



13th World Congress on

INFECTION PREVENTION AND CONTROL

December 14-15, 2017 | Rome, Italy

Posters

Infection Prevention 2017

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The effect of HIV/AIDS and malaria co-infection on clinical and haematological parameters**Ndabong Michael**

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Some degree of interaction has been demonstrated recently between HIV/AIDS and falciparum malaria co-infection in studies carried out in certain parts of Africa, although with conflicting results. However, not much has been done in Cameroon. In order to investigate the interaction, a clinical and laboratory study was carried out in the urban town of Yaoundé the capital city of Cameroon on 480 subjects (15-49 years of age) from March – September, 2015. Information on the knowledge of practices and attitudes towards both infections was also obtained. Analysis of the questionnaire indicated that participants generally had poor knowledge on HIV and malaria. The prevalence of malaria, HIV and co-infection was 78.8%, 11.7% and 7.9% respectively. The mean temperature of co-infected patients (37.5 ± 0.007) was higher compared with that of patients infected with HIV (36.7 ± 0.13). Co-infected patients were significantly more anaemic ($t=2.275$, $p=0.026$) and had low red blood cell counts ($t=-2.681$, $p=0.001$) than those with mono-infections. The mean parasite density was higher in co-infected patients (1630.97 ± 231.02) when compared with patients solely diagnosed with malaria (1217.44 ± 67.07) ($\chi^2=7.65$, $p=0.0251$). WBC count was lower in co-infected patients compared with patients infected with malaria or HIV only ($\chi^2=2.24$, $p=0.488$). The mean CD4 count in co-infected subjects (317.94 ± 45.00 cells/mm³) was lower than in those having HIV only (321.37 ± 24.63 cells/mm³), but this difference was not statistically significant ($t=-1.521$, $p=0.265$). The follow-up mean CD4 count (350.11 ± 30.34) in co-infected patients increased compared with the initial count (31.6 ± 17.82) ($\chi^2=-1.613$, $p=0.069$). The mean parasite density ($109.09 \pm 41.08/\mu\text{l}$) for co-infected patients after follow-up was significantly lower than the initial value ($1630.79 \pm 23.102/\mu\text{l}$) ($t=6.12$, $p<0.001$). Therefore HIV and malaria co-infection in the study site was generally associated with anaemia, high fever, high parasite density, lower RBC and WBC count and reduced CD4 counts.

Biography

Ndabong Michael is a fourth year medical student at the University of Buea and currently carrying out research work on HIV/AIDS in West Africa.

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Successful vaccination intervention against influenza among asylum seekers in a northern region in Sweden

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Background: During the autumn 2015 the number of people seeking asylum in Sweden increased dramatically and region Jamtland/Harjedalen received over 3600 individuals. To give all these people a roof over their head it was necessary to increase the number of people living in each room, resulting in an overcrowded resident situation in some shelters comprising 1182 individuals. There is an increased risk for rapid spread of novel strains of influenza A in confined environment, such as refugee shelters. Universal influenza vaccination is a strategy to improve prevention by increasing vaccination coverage (VC) and providing indirect protection of adults by decreasing infection and transmission among children.

Materials & Methods: 5 refugee shelters were considered overcrowded, housing between 87 to 638 individuals each. Specially trained vaccination teams visited each shelter after written information in English, Dari, Pashto, Amarinjo and Arabic about influenza infection and influenza vaccination had been distributed among all asylum seekers. The vaccination was free of charge.

Results: VC among all refugees in age groups 0-65 years was 68%. In comparison, the VC among the older general population (65 years or older) in our region (county 2) was 33%, which was the 2nd lowest VC among 11 reporting counties in Sweden. During the influenza season 2015/2016, 88 cases of influenza A and 29 cases of influenza B were reported in our region (population 127 169). Among these, three individuals with influenza A and 2 with influenza B were reported that belonged to the refugee cohort. These cases were reported before the implementation of the vaccination campaign among the overcrowded asylum seekers. After the introduction of the influenza vaccination campaign no case of influenza A and B or outbreaks of influenza was reported from the vaccinated shelters.

Conclusions: The high VC has probably had some impact on the spread of influenza and the burden of infection in the shelters. It is also possible that the high VC resulted in a protective effect for the unvaccinated individuals living in the shelters, as no case of influenza was reported from the shelters after the implementation of the vaccination campaign. This limited study also suggests that influenza vaccination free of charge, with easy access and preceded by direct adequate information regarding influenza and vaccination can result in an enhanced VC.

Biography

Staffan P E Sylvan is a senior expert in infectious diseases and communicable disease control and prevention. He has been the county Medical Officer for Uppsala County, Sweden. As such he was the Director of the local department of communicable disease control and prevention and was very active in undertaking campaigns concerning the containment of the spread of communicable diseases such as pandemic influenza, Chlamydia, HIV and hepatitis A, B and C. He has a long standing research career particularly in the area of Hepatitis Immunology. He has published more than 65 papers in reputed journals.

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The role of surfaces in transmission of nosocomial infections at the regional hospital of Korçe, Albania**Zhinzela Qyli**

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Statement of the problem: Hospital surfaces are potential sources of health care-associated infection. Contamination of hospital surfaces by bacteria is increasingly recognized. In recent years, a variety of interventions have been shown to be effective in improving cleaning and disinfection of surfaces. The purpose of this study was to identify the microbial pollution of the hospital surfaces and to demonstrate the importance of hospital surfaces contamination in the transmission of nosocomial infections.

Methodology & Theoretical Orientation: A total of 640 samples were taken from the surfaces of the hospital. A swab soaked in nutrient broth was used to collect samples. Swabs were streaked in Blood agar. These culture plates were incubated at 37°C for 24 hrs. After incubation identification of isolates was performed.

Findings: The study revealed that the prevalence of bacterial isolates was 27.18%. Prevalence of samples contaminated with *Staphylococcus aureus* was 48.85%, *E. coli* 43.10%, *Pseudomonas* 1.14% and Saprophytes 6.89%.

Conclusion & Significance: The microbial contamination of surfaces in the hospital is high. High prevalence of microbial isolates with *Staphylococcus aureus* and *E. coli* are considered as an indicator of poor hygiene in the hospital.

Key words: Sample, hospital, contamination.

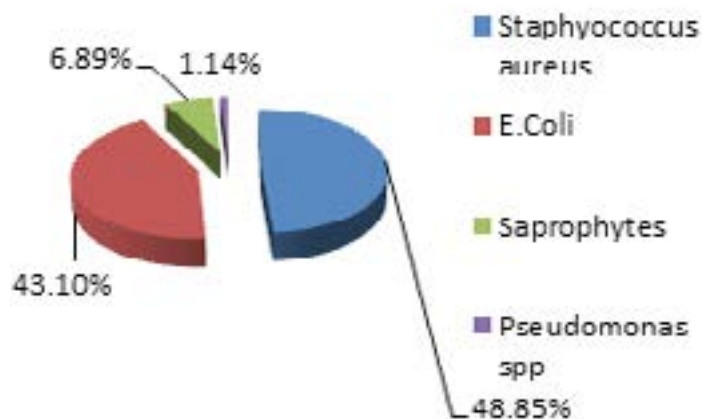


Figure 1. Prevalence of microbial isolates

Biography

Zhinzela Qyli has completed the Faculty of Medicine and specialization in Microbiology in the University of Tirana, Albania. She is lecture in the Nursing Department of Fan S Noli University, Korça and is following the doctoral school in the Faculty of Technical Medical Sciences, University of Medicine, Tirana, Albania.

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Comparative delayed-type hypersensitivity (dth) activity of two vaccines against canine leishmaniasis: CaniLeish® (liesp/qa-21) and letifend® (protein q recombinant vaccine) in mice**Karine De Mari, Fabien Senseby and Anne-Marie Cuisinier**
Virbac S.A., France

Statement of the problem: The Canine Leishmaniasis vaccine CaniLeish® (Virbac, France) composed of purified *L. infantum* Excreted Secreted Proteins (ESP) was marketed in 2011 in Europe. Six years later came a second vaccine based on a recombinant Q Protein (LetiFend®) (Leti, Spain). The protective immune response to *Leishmania* is cell-mediated. While solid data have been published on the Th1 cell-mediated immune (CMI) response elicited by CaniLeish® [Ref.1-5], no data is available yet regarding the cellular immunity induced by LetiFend®. The purpose of this study was to control and compare the elicitation of a memory CMI response by the two vaccines using a Leishmanin Skin Test (LST) in mice.

Methodology & Theoretical Orientation: Two groups of five SPF (OF1 strain) mice were injected subcutaneously twice at 7 day-interval (D0; D7) with 2x50µl of CaniLeish® (group1) or LetiFend® (group2). On D14, all the mice received a foot-pad intradermal inoculation of leishmanin (right tested foot) and an injection of NaCl0.9% (left control foot). The DTH (Delayed-Type Hypersensitivity) reaction was assessed on D14 and D15, before and 24 hours after leishmanin/NaCl injections, through the measurement of the foot-pad volume (mL.10-2). The test was considered as positive when the volume variation was superior or equal to 3mL.10-2.

Findings: In group1, 4/5 mice were DTH positive, and one was close to positivity while in group2, none (0/5) was positive (Table1). The LST consists in the intradermal inoculation of leishmanies, and the measurement of the corresponding intradermoreaction (assessed here by the increase of pad volume due to inflammation), consequence of the DTH response caused by the specific recognition of the parasite antigens. This test is a physiological approach to assess the development of *Leishmania*-specific (Th1) CMI response.

Conclusion: In this experimental study, CaniLeish® induced a positive DTH reaction in mice, while LetiFend® did not

Biography

Karine De Mari, D.V.M., is Medical Manager/Medical Direction for Small Animals at Virbac (France). As a Medical Manager, she is involved in Phase IV trials and collaborations with Universities and Specialists internationally. She developed her expertise in Virbac thanks to different positions in R&D, Product Innovation and Strategic Marketing. Before she joined Virbac, she was a veterinary practitioner for Small Animals. She graduated from the Veterinary School of Alfort, and is certified from the CESAM (biomedical statistics).

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Opportunities for development of new anti-infective medicines**Tomislav Kostyanev**

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Antibiotic resistance (ABR) has now been recognized as a global public health threat, causing at least 700,000 death cases every year. Therefore, it is essential that new and rapid solutions are found to effectively overcome the consequences of ABR. Many pharmaceutical companies have found difficulties to invest in antibiotic drug discovery and development in the last two decades, mainly because of low economic return of investment. The innovative medicines initiative joint undertaking (IMI JU) has addressed this issue by investing more than 660 million euro in seven projects clustered in the New Drugs for Bad Bugs programme. These projects encompass all aspects of drug development from basic science and drug discovery, through clinical development to new business models and responsible use of antibiotics. The main objectives of the COMBACTE consortia are to deliver clinical trials in collaboration with pharmaceutical companies and to build clinical and laboratory networks to optimise scientific evaluation of new antimicrobials within Europe. The COMBACTE consortium now consists of 55 academic and 8 industrial partners and spreads in 42 countries, including more than 800 hospitals. The main objective of LAB-Net, one of the four pillars of COMBACTE, is to establish a European-wide network of laboratories that plays a key role in clinical trials on anti-infectives. By being part of LAB-Net, laboratories can benefit from training programmes and activities to build laboratory capacity and infrastructure. One of the ultimate goal of COMBACTE is to evolve into a self-sustainable clinical trial infrastructure which will support trials of anti-infectives after the formal close-out of the IMI-funded programme. The vision of such a network would be to efficiently generate rigorous evidence for new or improved diagnosis, prevention and treatment of infections and to better respond to infectious disease threats. This would be facilitated by a European multidisciplinary clinical network and innovative research approaches.

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Evaluation of chitosan/alginate polymer blend for the oral delivery of a marketed fowl typhoid vaccineEbele Onuigbo¹, Joy Iseghohimhen¹, Kennedy Chah¹, Moses Gyang^{1,2}, Anthony Attama¹, Vincent Okore¹ and John Okoye¹¹University of Nigeria, Nigeria²National Veterinary Research Institute, Nigeria

Achieving oral vaccination for all human and veterinary vaccines is of economic importance as well as safety from needlestick injuries. This study was undertaken to compare the immune responses of birds to marketed fowl typhoid vaccine given as an injection or orally. Sixty-day-old chicks were divided into three groups of twenty birds each. This comprised a negative control group NEG451 (non-vaccinated and non-challenged used as control for cytokine quantification), SC567 (injection route) and OCV 634 (oral route adjuvanted with chitosan/alginate biopolymers). Vaccination was done at 10 weeks and 14 weeks of age followed by challenge at 16 weeks of age. IgG was measured using ELISA and mRNA fold expression of IFN- γ in spleen was measured using RT-PCR. ELISA showed E-values of 0.05, 0.03 and 0.01 for OCV 634, SC 567 and NEG 451 respectively after primary vaccination. Also E-values were 0.10, 0.12 and 0.00 for OCV 634, SC567 and NEG 451 respectively after boost vaccination. The expression of IFN- γ in spleen calculated using the $2^{\Delta\Delta CT}$ was upregulated with values of 1.97 and 0.75 for OCV 634 and SC 567 resp. Five days after challenge with three times the standard concentration of the virulent *S. gallinarum* 9 strain, the birds showed mild clinical signs of infection but without detectable shedding of the *Salmonella gallinarum* (SG). Six weeks after challenge, there was no mortality either in group OCV 634 or SC 567. In conclusion, fowl typhoid vaccination either by injection or oral route (containing the chitosan/alginate biopolymers) are effective in preventing mortality induced by infection. However, it is noteworthy to mention that the protective efficacy of the oral route is due to the chitosan/alginate biopolymers which coated the vaccine preventing destruction in the gastrointestinal tract.

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National patterns in the use of legionella urine antigen testing, United States, 2013-2016Alhusain M Alsaghayer¹, Abdulbaset M Salim¹, Katanya C Alaga¹, Marcus J Zervos², Sarah Altamimi² and Paul E Kilgore¹¹Wayne State University, USA²Henry Ford Health System, USA

Background: Over the past 20 years, incidence rates of Legionnaires' disease (LD) have risen dramatically in the US, yet the precise reasons for this increase remain unclear. One explanation posited for this increase has been more widespread use of Legionella urinary antigen tests (LUAT) in the US. To date, however, there is a paucity of published information on the utilization of LUAT. The aim of this paper is to describe distribution patterns of a commonly used LUAT (BinaxNOW[®], Alere, Inc., Waltham, MA) in the U.S. and across the state of Michigan where LD cases have also risen.

Methods: Retrospective data from January 1, 2013-December 31, 2016 were provided by Alere, Inc. Using IBM SPSS (v24), univariate and bivariate analysis were performed to describe the distribution of the BinaxNOW[®] LUAT by year, month, state, city, county and zip code. County-specific data for Michigan were available and analyzed for the years 2015-2016. We estimated test utilization rates using population census (2016) data to compare over time by geographic area.

Results: From January 2013-December 2016, the distribution of the LUAT was consistently higher in Texas, Pennsylvania, New York, Minnesota, and Florida compared with other states (Fig. 1). In 2016, New York state received the greatest number of tests (n=72,072), followed by New Jersey (n=66,396), Illinois (n=55,946), Texas (n=54,824) and Florida (n=52,932). In Michigan during 2013, 15,378 LUAT were received and this number rose to 23,232 in 2014, 25,212 in 2015, and 29,920 in 2016. In Michigan during 2015-2016, the counties of Genesee (n=9988), Oakland (n=6930), and Wayne (n=20350) had higher test utilization compared with other Michigan counties (Fig. 2 and 3).

Conclusions: Overall, 68% of LUAT were provided to institutions in ten states and year-by-year analysis suggests a rising trend in LUAT usage. These results suggest that there may be changes in diagnostic practice and/or increasing awareness of LD as a cause of lower respiratory tract disease. Further research is needed to understand detailed trends and public health implications in the use of LAUT compared with other diagnostic modalities (e.g., bacterial culture) for LD diagnosis.

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Do retreatment tuberculosis patients need special treatment response follow-up beyond the standard regimen? A finding of five-year retrospective study in a pastoralist setting**Fentabil Getnet, Henok Seleshi, Wubareg Seifu and Abere Shiferaw Alemu**
Jigjiga University, Ethiopia

Background: Treatment outcomes serve as proxy measures of the quality of tuberculosis treatment. Hence, assessment of treatment outcomes is essential to evaluate the effectiveness of Directly Observed Therapy-Short course program in controlling the disease, and reducing treatment failure, death and default.

Objective: The objective of this study was to assess tuberculosis treatment outcomes and predictors of unsuccessful treatment outcome in Ethiopian Somali region, September 2009 to August 2014.

Methods: A retrospective review of five years data was conducted to evaluate the treatment outcomes of 1378 randomly selected tuberculosis patients treated in Kharamara, Dege-habour and Gode hospitals. We extracted data on socio-demographics, HIV Sero-status, tuberculosis type, treatment outcome and year using a prepared checklist. Tuberculosis treatment outcomes were categorized into successful (cured/completed) and unsuccessful (died/failed/default) according to the national tuberculosis guideline. Data was entered using EpiData 3.1 and analyzed using SPSS 20. Chi-square test (χ^2) and logistic regression model were used to reveal the predictors of unsuccessful treatment outcome at $P \leq 0.05$ significance level.

Result: Out of all, majorities were male (59.1%), pulmonary smear negative (49.2%) and new cases (90.6%), and HIV co-infection rate was 4.6%. The median age was 26 years. The overall treatment success rate was 86.8% [84.9%-88.5%], however, 4.8%, 7.6% and 0.7% of patients died, defaulted and failed to cure respectively. Treatment success rate fluctuated across the years and ranged from 76.9% to 94% [$p < 0.001$]. The odds of death/failure [AOR=2.4; 95% CI=1.4-3.9], and pulmonary smear positivity [AOR=2.3; 95% CI=1.6-3.5] were considerably higher among retreatment patients compared to new counterparts. Treatment success rate had no significant difference between age groups, genders, tuberculosis types and HIV status ($P > 0.05$).

Conclusion: This study revealed that the overall tuberculosis treatment success rate has realized the global target for 2011-2015. However, it does not guarantee its continuity as the trend showed that adverse treatment outcomes might unpredictably occur. Therefore, continual effort to effectively execute DOTS should be strengthened and special follow-up mechanism should be in place to monitor the treatment response of retreatment tuberculosis cases.

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Incidence and preparedness for treatment of diarrhea in epidemic prone flood areas of Chiga Kisumu county**Redemptah Yeda**

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Statement of the Problem: Diarrhea is preventable and treatable by early recognition of dehydration, increased fluids, breastfeeding and timely treatment. Despite the advances to understand management and pathogenesis, globally it's estimated that diarrhea accounts for 1.5 million deaths annually. 800,000 children die annually in sub-Saharan Africa. In Kenya, infectious diseases are on the rise due to poverty, illiteracy, inadequate safe drinking water and poor sanitation. Flood prone areas have high incidence of diarrhea. However, there is no active surveillance to monitor the incidence and also understand the effect of seasons on the incidence. No study has been carried out on the preparedness of the health facilities for the treatment of diarrhea.

Purpose of this Study: To investigate the incidence and preparedness for treatment of diarrhea in epidemic prone flood areas in Kisumu County.

Methodology & Theoretical Orientation: This was a retrospective study come across sectional study. A key informative interview tool was used to collect data among community health workers and the hospital leads. A conceptual frame work was used to focus on the interaction between incidence and mortality with relation to environment.

Findings: Diarrhea is common among the adults compared to other age categories.

Conclusion & Significance: Despite the challenges in controlling diarrhea, adults experience more cases. Over the last 20 years, diarrhea studies have mainly on the under five. However, there is limited information on the epidemiology of diarrhea among adults in sub-Saharan Africa.

Recommendations: Research is required to establish scientific models to predict diarrhea outbreaks.

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Anti-biotics activity against isolates from patients surgical site infection at Gezira hospital for renal diseases and surgery- Wad Medani, Sudan**Sitelbanat Yassin and Rasha Algam**
University of Gezira, Sudan

Wound infections contribute significantly to morbidity and mortality in surgically treated patients. Number of factors contributes to wound infection; however, microorganisms are the major causes with bacteria being the most prevalent. Determination of local bacterial sensitivity patterns to antibiotics is an important to provide a guide for an appropriate management. The present study was designed to investigate the susceptibility of etiological pathogens isolated from the Gezira Hospital for renal diseases and surgery, to different types of antimicrobial agents and the risk factors during the period between August and December 2015. The study followed prospective case series for all patients admitted to the surgical wards during this period. The demographic data, diagnostic criteria, and laboratory data were collected. Out of the 200 patients recruited in the study, (18%) showed evidence of sepsis yield infections. The predominant isolate was *Staphylococcus aureus* which represent (31%) of the total isolated Bacteria. Cloxacillin exhibited the highest activity (87%) against Staph aureus while Cefotaxime, Cotrimoxazole and Cefalexin showed only (7%). In contrast to previous study reported that *Staph. aureus* was 100% susceptible to Cefotaxime, this conflict may due to the production of β -lactamase or alternation of the target site with the decrease affinity to the drug and the diabetic patients showed high incidence of wound infection compared with non-diabetic. In conclusion, the rate of surgical site infection was relatively high, and the predominant pathogen *Staph. aureus* was highly susceptible to Cloxacillin and resistant to Cefixim.

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Prevalence of various Hepatitis C genotypes among chronic HCV patients in a private laboratory, Tehran, IranSolmaz Agha Amiri¹ and Najmeh Zarei²¹Danesh private laboratory, Tehran, Iran²Pasteur institute of Iran, Iran

Background: Hepatitis C (HCV) is a public health problem in many part of the world. Since HCV has different genotypes that showing different responses to treatment, determination of patient's HCV genotype is critical prior to the antiviral therapy. The aim of this study was to determine the prevalence of various HCV genotypes among patients who were referred to a private laboratory in Tehran.

Material & Methods: 100 patients with chronic Hepatitis was enrolled from 2012-2017. RNA was extracted using standard commercial kits from patient's serum. After cDNA synthesis, HCV RNA was detected using reverse transcriptase Nested-PCR (RT-Nested PCR) and then HCV genotypes were determined with restriction fragment length polymorphism (RFLP) assay.

Results: Out of 100 samples, 45 (45%) were positive for subtype 1a, and 41 (41%) were subtype 3a, followed by 11 (11%) genotype 1b, and genotypes 2a, 2b and 4 were 1 (1%) each. There are no mixed HCV genotypes found in the patients.

Conclusion: This study showed that the most frequent genotype among the patients in Tehran was 1a followed by 3a.

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Evaluation of bacteria isolated from wounds before and after gentian violet application in plastic surgery and burn unit patients in a tertiary hospital in Greece**Eleni Vagiakou, Maria Orfanidou, Despina Antarakis, Nikolaos Ampelikiotis, Maria Kamperogianni, Georgios Ganteris and Dimosthenis Tsoutsos**
Athens Regional General Hospital, Greece

Objectives: The objective of this study is to evaluate the frequency and the kind of bacteria isolated from wounds after the application of gentian violet stain from patients of the Plastic Surgery Department and Burn Unit (PLSD-BU) in a Greek hospital.

Methods: The study was performed in two semesters, January-June 2013 (study group 1-SG1) and January-June 2014 (study group 2-SG2). Each SG consisted of 20 patients. Criteria for the choice of the patients were the grimy wounds. The aetiology of the wound varied from burn to open wounds, pressure sores and skin grafts. Patients SG1 were receiving conventional treatment; patients SG2, beside conventional treatment, had 1% gentian violet paint locally applied on the wound. Cultures were sent to the laboratory for investigation of bacterial pathogens and their susceptibility to antibiotics which were performed by conventional and automated methods.

Results: The total number of bacterial strains isolated from SG1 was 108 out of which: 71 Gram (-) bacteria (G-B) (66%), 21 coagulase negative staphylococci (CoNS) (19%) and 16 *Staphylococcus aureus* (SA) (15%). The most common G-B isolated was *Acinetobacter baumannii* (AC) (30/71, 42%), followed by *Klebsiella pneumoniae* (KP) (24/71, 34%), *Proteus mirabilis* (PM) (9/71, 13%), *Escherichia coli* (EC) (5/71, 8%), *Enterobacter cloacae* (ECL) (1/71, 1%) and *Pseudomonas aeruginosa* (PA) (1/71, 1%). CoNS resistant to methicillin (MR) were 13/21-62% and MRSA were 10/16-62.5%. Bacterial strains isolated from SG2 were 103 out of which: 74 G-B (72%), 25 CoNS (24%) and 4 SA (4%). The predominant G-B was AC (37/74, 50%), followed by KP (14/74, 19%), PM (11/74, 15%), EC (5/74, 7%), ECL (5/74, 7%) and PA (2/74, 2%). Among CoNS MR were 15/25 (60%) and MRSA 2/4 (50%).

Conclusions: Although no significant difference was observed in the total number of isolated bacteria between the two SG, in SG2 there was a notable decrease of *S. aureus* strains. Worth mentioning, is also, the decrease of *K. pneumoniae* strains as total number and as percentage too. According to these, gentian violet seems to be a good and inexpensive alternative for the management of grimy wounds.

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Effectiveness of isopropyl alcohol and ultraviolet based sanitizer on decontamination of mobile phones used by dental personnel

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Statement of the Problem: Mobile phones have become an inevitable mode of communication. Dental office and the dental operators along with their personal equipment (mobile phones) are exposed to numerous pathogens as a part of their profession, which serve as an exogenous source of nosocomial infection. This study aimed at assessing the effectiveness of isopropyl alcohol and a customized ultraviolet chamber, in decontamination of mobile phones.

Methodology & Theoretical Orientation: A cross sectional study was carried out on 30 touch screen mobile phones belonging to dental professionals in a college setting. Swabs were collected along the screen, camera lens and on/off buttons of mobile phones which are frequently contacted. Swabs were streaked onto nutrient agar (NA) and incubated at 37°C for twenty-four hours for assessment of microbial load before and after the disinfection procedures. The disinfection process was performed using 70% isopropyl alcohol and an ultra violet chamber (TUV/15W/G15 T8). Mann Whitney- U test was used to compare the values between the two groups. Wilcoxon Signed Ranks Test was used to compare the values within each group.

Findings: There was a statistically significant reduction in the mean number of colonies ($p=0.001$) after decontamination by the two groups (Isopropyl alcohol and UV chamber) indicating that both agents were effective in disinfection. The reduction in microbial load in the mobile phones post intervention was 79.89% in the isopropyl alcohol group and 71% in the UV chamber group.

Conclusion & Significance: The study concluded that the percentage reduction in microbial load of the mobile phones was better with isopropyl alcohol compared to UV chamber. It is recommended that mobile phones in the dental setup be regularly decontaminated and dentists, as health care professionals must adhere to strict infection control protocols specifically in relation to hand hygiene to make this society illness and infection free.

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Classroom discourse on HIV/AIDS issues in Malawian secondary schools: Who should facilitate and how?**Paul Makocho**

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The need for effective discourse on HIV/AIDS issues in Malawian secondary schools, has been explored using questionnaires and interviews. In contrast to previously reported literature on HIV/AIDS education in Malawi, the present study has drawn pupils' needs directly from the pupils' themselves, focussed on classroom practice, and triangulated data sets to give a comprehensive narrative of what pupils perceive to be effective facilitators in HIV/AIDS education. Despite a conservative cultural and religious adult world, pupils identified the need for facilitators with explicit and accurate knowledge on HIV/AIDS issues and who are willing to engage in open discussions on HIV/AIDS issues. The findings suggest that in future, effective HIV/AIDS intervention through classroom discourse needs to be informed by the pupils' needs. Additionally, there is a need to examine the extent to which classroom practice has addressed these needs and the factors influencing classroom practice.

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***Rickettsiae* in human and in blood feeding arthropods in Northern Tunisia**Fatma Khrouf¹, Saba Zouari¹, Youma M'Ghirbi¹, Souha Boughatef², Nisaf Ben Alaya², Lamia Ammari³ and Lilia Messadi⁴¹IPT, Tunisia²ONMNE, Tunisia³LaRabta, Tunisia⁴ENMV, Tunisia

Statement of the Problem: Rickettsioses are considered as emerging infectious diseases. These affections are classically transmitted to humans via arthropods vector bites. In Tunisia, about 200 cases were registered every year. Despite medical importance and longstanding presence of this disease, relationship between *Rickettsia* species and potential arthropod vectors has been poorly investigated. Based on the epidemiological understood and the control of emerging diseases spread in Mediterranean region, a survey of *rickettsial* diseases was carried out to have an overview about the circulation of these diseases in Northern Tunisia. Nevertheless, this data is necessary in order to target surveillance and control of this vector-borne disease nationwide.

Methodology & Theoretical Orientation: A total of 2452 ectoparasites (ticks and fleas) infesting domestic animals (dogs, sheep and goats) were collected in five studied cities in which sera and blood of patients, suspected to have *rickettsial* infection on the basis of clinical criteria, were tested serologically (IFI) and molecularly. Extracted DNA was subject to *Rickettsia* identification using qPCR. To confirm our findings, some amplified positive samples from vectors and humans were sequenced.

Findings: During our survey (March-November 2015), the seroprevalence of 40 suspected patients was 54%. Three positive biopsies were identified infected by *R. conorii*. The global prevalence of infected ticks and fleas by *Rickettsia* was 46% and 63% respectively. Specific qPCR showed the infection of 92% of positive fleas by *R. felis*. The molecular sequencing, using 3 target specific genes (*gltA*, *ompA*, *OmpB*), allows the identification of *R. massiliae* in *Rh. turanicus*, *R. helvetica* in *Ixodes ricinus* and *R. aeschlimannii* in *Hyalomma marginatum* and *Hy. excavatum*.

Conclusion & Significance: In terms of public health, this study gives a global vision of the distribution of *Rickettsia* in human and vectors in endemic regions. Ticks and fleas, both abundant arthropods, seem to be the most significant *Arthropoda* species carrying *Rickettsia* agents and may play an important role in maintaining *rickettsial* infections and their transmission to human. Further investigations in humans and animals are needed to confirm these data.

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December 14-15, 2017 | Rome, Italy

Non-O:1 *Vibrio cholerae* bacteremia in a 60-year-old female: A case report**Therese Angeli A and Marion Priscilla A Kwek**
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This is a case of a 60-year old female who presented with persistent, non-bloody diarrhea for 3 weeks which started after intake of Amoxicillin-Clavulanic acid for an upper respiratory tract infection. She had undocumented fever a day prior to admission, which prompted her to seek consult at the Emergency Department and she was eventually admitted. She had stable vital signs at the ED, and only complained of vague abdominal discomfort and generalized weakness. She was initially managed as a case of antibiotic-associated diarrhea and was given Metronidazole PO. The blood cultures taken from two peripheral sites yielded growth of *Vibrio cholerae*. Bacteremia due to *Vibrio cholerae* is rarely reported in literature, and most cases that were reported were in the setting of an immune deficiency state. This patient was otherwise healthy and immunocompetent. She was given Ceftriaxone inpatient, and was sent home on Doxycycline after marked clinical improvement.

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Effect of family centered intervention on copper level of children with Wilson's diseaseJaklein R Younis¹, Maha I Khalifa², Mohammed A Khedr³ and Hind M Emar⁴¹Menoufia University, Egypt

Introduction: Wilson's disease (WD) is the commonest metabolic cause of fulminant hepatic failure in children over the age of 3 years. Family-centered interventions are seen to be more beneficial for improving child's condition, enhancing child's and parents' psychosocial adjustment and reducing parenting stresses.

Aim: The aim of this study was to evaluate the effect of family centered intervention on copper level of children with Wilson's disease and their family practices regarding this chronic disease.

Settings: The study was conducted at the outpatient clinic of pediatrics in national liver institute Menoufia University at Shebeen El_koom town Design: Quasi-experimental research design was utilized.

Samples: A convenient sample of 37 children having Wilson's disease was included. Instruments: - four instruments were utilized for data collection:-Instrument one: Childhood Chronic Illness' Impact on the Family: it consisted of four parts. Instrument two: family knowledge and practices related to care of Wilson's disease: Instrument three: Laboratory investigation record for copper level: Instrument four: Dietary Recall Diary: It is a 24 hours dietary recall of copper.

Results: It showed a highly statistical significant difference between mean Urinary copper exertion, SGPT and SGOT in pre and post-intervention. Also, there were a positive correlation between parent's total knowledge, total family role and urinary copper excretion.

Conclusion: Children with Wilson's disease who received a family centered intervention protocol of care had marked improvement in their clinical signs and symptoms due to reduction in their copper level.

Recommendations: Family centered intervention protocol of care should be utilized by pediatric nurses and caregivers of children who suffer from Wilson's disease.

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Hospital infections and epidemiology**Mehak zahira**
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The terrible statistics about hospital acquired infections point out the necessity of improving the infection control in health care facilities. This implies that it is necessary to search for new methods and techniques of design. The aim of this paper is to describe all known measures of the infection control and to consider a new approach in its optimizing the use CFD modeling. The CFD modeling possibilities are demonstrated by an analysis of one factor impact on the infection risk. The analyzed factor is the use of local exhaust unit in the airborne infectious isolation room. The report includes the detailed description of all steps of the simulation: collection of the initial data, the modeling process, setting the solver and analysis of the results. The results of the simulation allow estimating the impact of the analyzed factor and giving certain recommendations for the design of airborne infectious isolation rooms. Everyone suppose that hospital is the place, where we recover from a disease. However, there is a high risk to acquire a serious infection instead of recovery. The term nosocomial infection or hospital acquired infection (HAI) is used when a patient gets infected in hospital. Hospital is a place of concentration of infection and the main aim of designers and administration is to isolate and prevent the spread of the infection to protect patients. Unfortunately, the statistics shows that this aim is not fully achieved. Because of the collection and processing of the statistical data, provided in the Appendix A, the estimated morbidity associated with HAI for US and EU together is about 6 million per year, and the mortality is about 300.000 per year. This terrible statistic reveals the importance of the problem of nosocomial infections and suggests the necessity of a concerted approach to solutions of specialists from different fields: architects, engineers, health workers. However, the theoretical justification is followed by detailed description of all steps of simulation: collection of the initial data, the modeled process description, creation of the model, setting the solver and analysis of the results. The results of the simulation not only allow showing the power of CFD, but also allow giving a certain recommendation.

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Detection of the *mcr-1* colistin resistance gene and extended-spectrum beta-lactamase (esbl)-producing *Escherichia coli* from poultry in Qatar**Nahla Eltai**

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Antimicrobial resistance (AMR) is a growing public health concern worldwide and is one of the top health challenges facing humanity in the 21st century. AMR among *Enterobacteriaceae* is rapidly increasing especially to third-generation cephalosporins and carbapenems. Further, strains carrying mobilized colistin resistance (*mcr*) genes 1 & 2 have been isolated from humans, food-producing animals, and environment. Uncontrolled use of antibiotics in animals in large scale could be one of the major contributing factors to generation and spread of antibiotic resistance. No studies have been done to evaluate antimicrobial resistance in animals in Qatar. This study aimed at establishing a primary baseline data for prevalence of antimicrobial resistance among food animals in Qatar. 172 fecal samples were obtained from two broiler farms and one live bird market in Qatar and 90 *Escherichia coli* (*E. coli*) bacteria were isolated and subjected to antimicrobial susceptibility testing using E test method. 90% (81/90) of the isolates were resistant to at least one of the 16 tested antibiotics. 15.5% (14/90) of the isolates were colistin resistant, 2.2% (2/90) were extended spectrum β lactamase (ESBL) producers and similar percentage were multi-drug resistant (MDR) to four antibiotic classes. ESBL-producing *E. coli* and colistin resistant isolates were confirmed using double disc susceptibility testing and PCR, respectively. In summary, our results indicate high antimicrobial resistance in food producing animals in Qatar, including ESBL and colistin resistance. Such AMR bacteria could be easily transmitted to humans through consumption of undercooked food or noncompliance with hygiene practices, which mandates prompt development and implementation of stewardship program to control and monitor the use of antimicrobial agents in community and agriculture.

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Adenovirus-rough n tough: Successful treatment of disseminated adenovirus infection in two solid organ transplant recipients**Ram Prakash Thirugnanasambandam, Shuchi Pandya, Sally Alrabaa and Cynthia Manor**
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Adenovirus is a DNA virus that causes infections of the respiratory tract, gastrointestinal tract, conjunctiva and rarely urinary or neurological systems. Disease caused by adenovirus is usually self-limiting, but it can cause disseminated infection with high morbidity and mortality. We present two cases of transplant recipients who developed disseminated adenovirus infection and were successfully treated on a compassionate basis with the investigational drug Brincidofovir. The first patient was a 47-year-old female with kidney/pancreas transplant done 6 months prior to presentation who was admitted with hematuria for 9 days, fever and acute kidney injury. A cystoscopy was done which revealed erythema in the bladder and transplant ureter. Biopsy of transplanted kidney was PCR positive for adenovirus and had changes consistent with adenovirus tubulo-interstitial nephritis. Due to pancytopenia, she underwent a bone marrow biopsy which was PCR positive for adenovirus. She was started on cidofovir, but quickly developed worsening renal failure, hence she was switched to brincidofovir. Within 3 weeks of starting treatment, her symptoms resolved, and adenovirus PCR was negative in urine. Unfortunately, her renal function did not improve, and she remains on hemodialysis. The second patient is a 46-year-old African American female who underwent Deceased Donor Kidney Transplant (DDKT) 4 months prior to presentation. She presented with fever for 2 days, abdominal pain and non-bloody watery diarrhea. Temperature was 103 F and she had pancytopenia. On labs, pertinent negatives included urine culture, blood culture, serum PCR for CMV and EBV and stool studies. Adenovirus was detectable by PCR in urine and was positive in blood with 11,571 copies detected. Due to pancytopenia, she had a bone marrow biopsy which was PCR positive for adenovirus. She was diagnosed with disseminated adenovirus infection and was initiated on brincidofovir with improvement in fever and diarrhea. Due to our experience with the first patient we were hesitant to initiate cidofovir. At one month follow up, blood cell counts had improved and adenovirus PCR in blood and urine were both undetectable. Brincidofovir is an investigational drug that is an oral lipid formulation of cidofovir and is less nephrotoxic. Our center has had positive experiences with the compassionate use of this agent. Polymerase Chain Reaction testing (PCR) is useful for diagnosis as it is highly sensitive and specific. Due to significant morbidity and mortality as well as limited data on prevention and treatment, it is important to consider adenovirus as a causative infectious agent in solid organ transplant patients who present with fever of unknown origin, pancytopenia and hemorrhagic cystitis. It is critical to rule out disseminated adenovirus disease, reduce immunosuppression where possible, and consider starting anti-viral therapy early. Brincidofovir is currently in phase three clinical trial for adenovirus infections.

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Prospective cohort study of the qSOFA score versus the SIRS criteria in the determination and prognostication of sepsis in a Philippine tertiary hospital**Stephanie Rachel C, Onion Gerald V, Maria Fe Raymundo-Tayzon, Cybele Lara R, Karl Evans R Henson, Irmingarda P Gueco and Jude Erric L Cinco**
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Sepsis is a leading cause of mortality both locally and worldwide. Despite this, early diagnosis of sepsis remains difficult, with a significant number not fulfilling SIRS criteria. In 2016, the Sepsis-3 guidelines modified its definition to include qSOFA score. To compare the two, 295 adult patients in the emergency room with suspected infection were included in the study and simultaneously determined their qSOFA score and SIRS criteria. The presence of sepsis was adjudicated by three infectious disease specialists, and outcomes within the first 48 hours were acquired. Sensitivity, specificity, positive predictive and negative predictive values for qSOFA and SIRS were computed using constructed confusion matrices, and overall predictive accuracy was measured by the AUROC. The qSOFA score was specific (95.5%) but poorly sensitive (46.3%) test compared to the SIRS criteria (sensitivity 73.7% and specificity 60%). Both qSOFA and the SIRS criteria significantly co-related with sepsis positivity but the qSOFA score had superior overall predictive accuracy at 70.9% compared to the SIRS criteria. The adjudicators had moderate strength in agreement (Fleiss' kappa=0.39) and a percentage agreement of 60%. Based on our findings, we conclude that the qSOFA score is a more accurate predictor of sepsis, but should not be used as a preliminary sepsis screening tool.

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Bacterial Infections in low socio-economic women of rural IndiaVrushali Palayekar¹, Ashok Vadigoppula¹, Swapnal Pawaskar¹ and Perveen Meherji²¹National Institute for Research in Reproductive Health, India

Infectious vaginitis is one of the most common health problem in women of rural India. Bacterial vaginosis (BV), *Candida* species and *Trichomonas vaginalis* are responsible for 90% of infectious vaginitis. The BD Affirm VPIII rapid microbial identification test (Becton, Dickinson, Sparks, MD) is multianalyte, nucleic acid probe based assay system designed to enable the identification and differentiation of organisms associated with vaginitis (*Gardnerella vaginalis*, *Candida spp* and *Trichomonas vaginalis*). The objective of our study was to detect reproductive tract infections (RTIs) such as B. Vaginosis, *Candida* sp, T. Vaginalis, Syphilis in low socio-economic women of rural India. The study was approved by Institutional ethics committee. Total 705 women were screened at camps for RTIs from low socioeconomic group of rural Maharashtra (Raigad, Pune, Thane district). Enrollment of 263 participants in the age group of 18-60 years was done as per eligibility criteria. At each camp site, counseling session was carried out in the form of group discussion and one to one counseling for RTIs and Pap smear, cervical cancer, anemia and contraception. After per speculum examination, vaginal smears with spatula and swab were collected, followed by VIA and bimanual examination. Manual LBC method was used to prepare Pap slides and for staining as per the regular Pap staining procedure. Free Treatment for RTIs was given by the Gynecologist. Out of enrolled cases, 95% of women were never screened for RTIs in their lifetime. 85 women participants had Bacterial Vaginosis. *Candida* was present in 25 participants. *Trichomonas* was present in one case. All participants who had infection were treated. Syphilis card test was positive in 4 participants. All syphilis positive participants were referred to nearby general hospital. We observed that the Affirm VPIII assay (BD) using a DNA hybridization technique was more useful in identifying *G. vaginalis*, *Candida* species, and *T vaginalis*. The Affirm test is a quick tool that can help Gynecologists to diagnose and treat patients with infectious vaginitis as point of care. Additional benefits of this Affirm test are total time-to-results under 45 minutes, the simple, automated procedure can be performed with minimal training, ready to read, the elimination of the need for special microscopy skills.

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