## Plenary 1

**الحيوان المنوي والبيئة: الضعف والتشوهات بسبب التعرض للمواد الكيماوية**

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خلال العقدين الماضيين لوحظت زيادة كبيرة في عدد الدراسات والبحوث العلمية على مستوى العالم التي ربطت ما بين الخصوبة والعقم وحوادث الإجهاض في الإنسان بالفوضى البيئية التي نعيشها هذه السنوات. فوجدت علاقة بين تشوهات وضعف الحيوانات المنوي وبعض المهن والوظائف والتي يكثر بها التعرض للمواد الكيماوية والمبيدات الحشرية وبتالي ازدياد حالات العقم والإجهاض. ستناقش هذه المحاضرة أهم أسباب من وراء حالات الضعف الحيوانات المنوية والخصوبة لدى الرجال من حيث النقاط التالية: تأثير المواد الكيميائية الشبيه للهرمون الأنثوي في الطبيعة على الجهاز الذكري. تأثير المبيدات الحشرية على الحيوان المنوي. تأثير الأسمدة العضوية والصناعية على الأجهزة التناسلية. تأثير الأصباغ والطلاء والمذيبات على الحيوان المنوي. تأثير تلوث الهواء بالأبخرة الصناعية على جودة الحيوانات المنوية. زيادة تشوهات الحيوانات المنوية مترافقة مع ازدياد حالات الإجهاض لدى النساء. تشوهات الحيوان المنوي في المدن الصناعية الكبرى. تأثير التعرض لبعض المعادن الثقيلة على الحيوان المنوي.

## Plenary 2

**دراسة مقارنة بين مواصفات مياه الشرب ونتائج بعض الدراسات والأبحاث المنجزة في ليبيا**

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تهدف هذه الدراسة الي عقد مقارنة بين نتائج بعض البحوث العلمية التي أجريت علي مياه الشرب في ليبيا وما يطبق من مواصفات قياسية علي مياه الشرب فيها وأن هذه البحوث كانت خاصة بتواجد أو بمدي تلوث المياه ببعض العناصر الثقيلة وخاصة عناصر الرصاص والكادميوم والزنك ، حيث نتتبع بعض هذه البحوث بداية من تسعينات القرن الماضي (1992 ) وحتي وتاريخ هذه الدراسة (2017) ، وقد أخد في الاعتبار عدة جوانب عند تجميع النتائج والمعلومات حيث أخد اول الجوانب وهو نوع مصدر المياه ( تحلية مياه البحر - تجميع مياه الأمطار - جوفية) اما الجانب الثاني فهو موقع البحث او المنطقة التي أجري فيها البحث من البلاد (شرقاً – غرباً – الوسط – الجنوب) ، اما الجانب الاخير فهو قرب الموقع من مناطق الكثافة السكانية ومواقع التلوث ، وقد أظهرت النتائج والمعلومات ان عنصري الرصاص والكادميوم سجلت النتائج فيهما لمياه التحلية من البحر (مناطق الشمال) كمتوسطات (0.825 و 0.061 جزء في المليون ) علي التوالي ، كم سجلت النتائج لنفس العناصر المذكورة في السابق مضاف اليها الزنك لمياه تجميع مياه الأمطار (للمناطق الغربية) كمتوسطات (0.689 و 0.034 و 0.55 جزء في المليون) علي التوالي ، وقد أظهرت النتائج ايضاً لنفس العناصر الثالثة السابقة الذكر للمياه الجوفية وهي (لمناطق الغرب والوسط) كمتوسطات (0.023 و 0.03 و 0.01 جزء في المليون) علي التوالي ، ومن خلال النتائج السابقة نلاحظ التلوث في اغلب أنواع المياه وخاصة بعنصري الرصاص والكادميوم ولجميع أنواع المياه وانعدام التلوث بعنصر الزنك ولجميع أنواع المياه ايضاً ، وقد اعتمدت هذه المقارنة علي ثلاثة مواصفات وهي المواصفات الليبية (1992 و 2008 ) وهي تنص للثلاثة العناصر المذكورة سابقاً (0.05 و 0.005 و 5 جزء في المليون ) علي التوالي ، ومواصفات منظمة الصحة العالمية) 1989 (WHO) (وهي تنص ولنفس العناصر الثالثة السابقة الذكر (0.05 و 0.005 و 5 جزء في المليون) علي التوالي ، اما المواصفات الاخيرة فهي لوكالة حماية البيئة الأمريكية ( 1973) (EPA)ولعنصري الرصاص والكادميوم فقط ( 0.05 و 0.01 جزء في المليون ) علي التوالي ، كما نضيف هنا ان موقع الدراسة وقربها من المناطق السكانية او المناطق الصناعية كان له دور كبير في تلوث المياه بعنصري الرصاص والكادميوم.

## S01

## Screening For Analgesic and Anti-Inflammatory Effect of Antioxidants by Applying Formalin Test Using Albino Mice

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Oxidative stress is an important mediator of cell structure damage. The body forms ROS endogenously when it converts food to energy. Reactive oxygen species contribute to the development of exaggerated pain hypersensitivity during persistent pain. Antioxidants, such as vitamin C, vitamin E and selenium, protect cells from the damaging effect of ROS. The aim of this work is to evaluate analgesic and anti-inflammatory effects of antioxidants, applying formalin test and using albino mice. This model constitutes two distinct phases: the first phase represents the irritating effect of formalin at the sensorial fiber-C, while the second phase is inflammatory pain response. Results show that vitamin C, vitamin E and selenium have analgesic effect for neuropathic pain. Vitamin E and selenium produce anti-inflammatory effect.

## SO2

## Sustained Release of Amoxicillin Trihydrate for Oral Drug Delivery System

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Biodegradable macro-particles may develop improved drug delivery system to gastrointestinal tract, for treatment of Helicobacter pylori, included peptic ulcers. Amoxicillin trihydrate macrocapsules have the ability to produce thus effect for extended period, were prepared with beeswax as matrix using solvent evaporation techniques, to produce there different 25% & 50% coating macrocapsules. Macro particles were examined by optical microscopy and showed spherical shape, the size of particles was determined by using sieve technique and the average size found 350 mm for all batches. IR study was carried out to check the compatibility between the selected polymer Bees wax and Amoxicillin Trihydrate. This study was performed to assure that there is complete physical entrapment of the drug into the polymer without any mutual interaction. Initial in vitro experiments were under taken to examine the degradation rate in phosphate buffer at 37°C, PH 5.2, the process was followed up to 8 hours by which 34% & 75% of particles mass had eroded for 25% & 50% coating macro capsules respectively. However the release of amoxicillin trihydrate occurred gradually sustained release 88% & 47% up to eight hours for 25% & 50% coating batches respectively compared to the control of amoxicillin which completely released from the first hour. The macro-particles and control were subjected to microbiological test, the Amoxicillin trihydrate and the formulations were effective against non-pathogenic bacterial strains of Staphylococcus aureus and E.coli but not effective to more resistance bacteria such as P. aeruginosa microbiological test.



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## SO3

## In Vitro Anti-MRSA and Antioxidants Activities of Different Aerial Part Extracts of Cakile Maritima

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The increased prevalence of antibiotic resistance, as a result of extensive antibiotic use, may render the current antimicrobial agents insufficient to control, at least, some bacterial infections. The aerial part of Cakile Maritima was extracted with Soxhlet apparatus using Petroleum ether, DCM and Methanol respectively for 24 hours. The solvents were evaporated under reduced pressure. To evaluate antimicrobial activity, the agar diffusion assay was used against a Gram-positive bacteria (Staphylococcus aureus), three Gram-negative bacteria (Escherichia coli, Pseudomonas aeruginos and, Klebsella) and MRSA bacteria. The methanolic extract of Cakile maritima with different concentrations is demonstrated an antimicrobial activity against some pathogenic bacteria (E.coli, S.aureuse, P. auerginosa, MRSA). While the petroleum ether & dichloromethane extracts have good effect on some species (Klebsella, S. aureuse). The antioxidant activity of the extracts were tested utilizing DPPH as the radical reagent and ascorbic acid as reference. The methanolic extract showed effective free radical scavening. The major chemical constituents reported from the plant parts are flavoniods, triterpenoids and Phenolic compounds which show that this plant part can be a potential candidate to be used as a therapeutic agent.

## SO4

## Recent thymic emigrants: A new method for thymus function evaluation

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Haematopoietic stem cell transplantation (HSCT) is followed by profound immunodeficiency. Thymic function is necessary for de novo generation of T cells after HSCT. Circulating CD4+ CD31+ CD62L + CD45RA+ (or CD45RO-) represent the naive cells that emigrate recently from the thymus (RTEs) and could be used for the measurement of the thymus output after HSCT and thereby to determine the factors which influence the thymus function and the general clinical state of the patient after HSCT. We carried out a prospective analysis of naive T cell reconstitution in 26 HSCT recipients before and during the first six months post transplantation. We analysed the recent thymic emigrants (RTEs) and thereby monitored thymic output and evaluated the thymus function using a new and easy method in comparing to the previous used methods. We found that the thymic-dependent pathway for the T cells reconstitution was activated from the second month in the majority of patients with increasing the numbers of naive T cells. We also compared the RTEs values between the patients with and without adenovirus reactivation, and we found that the patients with adenovirus reactivation had higher numbers of naive T cells on the six month post HSCT. Clinically significant adenovirus infection (positive –PCR) was associated with high RTEs/ ml values at sixth month (p=.047).

## SO5

## Awareness of vitamin D deficiency among Tripoli University students

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Vitamin D deficiency considered to be the most popular, widespread problem and undiagnosed medical conditions around the world. It appears to be related to many of health consequences. This study is conducted to assess level of knowledge, their behavior and attitudes toward the main sources of vitamin D and create good awareness about vitamin D deficiency among Tripoli university students. By using of questionnaire, this cross-sectional survey carried between May and June of 2016 among 277 students of Tripoli University, which the participants were of undergraduate students, of different ages, classes and faculties, then the collected data are statistically analyzed using Statistical Package of Social Science (SPSS) 16.0 software. 277 students (64% Female and 36% Male). The majority have good knowledge about vitamin D, it appears that the education was commonest source of knowledge, most of them (87%) are taking vitamin D rich foods, about (28%) did not expose their bodies to the sun, while most of the others exposed to the sun in period less than 15 minutes, additionally only 17% tested 25(OH) D level in their body, 25% have a family member suffering from vitamin D deficiency. The results of this study show students level regarding the knowledge and attitude toward main sources of vitamin D, nevertheless and based on results of laboratories data, we still require more awareness about this problem.

## SO6

## The Effects of Palm Oil Derived Tocotrienol Rich Fraction (TRF) on the Expression of Genes and Proteins Regulated by Nrf2 in Mice Livers

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Palm oil is a natural source of tocotrienol and has been extensively used in Asian countries as a health supplement. Previous in vitro and in vivo studies have demonstrated that tocotrienol supplementation increases gene expression and activities of several cytoprotective enzymes involved in antioxidant defense and phase II metabolism. As these antioxidant genes are known to be controlled by the redox sensitive transcription factor, Nrf2, we investigated the hypothesis that administration of tocotrienol rich fraction extracted from palm oil would cause an activation of Nrf2 in male ICR mice livers, which could subsequently induce the expression of various cytoprotective and phase II genes. The expression levels of several antioxidant genes and proteins treated with various doses of palm tocotrienol for 14 days were determined by real-time PCR and Western blot assays. Our results demonstrated that palm tocotrienol can initiate nuclear translocation of Nrf2 in vivo within 30 minutes, reaches a maximum level around 1 hour, and largely dropped to reach about half of its maximum levels by 24 hours after inducer treatment. The increased nuclear Nrf2 translocation was found to be associated with the induction of several enzymes regulated by Nrf2 such as; NAD(P)H: quinone oxidoreductase 1 (NQO1), superoxide dismutase3 (SOD3), heme oxygenase-1 (HO-1),

catalase (CAT), glutathione peroxidase-1 (GPx-1), and several isomers of glutathione-S-transferases (Gsta1, Gsta3, Gstm1, Gstm3, and Gstp). We did not find any proof of NFκB nuclear translocation in all our samples, further confirming that the results obtained were due to Nrf2 and not NFκB. In conclusion, the results of our study suggests that besides the immediate antioxidant activities mediated by tocotrienols, another mechanism of protection offered by tocotrienols is mediated through the induction and activation of several cytoprotective and phase II enzyme responses via the transcriptional factor Nrf2.

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## SO7

## Seroprevalence and risk factors associated with Helicobacter pylori infection among Asymptomatic Population

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Helicobacter pylori infection has emerged as one of the most common chronic bacterial infections worldwide, particularly in the developing countries. The serological testing is generally accepted as a valid non- invasive method for detection of H. pylori infection. The aim of this study was to evaluate H. pylori seroprevalence; to determine the relevant risk factors among two healthy individuals groups of university students and pregnant women who is resident in Khsir Khiar city; to stratify them by age, sex and residence to apply the appropriate management strategy using serology testing. A blood sample was collected from two different groups, one of (76) randomly selected asymptomatic volunteers of faculty of Arts & Science students (F= 32 , M= 44) (mean age 21years), another group of (50) pregnant outpatients subjects (mean age 29 years), who attending Khsir Khiar Health centre care for routine monthly check -up. Sera were tested for anti-H- pylori IgG using commercial enzyme immunoassay (Bio Check-USA) kits, and questionnaires covering Sociodemographic variables were completed by interview. In asymptomatic volunteers seroprevalence of H. pylori was 45%, there was a gradual increase with age, no statistical difference between genders, also there was 33% with a family history of H. pylori infection. However, in the pregnant outpatients group, H.pylori IgG was 54% and, high IgG frequency observed among pregnant women of 30-35 old years. Also anti-H.pylori IgG was 40%, 63 % in the university students and pregnant women respectively who their blood of (O) group. These findings show a high prevalence of H. pylori infection in the two groups of the pregnant women and the apparently healthy students, which might be related to the family crowding and poorer hygienic condition. This study has highlighted the high prevalence of H. pylori infection and associated risk factors such as, source of water, and (O) blood group in a healthy population, particularly in young adults with rural residency in western Libya. However, larger studies should be conducted to confirm the study findings.

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## SO8

## Antidepressant activity of Salvia fruticosa leaf ethanol extract in a mouse model

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Salvia fruticosa Mill. (S. fruticosa) is widely used in folk medicine for the treatment of several medical disorders. Accordingly, the aim of the present study was to evaluate the possible antidepressant-like effect of S. fruticosa leaf ethanol extract in mice. Forced swimming test (FST) and tail suspension test (TST), two models predictive of antidepressant activities, were used to investigate the antidepressant effect. The extract was administered i.p. at doses of 125 and 250 mg/kg body weight and the effect was compared with reference drug, fluoxetine. In FST, injection of S. fruticosa leaf ethanol extract significantly decreased the immobility time by 52% and 72% respectively ($P<0.001$) compared to control group. It also significantly increased mice swimming time, produce no changes in the number of climbing trials and no alteration in the locomotor activity of mice in the open field test. In TST, S. fruticosa leaf ethanol extract significantly reduced the immobility time, the efficacy was found to be comparable to that of fluoxetine. Furthermore, injection of cyproheptadine (3 mg/kg, i.p.), a 5-HT receptor antagonist, significantly attenuated the antidepressant like effect of S. fruticosa leaf ethanol extract in TST. These findings indicate that S. fruticosa possesses a specific antidepressant activity in mice. It also suggests the involvement of the serotonergic system in the antidepressant like effect of S. fruticosa.

## S09

## Development of an LC-MS method for the determination and identification of sulfonamide residues in propolis

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Propolis is a substance collected by bees from the leaf buds of several different kinds of trees. That propolis has attracted the interest of many researchers is due to its many interesting pharmacological and biological activities. The extensive use of some antibiotics for treating American and European foulbrood disease by beekeepers has been reported as a factor responsible for bee product contamination. In the last few years some publications have highlighted the risk of the occurrence of some antibiotics including sulfonamides in bee products. A LC-MS method was developed in order quantify any contamination by five sulfonamides including sulfamethazine SMZ, sulfathiazole STZ, sulfadioxine SDX, sulfadimethoxine SDMX, and sulfamethoxazole SMXZ in propolis samples. The method showed satisfactory results based on the calibration data where the R2 was > 0.9802 for all the sulfonamides and LOD and LOQ was within the range 24.26µg/g to 31.89µg/g and 34.00µg/g to 49.63µg/g for analysis by tandem ms using a TSQ 7000 instrument .In contrast use of an LTQ Orpitrap instrument gave lower limits of 0.79µg/g to 4.39 µg/g and 2.49µg/g to 7.02 µg/g as for the LOD and LOQ respectively. The methods showed no sign of sulfonamide residues in any of the propolis samples examined above the LOD.

## S10

### Effects of exposure flour grain dust on the lung function in mill workers

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Ventilatory capacities of 37 Libyan men working in the flour grain industry worked for at least 8-10 hours a day for 6 days a week, without using any self-protective measures, and 37age-matched Libyan men unexposed to flour grain dust were determined. The mean values of forced vital capacity (FVE), forced expiratory volume in first second (FVE1) and peak flow expiratory rate (PEFR) for men unexposed to flour grain dust were (4.36 ± 0.68), (3.97 ± 0.62), and (11.46 ± 1.73) Liters respectively. The respective values for men exposed to flour grain dust were (3.40 ± 0.61), (3.18 ± 0.59) and (8.93 ± 2.33) liters respectively. The values obtained show a highly statistically significant decrease in the pulmonary function test (FVC), (FVE1) and (PEFR) of the men exposed to flour grain dust as compared with unexposed counterparts suggesting that exposure to flour grain dust inhalation causes impairment in all lung function of all exposed workers.

## S11

### Microbiological quality and detection of the genes Stx1and Stx2 in fresh sausage Marketed in Tripoli, Libya

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In this study, samples of fresh sausage (n=100) were collected randomly from meat shops in four different areas of Tripoli (Alhoot market, Aldhra market, Grgarsh and Alsyahia). All samples were analyzed for the presence of the following: the total aerobic plate count, Coliforms, Escherichia coli and E .coli 0157:H7. The mean of total plate count for fresh sausage (Almargaz) was 2.5 x 108 CFU/g, with a range from 7 x 104 to7.5 x 109CFU/g, with no significant differences at level (P< 0.05) between the regions of study. The means of the most probable number of Coliforms was 1.4x103 Cell/gram (g), ranging from 1.6 x 102 to 2.4 x 103Cell/g, indicating a significant difference at level (P< 0.01). The percentage of Escherichia coli contaminated sausage samples were 81%, with no significant differences in level (P< 0.01) between the regions of the study. The percentage of E .coli 0157:H7 was contaminated sausage samples 48% with no significant differences at level (P< 0.05 ). The percentages of Stx1 gene in E. coli0157:H7 were 37.5% in the Aldhra Market, 25% in Hoot market and Grgarsh while were12.5% in Alsyahia. On the other hand the high percentages of Stx2% were detected 27.5% in both Alsyahia and Grgarsh, 24.2% in Aldhra Market while was 20.6% in the Alhoot market.

## S12

### Study of Risk factors for Toxoplasma Gondii infection in Tripoli

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Toxoplasmosis is caused by *Toxoplasma Gondii* is an obligate intracellular parasite which infects both humans and animals as

a zoonotic pathogen wide spread in nature. This study was aimed at comparing the prevalence of toxoplasmosis in human at random population and hemodialysis patients in Tripoli, and identifying risk factors that affect infection rate in different areas from Tripoli by using questionnaire. Serum samples of 2,158 were collected from human population, out of it 47 serum samples from hemodialysis patients during the period from February 2016 to November 2016, were examined for the presence of antibodies of *Toxoplasma Gondii* (Immunoglobulin G ) by immunoassay system. The seroprevalence in hemodialysis patients of toxoplasmosis was (51.1%). Age, study level, occupation, blood transfusion, marital status, problems during pregnancy, congenital disorder, and hemodialysis disease were statistically significantly associated with infection rates. The gender, contact with cats and dogs, source of drinking water and barbecue eating were not associated with infection. To conclude, with the publication of health education and disease definition will be recorded infection reduced, hemodialysis patients who are susceptible to Toxoplasma infection. Therefore, patients undergoing hemodialysis should be screened for Toxoplasma.

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## S13

## Detection of E280K mutation and its association with the VNTR in PKU Libyan

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Phenylketonuria (PKU) is an autosomal recessive inborn error of phenylalanine (Phe) metabolism resulting from deficiency of phenylalanine hydroxylase (PAH). Most forms of PKU and hyperphenylalaninaemia (HPA) are caused by mutations in the PAH gene on chromosome 12q23.2. Untreated PKU is associated with an abnormal phenotype which includes growth failure, poor skin pigmentation, microcephaly, seizures, global developmental delay and severe intellectual impairment. Previous studies showed that the most common mutations in the PAH gene in the Libyan population were E280K in the exon 7 and 10del5510 in the exon 10. In the present study, DNA were extracted from whole blood for twenty cases from two different Libyan families those have one or more children suffering from PKU, and these study samples were studied by real-time PCR for the distribution of E280K mutation in the PAH gene and found that 15% of them was mutant, 55% was carriers and the rest 30% was wild type cases. The present study also clarify that there is a correlation between E280K mutation and VNTR in the PAH gene. DNA fragments with 364bp which is correspond to 3 repeats was correlated to the mutant alleles (E280K\E280K), DNA fragments with 514 bp length which is correspond to 8 repeats was correlated to wild type while, the carriers (E280K) have the two 3 and 8 repeats.

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## S14

## Zoonotic Importance and Prevalence of Toxocara spp among Pets in Tripoli, Libya

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The pets are increasingly considered a member of the family, physical contact is very common and a diverse range zoonotic infections, including parasitic, bacterial, fungal and viral diseases are capable of being transmitted from dogs and cats to humans by direct contact with them. Studies on dog and cats endoparasites in Tripoli, Libya are limited and very little information is available about the prevalence and risk factors associated with parasites occurrence. This information is important in evaluating and recommending parasite control measures in companion animals health and welfare programmes. Hence this cross-sectional study was conducted to determine the prevalence of *Toxocara spp* in faecal samples of pets. Study was carried out in the period from 4th of October 2009 to 18th of April 2011, 73 dogs and 51 cats from different localities in Tripoli area, were investigated. The animals were examined during their visits to private and governmental veterinary clinics for routine procedures such as check-up or vaccination. All animals were subjected to clinical examination and their general condition were evaluated. A structured questionnaire was designed to gather information on pet ownership, management and related risks. The faecal samples were collected from all investigated pets, then processed and examined. The prevalence of *Toxocara canis* was 15% in dogs, meanwhile 3.9% of the cats were infected with *Toxocara cati*. Moreover the prevalence in dogs subjected to a deworming regimen was 15.6%. Whereas the prevalence in cats subjected to a deworming regimen was 19.4%. Considering the zoonotic potential of the estimated parasite species, the results are very important for public health. The priorities of preventive strategies include the awareness of society and in particular pet owners consisting of avoid contamination of the environment with *Toxocara spp* eggs is recommended, and also the close collaboration between the veterinary and human health services. Other studies are required to assess the efficacy of applied antiparasitic drugs, as well as to the indiscriminate use of broad spectrum anthelmintics must be challenged before serious parasite resistance in dogs and cats becomes common place.

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## S15
## The prevalence of verocytotoxin-producing Escherichia coli O157 (VTEC) in dairy cattle in Tripoli area, Libya

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Infection with verocytotoxin producing *Escherichia coli* O157 in humans can lead to mild or bloody diarrhea with the hemolytic uremic syndrome (HUS) as possible complication. Cattle appear to be important reservoir for VTEC O157. Epidemiologic studies on the prevalence of VTEC O157 in dairy cattle in Libya have never been conducted. This information is important to develop a quantitative risk assessment model for the consumption of dairy products and meat. Hence the main objectives described in this work are to investigate the prevalence and the risk factors associated with VTEC O157 on dairy farms in Tripoli region. Fecal samples from 200 apparently healthy cows were collected once from 15 randomly selected dairy farms in the period July through September 2010. All fecal samples were examined for VTECO157 by conventional plating using Sorbitol-MacConkey agar (SMAC). Isolated of E. coli were subjected to latex agglutination test. A structured questionnaire was used to collect epidemiologic information on the animals and farms. The results pointed out that, prevalence within-herd

(individual) and among herds were 9% and 60% respectively. The prevalence of VTEC O157 in fecal samples of dairy cattle was significantly associated with husbandry practices on farm-level such as signs of diarrhea (p=0.02, OR=3.2) and sharing water trough (*p*=0.03, OR=3.0). When aiming at reducing risks for human by intervention at farm-level, it is of importance to reduce the number of positive animals and farms. For this, more research is needed to devise mitigation strategies that will reduce the on-farm contamination of VTEC O157.

## S16
## Characterization and determination of probiotic properties of Lactic Acid

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Probiotics mean live microorganisms that have beneficial effects on their host's health. Although probiotic strains can be isolated from many sources; for human applications the main criteria is being human origin. Breast milk is an important nutrient source for neonates. Lots of studies showed that this fluid has beneficial effects on the health of neonates. One reason of being beneficial is explaining by the micro-flora of human breast milk including beneficial lactic acid bacteria. In this study, isolates were identified by biochemical and molecular characterization and also probiotic properties of lactic acid bacteria, isolated from various milk sources were investigated. Four of the isolates were observed as potential probiotic. Two of them are bacilli and the other is cocci. These isolates showed resistance to stomach pH (pH 3,0), tolerance against 0,3% bile concentration and antimicrobial activity against Salmonella thyphimurium CCM 5445, Escherichia coli O157:H7 NCTC 129000 and Escherichia coli NRRL B-3008. After investigation the probiotic properties of these isolates, they were identified by biochemical characterization techniques and molecular identification by using amplification and restriction fragment length polymorphism (RFLP) of 16S ribosomal DNA (rDNA) and 16S sequencing. Two lactobacilli were identified as Lactobacillus oris and Lactobacillus fermentum. In the light of this study, it is observed that, human milk is a source of potential contamination of VTEC O157.

## S17
## Olive Oil Nanoemulsion Formulation and Evaluation

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Nanoemulsion is one of the growing technologies especially in food, cosmetic and pharmaceutical industries as a novel delivery system for drugs and lipophilic materials such as essential oils, flavours, colours, fatty acids etc. The technological application of nanoemulsions have increasing used in various applications due to their characteristic properties of small droplet size (in the range 20-200 nm) with high interfacial area, transparent or translucent appearance, high solubilization capacity, low viscosity, and high kinetic stability due to sedimentation, flocculation, and in some cases, the coalescence (Eid et al., 2014). The purpose of this study is to formulate and evaluate nanoemulsion containing extra virgin olive oil (EVOO), surfactants (Tween 20 and Span 80) and distilled water incorporated with hydrogel (Carbopol) to form EVOO nanoemulgel. The current research focuses in three key areas, creating droplets in emulsions by emulsifiers, which are surface active molecules that rapidly adsorb to the surface of the oil droplets created during homogenization (Qian et al., 2010). The following areas involves in formulating a proper

non-ionic surfactants are generally recognized as being safe and biocompatible, and are not affected by pH changes in media because they are uncharged. Then, develop a hydrogel-thickened nanoemulsions (HTN) system with good stability, small droplet size and viscosity to create a delivery system for topical application. As the natural Fat materials widely used, Extra Virgin Olive oil (EVOO) is gaining wide popularity in the scientific field and among the public, due to its various health benefits and special characteristics (Marina et al., 2009). It contains lower level of oleic acid than other olive oil and contains more of the natural vitamins and mineral than olive oil. Many of the skin care products are made with Extra Virgin Olive oil. Extra virgin olive oil classified as unrefined oil, which means pure and untreated oil. EVOO, has contains more phenolic antioxidant activity than olive oil. Probiotics mean live microorganisms that have beneficial.

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## S18

## Finite Element Simulation for Angulated Dental Implant Used In the Maxillary Tuberosity Region

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Human is exposed to loss of any teeth or even all teeth, whenever following the traditional methods at the replacement of missing teeth by fixed restoration or removed restoration according to the requirements in needs and through the enormous scientific development in all sciences knowledge including dentistry and medical engineering), it became possible to restore missing teeth by using industrial root of titanium metal (transplant or implantation of teeth) Wherever dental implants are considered the alternative newest and most stability in terms of enabling a person eaten and absolute comfort speak in addition to the natural shape. When occurring of desorption bone severe for maxillae it will reduce the height of the alveolar bone and therefore cannot use implants with a suitable length, especially in the posterior region of the maxilla due to the proximity of the maxillary sinus wall. Thus resort to the use of dental implant tilted to reduce the pressure on the maxillary sinus wall, as well as Get the suitable length of the implant, which in turn increases the speed of osseointegration of implants and avoid a surgical procedure. This study showing dental implant tilted in tuberosity region and effect of stresses on surrounding bones "cortical and cancellous bone" by using the finite element method. The implants in tuber region were tilted with different angles in respect to occlusal plane (20°, 25°, 30°, 35°, 40°), implants are made of titanium metal (12 millimeters long) under the influence of vertical forces of 100 N. Based on that the results indicated that the maximum stress values are concentrated on the cortical bone around the neck of the implant of the medial side, stresses increased as the implant inclination increased, whenever the implant inclination increased, as contact length implant with bone was increased and increased distance located between the bottom of the implants and the sinus wall Its avoids the pressure that may be created on the maxillary sinus wall.

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## S19

## ADAMTS-4 expression in astrocytes grown in the presence or absence of chondroitin sulphate proteoglycans (aggrecan)

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Chondroitin sulphate proteoglycans (CSPGs) are extracellular matrix (ECM) molecules that can be expressed at high levels during the development of the central nervous system (CNS). In vitro studies have demonstrated their possible role to restrict neurite outgrowth, and it is also believed that the regeneration of axons after CNS injury can be inhibited by CSPGs in vivo. ADAMTS (a disintegrin and metalloproteinase with thrombospondin motifs) enzymes are a recently described group of metalloproteinases. The substrates degraded by ADAMTS-4 suggest that they play a role in the turnover of the ECM in the CNS. The present study was designed in order to investigate ADAMTS-4 expression in the presence or absence of aggrecan in astrocyte cells. This study also investigated the effects of aggrecan on the phenotype of astrocytes cells and their morphology. The cell culture results demonstrate an effect of aggrecan on astrocytes grown pattern. The western blot technique was used to assess the expression of ADAMTS-4 in astrocytes in order to determine whether it is beneficial or detrimental in multiple sclerosis. This process would use Chondroitinase ABC as a therapy for clave the CSPG side chains, thus allowing the axons of the neurons to be regenerated in the active lesions in Multiple Sclerosis. Further studies on ADAMTS-4 activity will provide a better understanding of its role in the turnover of the ECM of white matter in Multiple Sclerosis.

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## PO1

## Antibiotics Self-Medication among Medical Students at Tripoli University in Libya

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Self-medication with antibiotics is the meaning of self-administering antibiotics with the aim of treating a perceived infection. It's a common practice among university students. Responsible self-medication is encouraged by World Health Organization as it helps in the preventing and treating a minor illness. However, irrational use of antibiotics for self-medication has been reported in various developing and developed countries. This work was undertaken to determine the prevalence antibiotics self-medication among university medical students in Tripoli city. Pre-validated questionnaire was distributed to 300 students at Tripoli University [Faculty of Pharmacy and Faculty of Medicine] and students were asked to report antibiotic use with or without prescription in the year 2016. The questions covered demographic information as well as frequency of antibiotic use, completion of course, condition for which it was used and type of antibiotic used. A total of 252 forms were completed and returned (response rate 84%). The majority of students (238, 94.4%) were females and the average age was 22.7 years (range 18-25). Prevalence of antibiotic use with and without a prescription was high (99.2 %). The pharmacy was the main source where the majority obtained antibiotics (82.5%). The course of antibiotic was completed by larger number of respondents with

prescription (72%). Flu, upper respiratory tract infection, gastrointestinal disorders, skin conditions and urinary tract infection were the conditions for which antibiotics were used. The most common antibiotics used were amoxicillin, amoxicillin- clavulinic acid, and cefixime. Basis for using antibiotics without a prescription include previous experience (28.3%), doctor advice on last visit (35.6%), pharmacist advice (23.7%), and advice of a friend/relative (12.4 %). The results clearly show high prevalence of antibiotic use with and without prescriptions. Educational programs should be established to increase awareness of students, the prescribing physicians and the pharmacists of responsible self-medication in general and rational antibiotic use.

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## PO2

## Antibiotic prescribing for URTIs by Community Pharmacists (CPs) and General Medical Practitioners in Tripoli, Libya

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In Libya, pharmacist in private pharmacy (often called community pharmacist) are practicing dispensing medicine without prescription including antibiotics. This potentially may compromise rational dispensing of medicines in general and antibiotics in particular. This study investigated, assessed and compared dispensing of antibiotics between Community Pharmacist (CP) and General Practitioners (GPs) regarding symptomatic diagnosis, antibiotic categories, and adherence to therapeutic doses. The study used trained Simulated Patients (SPs), who used a scenario of common cold symptoms at GP private clinics and community pharmacies to observe and explore the practice of antibiotics dispensing. The study was conducted within the period of February to April 2017 in Tripoli, Libya. The data was analyzed using descriptive statistics, Chi-square and Fisher's Exact Tests at alpha level of 0.05. GPs dispensed more antibiotics than CPs (p= 0.37) for common cold symptoms. They dispensed more Amoxicillin (n = 6, 60%) than CPs (n = 5, 50%) (P > 0.001). Both CPs and GPs dispensed more branded names than general names. Generally both GPs and CPs did not comply with the symptomatic diagnosis standard when asking SPs about the symptoms they had (33% and 35% for GPs and CPs, respectively). Despite that, both expertise dispensed more antibiotics and adhered to therapeutic doses. Our results found showed poor adherence to rational dispensing of antibiotics by both providers. Both, GPs did not adhered to symptomatic diagnosis properly, instead they provide accurate therapeutic dosing of antibiotics, they unnecessarily prescribe and dispense more antibiotics for Upper respiratory tract infection (URTI) symptoms. Establishing prescription guidance and regulatory actions, especially for URTIs treatment, and separating of medication dispensing are seemed to be important steps as practice guide.

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## PO3

## Comparative study between the uses of Atracurium and Esmeron during operation in Tripoli government hospital

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In the history of anesthesia, securing a patent airway during induction and maintenance of anesthesia is one of the major cause for the development of anesthesiology. Muscle relaxants are drugs that have been used extensively to facilitate endotracheal intubation. The aim of this study was to assess the use of two commonly used muscle relaxant, atracurium and esmeron during operation. A total of 112 patients were included in this study. All cases were assessed for the use of muscle relaxant (types, duration, and any possible side effect). Brief information about the study, the subject information and the type of operation was taken and recorded in specific form during the study starts. We have demonstrated in this study that the percentage use of atracurium in the operation were 27.6% [Median dose 40.35] in compare to rocuronium (Esmeron) 72.4% [Median dose 35.18]. The main onset of effect of atracurium were found to be 68.75 second, in compare to esmeron onset of effect 64.40 second. Further, the main duration of action of atracurium was 33.57 min, while in esmeron, the duration was 35.45 min. There were no side effect noticed with the use of both muscle relaxants during operation. Rapid induction of muscle relaxation was noticed with the use of esmeron as compared with atracurium. Moreover, the duration of action was longer with esmeron usage than with atracurium, with no side effect has been reported in this study with the use of both agents.

## PO4

## Comparative study between isoflurane and sevoflurane uses during operation.

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An inhalational anesthetic is a chemical compound possessing general anesthetic properties that can be delivered via inhalation. Differences among inhaled anesthetic agents in time to recovery from anesthesia can be important for patients who are undergoing surgery. The objective of this study was to compare the use of two commonly used inhalation anesthesia gases, isoflurane and sevoflurane, during operation. A total of 58 patients were included in this study whom attended government hospital in Tripoli, Libya. All cases were assessed for the use of anesthesia gases (types, duration, and any possible side effect). Brief information about the study, the subject information and the type of operation was taken and recorded in specific form during the study starts. The selected subjects are within the age range of 18 to 70 years old, not pregnant and informed on the study objectives, methodology and possible inconveniences. We have found, in this study, that sevoflurane has been given to patients with median dose 2.08 MAC twice during operations, in compare to isoflurane 1.6 MAC twice during operation. The main duration of action of sevoflurane was 8.3 min, while the in isoflurane was 7.8 min. There were no significant side effects noticed with the use of both inhalation gases during operation. Our results showed that isoflurane has been used more frequently than sevoflurane, with no side effect has been reported in this study with the use of both agents.

## PO5

## Formulation and Characterization of an Analgesic Ointment Indicated for Pediatric Use

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This research work deals with formulation development and characterization of an analgesic pediatric ointment. The ointment was developed with menthol and camphor as active ingredients at lower concentrations than used for an adult formulation. The formulation was novel as it replaced the oleaginous hydrocarbon petroleum jelly base of conventional ointment by olive oil, a more acceptable excipient to the pediatric patients. The developed formulation was compared against IKOOL, a commercial analgesic ointment with similar composition produced by IKOP Sdn. Bhd., IIUM, Malaysia with respect to various quality control tests. The developed formulation showed encouraging results, but needs further investigation to convert it into a commercial product.

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## PO6

## A Histological Study of Structural Changes in the Liver of Streptozotocin-Induced Diabetic Rats Treated with Flaxeed Extract

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Prescribed medications used to treat diabetes do not adequately inhibit the development of its associated complications, furthermore, they may cause different side effects. Hence, there is a demand for alternative therapies to manage diabetes and its associated complications. This study aimed to evaluate the hepatoprotective effects of flaxseed extract in streptozotocin-induced diabetic rats. Diabetes mellitus was induced in Sprague-Dawley rats using a single injection of streptozotocin (60 mg/kg, intraperitoneally). The rats were divided into five groups of 8 animals each: Group NC, normal control rats; Group NF, normal rats treated with flaxseed extract (400 mg/kg); Group DC, diabetic control rats; Group DG, diabetic rats treated with glibenclamide (0.6 mg/kg); Group DF, diabetic rats treated with flaxseed extract (400 mg/kg); for 4 weeks. Blood glucose levels and histopathological changes were determined in all experimental rats. Results showed a significantly increased blood glucose level in DC group comparing to NC group ($p<0.05$). The disturbance of this parameter was ameliorated in DF and DG groups, however, the ameliorative effect was significant in DG group only ($p<0.05$). Examination of liver sections revealed congestion of central veins, and degeneration of hepatocytes, in DC group. These pathological changes were ameliorated in the flaxseed extract and glibenclamide treated rats. In conclusion, our data showed that flaxseed extract represents a potential alternative treatment to control diabetes mellitus and its related hepatopathy.

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## PO7

## Determination of liver enzymes in patient with liver cirrhosis

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The liver, weighing roughly 1.2 - 1.6 kg, performs many of the functions necessary for staying healthy. Liver is responsible for

metabolizing carbohydrate, lipids, and proteins into biologically useful materials. Liver cirrhosis is a condition in which the liver does not function properly due to long term damage. This study was conducted to evaluate the liver enzyme changes in liver cirrhosis patient admitted to Tripoli medical center, Tripoli, Libya. A total of 3 patients were included in this study whom liver cirrhosis were diagnostic by medical doctor. Equal number of healthy volunteer were also included. A total of 5 ml blood was drown from each patient and immediately transferred to plan tube. The blood then centrifuged at 4000 rpm for 5 min. Serum was allocated and analyzed by using spectrophotometer. Results of liver cirrhosis patients were compared to normal subjects. We have demonstrated that all liver enzymes was increased in liver cirrhosis patient in compare to normal one. All liver enzymes has been deteriorated with liver cirrhosis.

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## PO8

## Perceptions and Attitudes of Pharmacy Customers to Medicine Labels

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Uses of medicines largely relies on consumers reading the labeling and packaging carefully and accurately and being able to comprehend and act on the information presented. This study aims to evaluate perception, extent of reading and ability to understand written drug information among pharmacy customers. Face to face questionnaire consisting of 20 questions was distributed to a random sample of 200 adults from 13 community pharmacies and one main hospital pharmacy [Tripoli Medical Center] within Tripoli city. Age of the participants were 20-65 years and they surveyed about reading of written drug information, comprehensibility to drug labels, ability to use the information, usefulness of specific parts in the labels and other sources of drug information beyond drug labels. 73% of the participants clearly read the labels of their medicines. The Frequency of reading written drug information was: always (39.72 %), often (30.8%), sometimes (18.49 %), and rarely (10.95%) respectively. More than 40 % of responders stated that they read the package inserts routinely, and 86.30% of them confirmed the purposes of therapy is the most preferable parts of labels. However (53.42%) who read drug information had difficulty understanding. It is found that foreign languages and small font sizes of written information were the most barriers to participants comprehensibility (44.69 %, 34%). Majority (91%) emphasized the importance of pharmacists as a source of drug information. The study showed that drug labels were reported to be somewhat readable by some patients. However, more than half of the respondents were unable to interpret the written dug information correctly. The importance of pharmacists in provision of information recognized by the majority of consumers and number of problems also identified in this study.

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## PO9

## Evaluating the practice of Libyan community pharmacists regarding asthma Inhaler Devices using simulated patients

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Asthma is one of the major health problems worldwide and inhalation therapies are central in its management. Good inhalation technique is essential for optimum pharmacotherapy and minimum health care costs. Community pharmacists have become more involved in the care of asthma patients. The aim is to evaluate the practical knowledge and counseling skills of Libyan community pharmacists in demonstrating the proper use of asthma inhalers. Simulated patient method was used, 200 community pharmacists from 60 private pharmacies located in Tripoli were randomly selected. The pharmacies were further randomized into four groups. Face-to-Face; 4 simulated patients were involved. Each simulated patient selected one type of asthmatic inhaler device. Four asthma devices were utilized; Metered-dose inhaler (MDI) of salbutamol 100mcg (Ventolin®), MDI with Spacer (Aero-chamber®, Trudell Medical,Ontario,Canada), Turbuhaler of budesonide ( Pulmicort®, AstraZeneca Limited, UK), and Diskus of 50mcg salmeterol xinafoate/ 100 mcg fluticasone propionate (Seretide®, GlaxoSmithKline , Limited, Ireland). Counseling and demonstration of different clinical steps of asthma inhaler devices were assessed for 16 weeks from October 2013 to January 2014. The basic steps of using MDI were illustrated to simulated patients by 50% of pharmacists. Only (39%) of them advised their patients about how to use MDI with a spacer and poorly demonstrated for most steps. Whereas correct steps of using Turbuhalers explained by 66% of the pharmacists. More than half of the pharmacists were capable to demonstrate steps of Diskus at a moderate level. No one of community pharmacists was totally unfamiliar with the use of asthmatic devices. However the study revealed the quality of community pharmacists' consultations regarding the use of different asthma inhaler devices was not satisfactory. The study recommends a need for training programs tailored toward fostering community pharmacists' role as primary providers of asthma education.

## P10

## Past, present and future of incretin based therapeutics

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Diabetes mellitus is a chronic disease steadily increasing worldwide. Type 2 diabetes accounts for most of diabetic cases, due to aging population and increasing numbers of obese and overweight people. Improvement of blood glucose control in addition to treatment of T2DM is still a challenge. Variable drugs and hormones have been used in treatment of T2DM, including incretin hormones which have an important role in controlling blood glucose level in addition to beneficial pancreatic and extra pancreatic effects in the body. There are two main incretin hormones, Glucagon-like peptide-1 (GLP-1) and glucose-dependent insulinotropic polypeptide (GIP). Development of new therapeutic agents is considerably interesting, particularly that these incretin-based agents give improved effect and safety relative to current available therapies. Two of the recently approved-therapeutics agents, which focus on the incretin effect and are approved for treatment of T2D, are Glucagon-like peptide 1 receptor (GLP-1 R) agonists and Dipeptidyle peptidase-4 inhibitors (DPP-4i). It is interested how GLP-1 receptor agonists have been developed, and how times of required injections are reduced from once and twice daily such in Exenatide and Liraglutide, to once weekly administration, such in Bydureon, Albiglutide and Dulaglutide. It has been

demonstrated that, a potential effect of incretin based therapies promise to show more therapeutics approaches in many areas such Type 1 diabetes, Obesity, Dementia, Alzheimer and Parkinson disease.

## P11

## Post resuscitation Care

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Successful return of spontaneous circulation (ROSC) is the first step towards the goal of complete recovery from cardiac arrest. The complex pathophysiological processes that occur following whole body ischemia during cardiac arrest and the subsequent reperfusion response during CPR and following successful resuscitation have been termed the post-cardiac arrest syndrome. Depending on the cause of the arrest, and the severity of the post-cardiac arrest syndrome, many patients will require multiple organ support and the treatment they receive during this post-resuscitation period influences significantly the overall outcome and particularly the quality of neurological recovery. The post-resuscitation phase starts at the location where ROSC is achieved but, once stabilized, the patient is transferred to the most appropriate high-care area (e.g. emergency room, cardiac catheterization laboratory or intensive care unit (ICU)) for continued diagnosis, monitoring and treatment. Of those comatose patients admitted to ICUs after cardiac arrest, as many as 40–50% survive to be discharged from hospital depending on the cause of arrest, system and quality of care. Of the patients who survive to hospital discharge, the vast majority have a good neurological outcome although many have subtle cognitive impairment.

## P12

## Application and hazards of nanotechnology in drug delivery - an insight

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Nanotechnology is a revolutionary field of micro manufacturing involving physical and chemical changes to produce nano-sized materials. The word "nano" is a Latin word meaning "dwarf". Mathematically a nanometer is equal to one thousand millionth of a meter. Although, the initial properties of nanomaterials studied were for its physical, mechanical, electrical, magnetic, chemical and biological applications, recently, attention has been geared towards its pharmaceutical application, especially in the area of drug delivery. Over the last decades, different types of nanoparticles have been developed based on various components, including carbon, silica oxides, metal oxides, nanocrystals, lipids, polymers, dendrimers, and quantum dots, together with increasing variety of newly developed materials. These nanomaterials are capable to provide a high degree of biocompatibility before and after conjugation to biomolecules for specific function so as to translate into nanomedicines and clinical practice. Nanomaterials provide for a favorable blood half-life and physiologic behavior with minimal off-target effects, high specificity towards the target site, effective clearance from the human organism, and minimal or no toxicity

to healthy tissues in living organisms. In addition, the nanosize also allows for access into the cell and various cellular compartments including the nucleus. Nanotechnology definitely promises to serve as drug delivery carrier of choice for the more challenging conventional drugs used for the treatment and management of chronic diseases such as cancer, asthma, hypertension, HIV and diabetes. This review provides an overview on the currently used systems of nanotechnology in drug delivery, discovery, nanoparticles and formulation, mechanism of drug delivery and applications. Although for pharmaceutical use the current requirements seem to be adequate to detect most of the adverse effects of nanoparticle formulations, it cannot be expected that all aspects of nanoparticle toxicology will be detected. So, probably additional more specific testing would be needed.

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## P13

## Characterization of Virgin Coconut Oil in Solid Lipid Nanoparticle

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Natural coconut oil is fruit extracted with big potential of nutraceutical and cosmeceutical applications. The Virgin Coconut Oil (VCO) is extracted from fresh coconut through specialized processes without damaging its natural nutrition. VCO has a high content of fatty acids, particularly Lauric acids and has higher phenolic content and antioxidant activity. After cold press preparation of VCO, centrifugation and chemical method was used for prepare two phase of emulsions and homogenized to prepare nanoemulsion of VCO in solid lipid nanoparticle using ultrasonification equipment to narrow down the size of particle to give nano size range. Solid lipid nanoparticles (SLN) are widely used as delivery vehicles for pharmaceutical, cosmeceutical and nutraceuticals. SLNs have a high affinity and bioavailability to skin, which may have potential to ease and fast penetration of nano designed skin formulations. This study aimed to physically characterize the VCO-SLNs and to characterize the average particle size diameter of VCO-SLNs using Zeta sizer Nano. Sample preparation of VCO-SLN, heat the distilled water and soy lecithin. Heat stearic acid, tween 80 and VCO up to 70C – 80C in separate glass beaker (double boiled). Continue heating until stearic acid is well melted and use homogenizer to mix well both solution (12,000rpm for 2 minutes) and use probe sonicator to narrow down the size of the particle. Let the VCO-SLNs solution to cool down at room temperature. The preparation of the sample of (VCO-SLN) 1:10, 1:100 or 1:1000 and added to the cuvette. Insert the sample into the instrument (Zeta sizer Nano) create a measurement file, open and following the standard SOP. Average particle size diameter were measured using Zetasizer Nano series, the optimum nanometer scale of the formula were obtained by using different descending serial dilution of nanoemulsion of VCO in solid lipid nanoparticles. Average particle size by Zeta sizer Nano, can give the difference between the dispersion medium and dispersed particles. The showed average size were stable and indicated that solid lipid nanoparticles were well formulated with VCO vehicle. Based on the results above, the objectives have been achieved. The optimum average particle size of virgin coconut oil solid lipid nanoparticles were 290nm which obtained at comparatively low polydisperty about 0.30pdi. The average particle size of the nanoemulsion was obtained at fixed

period of time repeatedly, with very well dispersion characteristics. The way of preparation is considered simple and less time consumed. Finally further characterization, further parameters are recommended for optimum formulation.

## P14

## Synthesis of Magnetite Nanoparticles for Drug Delivery

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Magnetite (ferrous oxide) (Fe3O4) is a naturally occurring mineral and is the first magnetic material known to man. Its liquid form as the ferro fluid. Magnetite fluid, which is a colloidal suspension of magnetic material in a liquid medium, is an example of a preparation that responds to an external magnetic field. The use of magnetite as a drug transport system, either for diagnosis or therapy, is a method that is being studied around the world. The interaction between the magnetite and a magnetic field makes it ideal for targeting in terms of drug delivery because its movement can be controlled. It is possible to attach drugs to the surface of the magnetic particles and use magnetic fields to hold the drug at the site where it is needed. The current work represents methods of preparation of magnetite nanoparticles and the most recent surface-modifications related to the use of iron oxide nanoparticles for magnetically controlled drug delivery. There are two major steps in synthesizing magnetite. In order to make the magnetic particles; it will be dispersed in the colloidal suspension. These particles must be chemically stable in the liquid carrier. Then the dispersion of the magnetic particles into a carrier liquid by utilizing a surfactant to create a colloidal suspension. In addition, many other methods can be used to synthesize magnetite nanoparticles, co-precipitation method, High-temperature (thermal) decomposition method, micro-emulsion method micro-emulsion method, inverse micro emulsion method, sol–gel methods, and preparation of Fe3O4 Magnetic Nanoparticles by 60Co γ-ray Irradiation. Finally, Magnetite nanoparticles are very promising concerning their future applications in drug delivery. Their effective localization in tumor sites and their super paramagnetic properties are ideal for effective drug delivery.

## P15

## The Scope and Magnitude of Helicobacter pylori infection in Libya

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Helicobacter pylori has been the subject of intense investigation since its culture from a gastric biopsy in 1982.This gram - negative bacterium has an estimated prevalence of about half the world's population, it colonizes 70-90% of the population in developing countries where as it is 50% in developed countries. It is recognized as the major causing of peptic ulcer, gastric adenocarcinoma and gastric mucosa associated lymphoid tissue lymphomas. Although the number of peer-reviewed publications on H.pylori has rapidly

increased, from less than twenty in 1990 to approximately 1,500 per year over the last few years around the world, most of the data available on the prevalence of H.pylori in Libya are controversial and unsatisfactory. Our aim was to describe the status of the H. pylori infection in Libya through systematic review of the literature of the last three decades. We searched PubMed from 1990 up to December 2016, to identify original studies reporting on the prevalence of H.pylori, and only those evaluating samples with national coverage were included. We identified very few eligible studies including data from dyspeptic patients and from Healthy individuals in only three Libyan cities. There are not enough studies about the infection of H. pylori in Libya during the last three decades, However, infection with the gastric pathogen H.pylori was higher prevalent in Libya among both groups of the dyspeptic adult patients and asymptomatic adult persons. There is ample evidence from such regional studies in Libya that H.pylori infection is a major public health problem. Despite the small number of studies in Libya, and the lack of an effective therapy, much can be and is being done to limit the local spread of H.pylori infection. Also more large research studies which provide information on the alternative treatment and the new diagnostic noninvasive methods are urgently needed to build a more accurate picture of the H.pylori infection in Libyan adult and children.

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## P16

## Estimation of Radiation Dose during X-ray Examinations at Sebha Medical Center

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X-ray diagnostic is one of ionizing radiation used in medical examinations and despite the great benefits of these rays they contribute to the deposit of radiation doses incurred by the human in the world of man-made sources and may cause severe damage to humans. Several scientific studies conducted in the measurement of radiation doses, and their results showed a great difference between the doses among these hospitals. The main outcome of these studies was the introduction of national and international reference levels for different X-ray examinations. Furthermore, in Libya until now, there are no reference x-ray dose levels. The current work was to provide a Survey of patient X-ray doses (Entrance Surface Dose) in the radiology department at Sabha Medical Center. The entrance surface dose (ESD) received by each Patient which were measured using thermoluminescent dosimeters (TLDs) and attached to the Patient's skin or clothes for seven routine x-ray tests; [chest ,elbow ,knee ,foot ,wrist lumbar spine and cervical spine]. Each test was performed for one or two projections with a total of 12 projections. The TLD reading system was calibrated prior clinical work to convert the TLD’s readings into doses by using ionization chamber model PTW30010. During the collection of these data all exposure Parameters (KVp, mA.s Field size and distance between patient and X-ray source) and Patient related information (height, age, weight). Were collected data were analyzed and compared with other international reference levels. The measured entrance surface doses (ESD) for all examinations were higher than those reported in other countries. The average ESD was; a chest examination was 9.45mGy for PA projection. Elbow examination AP/LAT for projection 2.53mGy, 2.007mGy. Knee examination PA/LAT for projection 3.68mGy, 3.78mGy. Foot examination PA/LAT for projection 1.68mGy, 1.75mGy. Wrist examination

PA/LAT for projection 1.73mGy, 2.34mGy. Lumber spine examination AP/LAT for projection 71.8mGy, 157mGy. Cervical spine examination LAT for projection 12.4mGy. In conclusion, the main reason for increasing the amount of dose is an overused of exposure parameters.

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## P17

### Nanotechnology in Respiratory Medicine

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Nanotechnology is a developing science with the possibility to create novel tools and approaches including using of materials at the nanometer scale (<100 nm). The unique size properties, of nanoparticles have introduced a new prototype in pharmacotherapy – the possibility of cell-targeted drug delivery with minimal systemic side effects and toxicity. This abstract aims to summarize some of the published studies, particularly that concern about nanoparticle technology for lung diseases. These obtained data have shown significant beneficial effect with therapies that based on Nano-technology in respiratory disease. Nevertheless, there is a wide gap between the concepts of nanomedicine in accordance with clinical reality and the available experimental data. In summary, more studies should be conducted to determine the potential of Nano-therapy and the systemic toxicity of nanomaterials for future human use.

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## P18

### Molecular Characterization of Chicken Infectious Anaemia Virus in Backyard Chickens in Eastern Area of Libya

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Chicken infectious anaemia (CIA) is primarily a disease of young chickens caused by a small DNA virus - chicken infectious anaemia virus (CIAV) belonging to the family Circoviridae. The virus is present in all major poultry producing countries of the world. The vertical transmission, SPF/vaccine contamination, highly contagious, hardy and ubiquitous nature and also the potential for inducing marked immunosuppression has placed the CIAV at a global scenario reflecting considerable economic significance. In recent years, the virus has been detected and isolated from Commercial Chicken flocks of Libya. The occurrence of CIAV in backyard chickens (Gallus gallus domesticus) in the Eastern area of Libya was evaluated in the present study. Using a pair of primers designed to amplify a 1,390 bp fragment in the VP1 (capsid protein) gene of CIAV, the PCR assay detected CIAV DNA in 2 pooled samples (spleen and thymus) collected from five apparently healthy flocks during 2014. CIAV origin for backyard chickens is speculated, taking into consideration its widespread incidence in the chicken industry. CIAV may have gone undetected for years in these flocks in most parts of the world, being a source of infection of industrially-produced

chickens. Apart from the reports of serologic evidence of CIAV infection in Libyan backyard, the demonstration of CIAV from naturally infected backyard chickens of the virus obtained from them has not been reported before in different breeding area countrywide.

## P19

### Solid Lipid Nanoparticles in Cosmetics

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The skin is a vital organ in the body, it works as a protective layer against the outside environment, in addition the impermeable quality of the skin protects organs from losing water, minerals and dissolved proteins. Due to this, the skin must be nourished and taken good care of and that is by the application of cosmetic formulations and topical pharmaceutics. The cosmetic industry has recently begun to take advantage of the special properties of nanoparticles. One of the nanotechnology product that has attracted significant interest among researchers is Solid Lipid Nanoparticles (SLN), and that is due to their physical stability, protection of incorporated labile drugs from degradation, controlled release and excellent tolerability. SLN have been identified as a potential next generation cosmetic delivery agent that can provide enhanced skin hydration, bioavailability, stability of the agent and controlled occlusion. Other advantages of dispersions of lipid nanoparticles is that they can be produced with optimum pH for topical applications, and that they have a whitening affect so they weaken the coloration of colored actives and give the product a more acceptable white appearance.

## P20

### Retrospective Study of the Common Bacterial Disease Affecting Neonates in Tripoli Hospitals

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Neonatal infection is a common disease that affect neonates during early days of life. This common problem leads to increase mortality rate in developing country. Aim: is to study the antibiotic policy followed in Libyan hospitals (Tripoli Medical Centre & Al-Gala Hospital). The cases of 120 patients (65 M& 55 F) aged between one day and twenty eight days from neonate special care unit in Tripoli medical center and Al-Jalaa hospital have been followed in the period between (January to July 2014). The study concern with the pattern of type of bacteria and the type of antibiotic, including age, sensitivity test, the type of microorganism involved in each disease and clinical manifestation of antibiotics used. Most common infection diseases that affect neonates found in both hospitals are septicemia, meningitis, jaundice, and pneumonia. The most of the infection diseases were presented with more than one symptom and the treatment was usually combination of antibiotics according to the British policy of uses of antibiotics for neonates and it is taken empirically according to age and expected type of microorganism that acquired from mother or as nosocomial infection. Staph positive and staph negative are the most type of bacteria causing infection in neonates. Septicemia appears higher than other

diseases. Meningitis appears higher in female than male. The common antibiotics used to treat neonatal infection in Libyan hospitals are ampicillin, gentamicin, cefotaxime, vancomycin, amoxacillin, meropenem, amickacin, tazocin, and cloxacillin. Sensitivity to antibiotic were cefotaxime and gentamycin. Resistance to antibiotics were cloxaciline followed by

## P21

## Relationship between radiation dose and image quality in lung CT scan in hospital

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The purpose of this study was to determine how changes in radiographic tube current affect patient dose and image quality in unenhanced chest CT examination. Sixteen sets of CT images were obtained from 160 patient (112Male 48 Female) undergoing CT- chest scan (using CT- scan Model GE) for each patient, six images of same region were obtained at settings between 240 and 300 mAs. CT data were used to reconstruct to mographic sections with a field of view limited to the normal contra lateral lung. Image were printed using lung and mediastinal image display settings .Image quality was determined by asking radiologists to assess the perceived level of mottle in CT images .The same set of images were also evaluated by MATLAB (8.1) on the bases of standard deviation, patient effective doses and risk factor were computed for chest CT examination performed at each mill ampere- second setting.
Differences in CT image quality for radiographic techniques between 300 and 400 mAs were deemed to be insufficient to justify and additional patient exposure .However, the use of 300 mAs results in an inferior image quality that would justify increased patient exposure. This image quality is confirmed by both methods, radiologist assessment and MATLAB assessment. Therefore, radiographic techniques for unenhanhanced chest CT examinations can be reduced from 400 to 300 mAs without compromising image quality.

## P22

## Radiation exposure and image quality in brain CT examination

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The goal of clinical Computed Tomography (CT) is to produce images of diagnostic quality using the lowest possible radiation exposure, Degradation of image quality, with increased image noise and reduced spatial resolution, is a major limitation for radiation dose reduction in (CT). This can be counteracted with new post-processing image filters and iterative reconstruction (IR) algorithms that improve image quality and allow for reduced radiation doses. Implementation of new methods in clinical routine requires prior validation in phantoms and clinical feasibility studies including comprehensive evaluation of diagnostic image quality. The main objectives of this dissertations were to compromise between radiation dose and image quality in brain (CT) scan at different (mAs) by using (MATLAB) software for evaluation of image quality, a total of 54 human subjects from Abu Salem Trauma Hospital were included in the clinical studies. Image quality and diagnostic acceptability were assessed in brain (CT) acquired with different mAs range from 200-249 at constant (Kvp-120). Subjective and objective evaluation of image

quality were used and assessed Post-processing image filtering compensated partly or entirely for the loss of image quality caused by 30% reduced radiation dose in brain (CT). In this study, considerable variation was seen. At (240-mAs) a discrepancy was seen between results of objective and subjective evaluation of image quality and also between grading and ranking, indicating observer bias. In conclusion, all evaluated methods improved image quality and showed potential for radiation dose reduction while maintaining diagnostic quality. Careful study design and comprehensive evaluation of image quality including objective and subjective.

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