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Poster

Athini Ntloko et al., J Infect Dis Ther 2018, Volume 6
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Characterization of *aspergillus flavus* isolated from maize

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Aspergillus flavus is the main producer of carcinogenic aflatoxins in agricultural commodities such as maize. This fungus produces aflatoxin B1 (AFB1) and aflatoxin B2 (AFB2) being the most relevant in crops and this can result in economic losses. The aim of this study was to investigate four strains of *A. flavus* field for the production of aflatoxin B1 and aflatoxin B2.The strains: 3909, 3911, 3951 and 3955 isolated from Lydenburg in Mpumalanga were morphologically identified at ARC-Plant Protection Research Institute and were further characterized by Polymerase Chain Reaction (PCR) and Sanger sequencing of the internal transcriber subunit regions: ITS-5. 8-ITS2.The strains were analysed for the presence of genes encoding AFB1, targeting both regulatory (*aflR, aflS*) and structural genes (*aflD, aflM, aflO, aflP and aflQ*). To determine the actual production of aflatoxin B1 and B2 of the four strains, a reverse high performance liquid chromatographic (HPLC) instrument was used. All the four strains amplified 600bp of ITS-5. 8-ITS2 rDNA region. Similarly, all of seven genes for aflotoxin B1 were detected in four strains with expected band sizes. Aflatoxin production was present in strain 3911 and 3955 for AFB1 and AFB2 and in strain 3951 only AFB1 while strain 3909 revealed negative aflatoxin (AFB1 and AFB2) production. The results may contribute to development of reliable molecular techniques for detection of aflatoxigenicity as well as illustrating the complexity of local fungal communities associated with maize.

Biography

Athini Ntloko is currently a final year PhD student under Professional Development Programme (PDP) at Agricultural Research Council (ARC) and registered with University of the Western Cape in 2016 and conducting a research project in the study entitled: Evaluation of the capacity of hydrogen sulphide to reduce infection and aflatoxin contamination of maize by Aspergillus flavus. In 2017, she has been awarded a third prize for poster presentation from an annually ARC PDP conference. Ms Ntloko earned her Bsc degree (Microbiology and Biochemistry) in 2013, Honours (Microbiology) in 2014 and Masters in Microbiology (2016) with University of Fort Hare.

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Notes:

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e-Poster

Masoumeh Mohandes et al., J Infect Dis Ther 2018, Volume 6
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The effect of multiple group education for hand hygiene compliance in healthcare workers

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Statement of the Problem: Hand hygiene is recognized as an important measure to prevent healthcare-associated infections. Hand hygiene adherence among healthcare workers is associated with their knowledge and perception. This study aimed to evaluate the effect of multiple group educational programs on improving hand hygiene compliance, knowledge, and perception among healthcare workers in a transplantation hospital in shiraz- Iran. The study was performed from March to July2018 and divided into a pre-intervention, intervention, and post-intervention phase. This cluster randomized controlled trial allocated the implementation of three interventions to the departments, both direct observation and knowledge-perception survey of hand hygiene (HH) were performed using WHO tools.

Theoretical Orientation: During this analysis, 1700 hand hygiene opportunities into a pre-intervention, intervention, and post-intervention phase, were observed. HH compliance was tested for all 5 moments as per WHO guidelines. Based on 5100 observations in a 3-month period, the rate of compliance with HH improved from 7.3% at baseline to 42.90% after intervention ($p < 0.001$).Significant improvement incompliance and an increase in consumption of HH products were observed after intervention. This study demonstrates that a significant improvement in compliance with HH can be achieved through a systemic, multiple group therapy education intervention approach involving healthcare workers in a hospital setting

Recent Publications:

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Biography

Masoumeh Mohandes is working as a practicing physician in the field of healthcare and very much interested in infection prevention research.

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Accepted Abstracts

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Phenotypic and genotypic determination of nasal staphylococcus aureus and mrsa carriage in trainee students of health services vocational school

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Background: Methicillin-resistant Staphylococcus aureus (MRSA) are an important bacterial pathogen, resistant to beta-lactam antibiotics and are frequently isolated severe infection in hospital settings. It has been reported that long-term hospitalized individuals, such as health workers and medical students with high chances of carrying these strains, may be potential sources of nosocomial infections.

Objectives: In our study, it is aimed to investigate epidemiologically phenotypic and genotypic state of carriage which occurs before and after the laboratory internship. In addition, the difference between phenotypic and genotypic methods will be examined.

Material and Methods: Nasal swab samples collected from 180 trainee students before and after the laboratory internship period at Medical Laboratory Department without any health problems between in 2014 and 2016. Phenotypically for conventinal methods and genotypically for real-time PCR were used to detect S.aureus and MRSA.

Conclusions: Nasal S.aureus carriage was found 12 (6,66%) and 21 (11,66%) of the samples taken before and after the internship period respectively. Nasal MRSA carriage was found 3 (1,66%) and 5 (2,77%) of the samples taken before and after the internship respectively. During the 14-week internship period (one day per week), both S.aureus and MRSA carriers amount increased in trainees. All phenotypic results also confirmed by real-time PCR. As a result, our results suggested that colonization of this bacteria in the hospital environment should be improved and caution should be taken in terms of nosocomial 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

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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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Hospital infections and epidemiology

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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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Opportunities for development of new anti-infective medicines

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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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Survey of physicians in the wilaya of constantine and mila (Eastern Algeria)

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In Algeria, hydatidosis and human fascioliasis constitute a public health problem. Their socio-economic impact remains important. Hydatidosis is a reportable disease. In order to clarify the epidemiological situation of human hydatidosis, a survey is carried out in the medical offices in the communes of Aïn Abid and Constantine. The goal is to question physicians about these diseases in their patients. In Constantine, the study concerned 110 doctors (72 medical offices and 38 hospitals). In Ain Abid, the study concerned 7 medical doctors. The descriptive analyzes were carried out using the "FREQ" procedure under SAS / STAT 8.1. The results show that hydatidosis is common among people aged 18 to 50 (85%) with predominance in men. The sex ratio is 2: 1. The liver is the most affected organ (53.2%), followed by the lungs (33%) and other locations (7.3%). The final multivariate analysis model revealed 2 independent variables significantly associated (P <0.05) with pulmonary hydatidosis: under 31 years of age (odds ratio = 2.3848, confidence interval of the odds ratio at 95%: 1,234-4,468), a factor that increases the probability of having a pulmonary cyst, and being female (odds ratio = 0.481, 95% confidence interval of the odds ratio: 0.236-0.981), a factor that decreases the probability of having a pulmonary cyst. Physicians who do not have information on fascioliasis account for 89.7%. In order to guarantee people's security, control measures must be put in place in keeping with the sociocultural and economic aspects of the population of the Algerian population.

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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

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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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Enhancing the outcome of the infection control training activities for hospitals' wellbeing

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Infection control practices are considered as one of the main elements of hospitals' competition which enhancing the hospital competitive edging. Total healthcare coverage program would be applied all over Egypt within less than a year & patients would be the sole judges. Competing for patients / clients would be an unavoidable event. Enhancing patients 'satisfaction could be achieved only if services that contribute to "healthcare" are delivered with a suitable standard. Although infection control & patients safety programs have been applied in MOH hospitals since1997, hospital-acquired infections still among the leading causes of death. Conduction of effective & efficient training programes could contiburte on improving the hospital well being at large.

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Rickettsiae in human and in blood feeding arthropods in Northern Tunisia

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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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In silico epitope prediction, vaccine studies and identification of inhibitors against secretory proteins of *Plasmodium falciparum*

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Malaria is one of annihilating problem caused by Plasmodium infection. Due to non-availability of any effective vaccine and development of drug resistance against the existing drugs malaria could not be eradicated completely. Therefore there is an urgent need to search for new alternative drug targets or vaccine candidates. To outcompete this we pored over secretory proteins of plasmodium which are secreted out from the infected erythrocyte, and which is one of the strategies that parasite utilize to evade the host immune system. Therefore we hypothesize the involvement of secretory proteins in host immune modulation or in parasite invasion process. Secretory proteins therefore might serve both as good drug target or vaccine candidates. Our present study is aimed to predict the 3D structure of secretory proteins of Plasmodium falciparum and we have also performed In-silico screening of diverse drug like molecules against these proteins. The virtual screening leads to the retrieval of some of the top compounds which were evaluated for their in-vitro anti-malarial activity against Plasmodium falciparum 3D7 strain. We have identified four compounds with less than 100 nM IC50. We have also predicted epitopes present in the proteins through different tools like PROPRED, and PREDEP for T cell epitope and BCPRED for Linear B cell epitope. Out of all predicted epitopes one antigenic peptide was selected on the basis of antigenicity, surface accessibility, hydrophilicity, and it is synthesized for in-vitro vaccine studies. Synthetic peptide was used for the immunization of mice and for the detection of cytokine profiling in immunized mice.

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Evaluation of chitosan/alginate polymer blend for the oral delivery of a marketed fowl typhoid vaccine

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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^- 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, 2013-2016

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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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Phage and aldehyde work in synergy to control *Xanthomonas* infection

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Xanthomonas campestris pv. campestris (Xcc) is a Gram-negative bacterium that causes black rot, one of the most important diseases of vegetable brassica crops worldwide. The use of bacteriophages for the control of vegetable diseases is a sector of growing interest, providing more advantages than the use of chemicals in agriculture. In this study, we isolated and characterized a lytic bacteriophage from the soil, capable of reducing Xcc infection. We evaluated the antimicrobial activity of the phage, and its possible direct administration to the plant xylem. Further, tests were performed both in in vivo and in vitro experiments to assess the activity of the bacteriophage in association with several anti-biofilm molecules, such as a long-chain fatty aldehyde and its analogs, that differed in the length of the aliphatic chain, obtained from an Antarctic Pseudoalteromonas haloplanktis. We demonstrated that the synergism between the bacteriophage and anti-biofilm molecules could be the most effective way to breakdown the biofilm and control Xanthomonas infection.

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Why our body acts against facts of physics in fever

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According to the facts of physics, if temperature increases, thermal expansion of an object is positive it will expand and with decrease of temperature it will shrink. Pressure will increase due to increase of temperature. On the contrary, during fever we can see blood vessels and skin are shrunk, pressure decreases, body shivers, sleep increases, motion decreases, inflammation increases, body pain increases, blood circulation decreases, dislike cold substances etc... In fever, the firing rate of Warm sensitive neurons decreases, and the firing rate of Cold sensitive neurons increases. At the same time if we apply hotness from outside by thermal bag or if we drink hot water, our body acts according to the Facts of Physics- increase of temperature pressure will also increase, expands blood vessels and skin, body sweats, motion will increase , inflammation will decrease , body pain will decrease, blood circulation will increase, like cold substances etc.. During fever, why our body acts against Facts of Physics? when disease increases, pressure and temperature will decrease. Blood circulation will decrease due to decrease of pressure. If the essential temperature of the body is going out, essential temperature and pressure will further decrease. This will further endanger the life or action of organ. when disease increase, it is the sensible and discreet action of brain that tends to act against facts of physics to sustain life or protect organ .There is no way other than this for a sensible and discreet brain to protect the life or organ. We will get a clear answer if we find out the purpose of fever, sensible and discreet action of brain . No medical books clarify this During fever, if the temperature of fever is not a surplus temperature or if it is not suppose to be eliminated from the body, the shrinking of skin and blood vessels, shivering of body, dislike towards cold substances etc are a protective covering of the body to increase blood circulation to important organs of the body it is against the facts of physics.

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Title: Decline in *Schistosoma haematobium* infection among pregnant women in Munyenge area is associated with decreased stream contact: Evidence from a repeated cross sectional study

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Urogenital schistosomiasis (UGS) caused by *Schistosoma haematobium* is endemic in Munyenge. There are several reports on schistosomiasis in pregnancy, thus this represents a major public health concern. This study assessed reasons for water contact patterns and changes in infection rate among pregnant women in Munyenge. A total of 368 pregnant women reporting for antenatal clinic (ANC) were enrolled. A questionnaire was used to assess socio-demographic information, gynaecologic/obstetric history and schistosomiasis. Microhematuria was determined using urine strips and *S. haematobium* infection determined by urine filtration. *Schistosoma haematobium* infection was detected in 22.3%. *S. haematobium* infection was significantly higher (P<0.05) in single women (35.7%), women who bathe in and had domestic contact with stream (48.3%), women who visited the stream at least more than thrice a week (54.5%) and women reported not using piped water (27.8%). In the multivariate analysis, single women and women who bathe in and had domestic contact with stream were significant risk factors associated with *S. haematobium* infection. On the other hand, less water contact frequency (once and twice per week) (aOR=0.40, 95% CI: 0.19-0.85 and aOR=0.25, 95% CI: 0.09-0.70) was associated with decreased risk of infection. Women who reported using piped water (aOR=0.63, 95% CI: 0.33-1.19) were less likely at risk of *S. haematobium* infection. There was a relative risk reduction in prevalence of UGS infection, intensity of infection, stream usage, domestic contact and bathing and frequency once.

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Effect of family centered intervention on copper level of children with Wilson's disease

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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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Non-O:1 Vibrio cholerae bacteremia in a 60-year-old female: A case report

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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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The role if follistatin in HIV-associated pre-eclampsia

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KwaZulu-Natal has a high burden of HIV infection and high blood pressure, specifically pre-eclampsia (PE) in pregnancy. Follistatin (FS) is an extracellular glycoprotein antagonist of the ligand receptor, Activin-A, involved in PE pathogenesis. In light of the high maternal mortality and morbidity in SA, we investigated the expression of FS in the duality of HIV-associated PE. Therefore, the aim of this study was to investigate the role of FS in HIV-associated PE using the Bioplex Multiplex Immunoassay. The methodology used -serum samples of normotensive and pre-eclamptic women stratified by HIV status were collected from a large regional hospital in Durban, and their FS expression was analysed using the Bio-Plex® Pro™ Human Cancer Biomarker Panel 1. Our results revealed that irrespective of HIV status, FS expression was significantly reduced in pre-eclamptic compared to normotensive pregnancies (2354±353.6 vs 649.5±116.8; $p<0.001$). However, FS expression did not differ between HIV +ve vs HIV –ve groups (1727±291.2 vs 1305±306.7; $p=0.13$)- regardless of pregnancy type. Furthermore, we detected significant FS expression across all study groups ($p<0.05$). In conclusion, this study demonstrates a downregulation of FS expression in PE, possibly due to oxidative stress and its immunoregulatory role in the hyperinflammatory milieu of PE. Moreover, the fact that FS did not vary by HIV status may be attributed to the effects of HAART regimen adopted in SA. It is also plausible to assume that the upregulation of FS expression (albeit non-significant) in HIV +ve patients, arises as a result of the immune response in controlling viral infection. Our novel findings suggest that FS may have a potential predicator test value early in pregnancy, hence work on this is ongoing.

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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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Bacterial Infections in low socio-economic women of rural India

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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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