 1.4 % in healthy group. Nevertheless, it seemed to be insignificantly associated with HbA1C. Conclusion: This study reported that the distributions of auto thyroid antibodies among type 1 DM patients were high in Saudi children. Perhaps theses autoantibodies may have indirect effect on glycemc control; a subject for further study. Furthermore, according to our finding it recommends to do serial thyroid profile investigation including thyroid auto- antibodies for type 1DM as a subclinical thyroiditis are not very rare.

Biomedical and Pharmacology journal

Effect of Electromyographic Biofeedback Training on Pain and Quadriceps Muscle Strength and Functional Ability in Juvenile Rheumatoid Arthritis

Mohamed Ahmed Mahmoud Eid, Sobhy Mahmoud Abdelwahed Aly

Abstract:

Objective: To investigate the effects of electromyographic (EMG) biofeedback training on pain, quadriceps strength, and functional ability in juvenile rheumatoid arthritis (JRA). **Design:** This is a randomized controlled study; 36 children (11 boys and 25 girls) with polyarticular JRA, with ages ranging from 8 to 13 years, were selected and assigned randomly, using computer-generated random numbers, into 2 groups. The control group (n = 18) received the conventional physical therapy program, whereas the study group (n = 18) received the same program as the control group in addition to EMG biofeedback-guided isometric exercises for 3 days a week for 12 weeks. Pain, peak torque of quadriceps strength, and functional ability were evaluated before, after 6 weeks, and at the end of 12 weeks of the treatment program.

Results: By 6 weeks, significant differences were observed in the study group (P < 0.05) in all measured variables except pain levels, whereas nonsignificant differences were observed in all measured variables in the control group. By 12 weeks, each group demonstrated significant improvements in pain, quadriceps strength, and functional ability (P < 0.05), with significantly greater improvements seen in the

study group compared to the control group (P G 0.05). Both groups showed significant improvement at 12 weeks compared to that at 6 weeks. Conclusions: Electromyographic biofeedback may be a useful intervention modality to reduce pain, improve quadriceps strength, and functional performance in JRA.

American Journal of Physical Medicine and Rehabilitation

Effect of Isokinetic Training on Muscle Strength and Postural Balance in Children with Down syndrome

Mohamed Ahmed Mahmoud Eid

Abstract:

Children with Down syndrome (DS) often have greater postural sway and delay in motor development. Muscle weakness and hypotonia, particularly of the lower extremities are theorized to impair their overall physical health and ability to perform daily activities. Therefore, the purpose of this study was to investigate the effects of isokinetic training on muscle strength and postural balance in children with DS. Thirty one children with DS ranging from 9 to 12 years were assigned randomly into two groups. The control group received the conventional physical therapy, whereas the study group received the same as the control group in addition to the isokinetic training, 3 days a week for 12 weeks. Measurement of stability indices by using the Biodex Stability System as well as peak torque of knee flexors and extensors of both sides by using the isokinetic dynamometer was done before and after 12 weeks of the treatment program. Each group demonstrated significant improvements in postural balance and peak torque of knee flexors and extensors ($P < 0.05$), with significantly greater improvements seen in the study group compared to the control group ($P < 0.05$). These outcomes indicated that participation in the isokinetic training program induced greater improvements in muscle strength and postural balance in children with DS.

International Journal of Rehabilitation Research

Biological Effects of MRI Investigations at Different Magnetic Strengths –Study in Najran hospitals

Mwahib Sid Ahmed Mohammed Osman Aldosh

Abstract:

Objectives: This study was conducted in order to analyze biological effects emerging from different magnetic strengths using magnetic resonance imaging (MRI). And aimed to fill gap present in current MRI literature, linking the basic theory with clinical practice. **Material and Methods:** The present study, is descriptive and practice work to evaluate the biological effects of MRI examination and discuss the finding results with similar studies found in literature. The sample group consist of 60 healthy adult, diagnosed with different types and models of MRI systems with different power strengths commonly used 0.2T, 1.5T and 3T. Technique used is standard protocol for head scan .Others parameters including digital micro electronics devices to measure skin temperature and blood pressure. In addition to observations check list to record signs and symptoms which a beer during or after the MRI exam. Data were collected from the period of 2015 to 2016 and analyzed statically using statistically package for social sciences (SPSS) program. **Results:** The results achieved that, there is an elevation in skin temperature associate with strength field, but not significant that can produce ill effect $p= (0.03)$. And regarding biological changes in blood pressure, the data showed a slight increase demonstrated by higher field strengths and it increases by the increase in magnetic field however it's insignificant. $P= (0.01)$ Moreover most

symptoms are shown by high field magnets 3T. **Whereas the** data provides 40% abnormal observations. Conclusion: A recent study concluded that it was very difficult to prove the existence of significant biological effects. And the author thought that, the values obtained in this study are useful were it offer a detailed look at MRI technology, risks and patient safety and ended by recommended for using high filed strength, just according to the need to produce enough signal for an adequate imaging Key words: MRI, NMR, imaging ,Radiation effects, Safety, clinical Radiobiology.

SYLWA

مسح سيروولوجي لفيروس حمى الضنك في نجران

Abuelyazeed Abdelkader Abuelyazeed Elsheikh

ملخص البحث :

في هذه الدراسة، تمت دراسة انتشار فيروس حمى الضنك في منطقة نجران، في جنوب غرب المملكة العربية السعودية. وجمعت عينات المصل من مستشفى الملك خالد ومستشفى جامعة نجران. العينات تم اختبارها باختبار الاليزا للأجسام المضادة لفيروس حمى الضنك IgM و IgG. وأظهرت النتائج أن من أصل 990 العينات المجمعة، 371 عينة كانت إيجابية بنسبة 37.46% للأجسام المضادة IgG. وكان معدل الإصابة أعلى في الذكور أكثر من الإناث، ومعدلات الإصابة أعلى في الأعمار بين 20-30 سنة. لم توجد أي حالات إيجابية للأجسام المضادة IgM. واطهرت الدراسة الحالية لأول مرة فيروس حمى الضنك في منطقة نجران.

Wulfenia Journal

Dose Measurement using GafChromic Film for Patients Undergoing Interventional Cardiology Procedures

Mohammed Khalil Salih, Hamed A. Suliman,

Abstract:

The aim of this study was to evaluate dose area product (DAP) and skin dose to patients undergoing coronary angiography (CA) and percutaneous transluminal coronary angioplasty (PTCA) using Gaf-Chromic XR film at King Khalid Hospital,

The entrance skin doses (ESDs) were calculated from DAP using GafChromic XR film placed on the patients back. The mean DAP obtained for patients undergoing CA and PTCA examinations were found to be 31.4 and 74.2 Gy.cm² respectively. The mean ESD using GafChromic XR film was found to be 0.264 and 0.596 Gy for CA and PTCA examinations respectively.

Radiation Protection Dosimetry

Quality Control Effect on Determination of Gestational Age by Ultrasound

Mohammed Khalil Saeed Salih, Ahmad Saleem Salem Alzoubi

Abstract:

The aims of this study were to evaluate the ultrasound Quality Control (QC) testing in Najran, Saudi Arabia and to derive an accurate Gestational Age (GA) formula based on the errors of QC tests. Using Gammex RMI and CIRS phantoms for twenty four ultrasound systems in the five hospitals the results of penetration depth, distance accuracy, image uniformity, dead zone and axial resolution were reported in this study. On the other hand, a dataset of 35 pregnancies were studied to assess the accuracy of GA during the first and second-trimesters. Most QC results in all hospitals were found to be within the baseline levels and the best performance derived formula was found a combination of Biparietal Diameter (BPD), Femur Length (FL) and distance accuracy. Periodic QC evaluation should be carried out to motivate the optimization of accurate dating of pregnancy.

SM Journal of Biomedical Engineering

Some Epidemiological and Serological Studies on Schistosomiasis in Najran Area, Saudi Arabia

**Ismail Saad Ismail El Shahawey, Ahmed Shuaaeb Hassan,
Adail, Mokhtar Hbrahim, Abdel Hady Khalil,**

Abstract:

Schistosomiasis is a major cause of morbidity and mortality and has been estimated to infect over 200 million people. Diagnosis of schistosomiasis by detection of specific antibodies is likely to be more sensitive than the traditional method of diagnosis by detection of eggs in stool or urine. Therefore the present study was the first attempt to highlight the seroepidemiology of schistosomiasis among the general population of Najran City, southern of Saudi Arabia, as well as to achieve the performance of the diagnostic tests used. A total of 180 participants attending King Khaled hospital in Najran Province, Saudi Arabia, over a one year period, from September 2013 to September 2014 were screened for the presence of Schistosoma antibody in their blood serum using an indirect hemagglutination assay (IHA). Specific immunoglobulin (Ig) G antibody was evaluated using an enzyme-linked immunosorbent assay (ELISA). Out of the 180 samples of sera tested using IHA, 32 (20%) were found to be positive with a titer ranging from 1:160 to 1:1280, while 42(23.2%) revealed Schistosoma IgG. A positive relationship was found between the seroprevalence of schistosomiasis and age of tested participants, especially in the age group of 20-40 years old. Additionally, prevalence of infection

was more in males (36%) than females (7.5%), and showed statistical significance ($P < 0.001$). Similarly, there was significant association between the presence of *Schistosoma* antibodies and the nationality of residence, and education of participants ($P < 0.05$). The current investigation reveals an alarmingly high prevalence of schistosomiasis among participants in Najran, southern region of Saudi Arabia and this supports an urgent need to re-evaluate the current control measures and implement an integrated, targeted and effective schistosomiasis control measures

Helminthologia

Problems Facing Female Students During their Practical

Maha Esmeal Ahmed Esmeal, Rehabhussien Elkheir

Abstract:

Practical training is a key factor to enhance the efficiency and expertise of the work force. This study was descriptive analytic study, the purpose of this study was to find and describe if there is current problems facing Najran university radiology department- female students during their practical training or not. The research paper is accomplished on a basis of the problem facing training in the planning stage, implementation stage and the general problems faced by training institution. Questionnaire was used for the study with 12 research questions guided the study and simple random sample was used. A sample size of 43 students was selected from Najran university radiology department female students. The study revealed that Najran university radiology department is well equipped with the request practical skills for the job market and the campaign about the benefits of technical experience. 100% of the students agreed about the importance of the practical training , 98% of the students cleared that their practical experience help them in developing their abilities and 90% of the student agreed that they were able to apply critical thinking during practical and they have ability to collaborate effectively with colleagues for the benefit of the patient. According to that, currently there is no critical problems facing Najran university radiology department female students.

Pensee Journal

Risk Assessment of Using Aluminum Foil in Food Preparation

Hawa Mohamed Khalil Salem, Amal Fathy Abd El All Sleem,

Amira Mohammed Abdalla Bakry

Abstract:

In this investigation, leaching of aluminum from aluminum foil in different food samples (red meats and chicken) was studied. The effect of cooking treatments (temperature and time of cooking) on aluminum contents of food samples baked in aluminum foil was evaluated. Cooking increased the aluminum concentration in both samples under investigation. The highest increase was in chicken sample baked for 20 min at 250C°. It was also found that the acidic content of chicken sample in addition to the cooking process affected the migration of aluminum. Excessive consumption of aluminum from leaching aluminum foil has an extreme health risk effects. Aluminum foil may be used for packing but not for cooking.

Ultra Chemistry

Laser Versus Electromagnetic Field in Treatment of HaemarThrosis in Children with Hemophilia

Mohamed Ahmed Mahmoud Eid, Sobhy Mahmoud Abdelwahed Aly

Abstract:

This research presents a comparison between LASER and Electromagnetic field in treatment of hemarthrosis in children with hemophilia. The functional improvement was observed in the group that was treated by LASER when compared to Electromagnetic field as range of motion of the knee joint was increased, swelling was decreased and physical function was improved in LASER group. Conclusion: Both LASER and Electromagnetic field are effective modalities in reducing pain, swelling, increasing ROM and improving physical fitness. By 6 weeks laser therapy provides significant improvement than electromagnetic therapy in treatment of hemarthrosis related problems in children with hemophilia.

Lasers in Medical Science

**Epidemiological and Serological Studies of Leishmaniasis in
Najran region, Saudi Arabia**
**mokhtar hbrahim abdel hady Khalil, Medhat Ibrahim Abdallah,
Mousa Mohamed Mohamed Bhnass**

Abstract :

Leishmaniasis is a public health and veterinary hazard. Screening of serum samples of 384 human and 387 domestic animals were carried out by indirect hemagglutination assay (IHAT) to detect antibodies against *L. donovani* and to see the involvement of animal reservoirs in Najran region, Saudi Arabia. The overall prevalence of human Leishmaniasis infection in Najran area, Saudi Arabia was 8.3%. The prevalence rate of human Leishmaniasis was significantly higher in summer (21.9 %) and spring (8.3%) than in winter and autumn. In addition, the prevalence rate of human Leishmaniasis was significantly higher in old age (17.6%) and young period (7.3%). Out of 53 females and 331 males, 3 (5.7%) females and 29 (8.8%) males were found to be infected with human Leishmaniasis, respectively. The highest titer in human was 1/256 with percentage of 43.8%. Antibody against *L. donovani* in domestic animals was detected and the overall proportion of occurrence was 1.6%. The prevalence rate of Leishmaniasis infection was significantly higher in goats than in sheep, camel and horses. The highest titer (1/512) was in goats. The study was thrown light on infected African and Asian workers as source of Leishmaniasis infection. Also, this study suggests the possibility of varied species of domestic animals to harbor the parasite and hence play a central role in the transmission. Consequently, this may hurdle our clarification of disease epidemiology.

Journal of Biology and Life Science

Effect of Using Tablet Computer on Myoelectric Activity of Wrist and Neck Muscles in Children

**Sobhy Mahmoud Abdelwahed Aly, Mohamed Ahmed Mahmoud Eid,
Mostafa Soliman Mostafa Ali**

Abstract:

The purpose of this study was to investigate wrist and neck extensors muscle activity in children during tablet playing and to investigate playing effect on pain threshold in shoulder region. Thirty right-handed children (15 boys and 15 girls) with age ranged 5-7 years participated in this study. Electromyography data were collected from cervical erector spinae, upper trapezius, and right wrist extensors. Pressure pain threshold over trapezius muscles were measured. Data was collected during two gaming sessions, 10 and 20 minutes. Results revealed that muscle activity significantly increased with increasing playing duration for boys and girls. Pressure pain threshold was significantly decreased after playing in both playing duration, and significantly decreased with increasing playing duration for boys and girls. Tablet computer playing is associated with increased neck and wrist muscle activity and with decreased pain threshold. Playing duration is a critical factor in determining effects of playing.

International Journal of current research

Assessment of Trace Elements in Household and Bottled Drinking Water Samples Collected in Najran Region Saudi Arabia

Hussain A. Alattas, Mutaz A. Muhammed, Mohammed M. Haque

Abstract :

The concentrations of 16 trace elements (Ag, Al, As, B, Ba, Cd, Cr, Cu, Hg, Mn, Ni, Pb, Se, Ti, U, and Zn) in drinking water from Najran City, Saudi Arabia, were determined by inductively coupled plasma-mass spectrometry (ICP-MS) and compared with local, regional, and international guidelines. Water samples from 22 water treatment plants and 13 commercial bottled water brands were analyzed. Except for B and U, the trace element concentrations were below the permitted limits defined in SASO, GSO, and WHO drinking water quality guidelines. The B concentrations in three brands of bottled water were 533.19, 602.29, and 1471.96 $\mu\text{g/L}$, which were all higher than the GSO and SASO limit (500 $\mu\text{g/L}$). The U concentrations were higher than the SASO limits for drinking water in two samples; one in treatment plant (2.39 $\mu\text{g/L}$) and another in foreign bottled water (2.17 $\mu\text{g/L}$). The median As, Ba, Cu, Ni, U, and Zn concentrations were statistically significantly higher in the treatment plant water samples than those in the bottled water samples, and conversely, the B concentrations were higher in the bottled water samples. The Cd, Hg, and Ti concentrations were below the detection limits of ICP-MS in all of the water samples. Apart from few exceptions, trace element concentrations in drinking water of Najran City were all within limits permitted in the national, regional, and international drinking water quality guideline values.

Arabian Journal of Geosciences

تقرير إنجازات
مركز البحوث الصحية
١٤٣٦هـ - ١٤٣٨هـ