



## **Conference Proceedings**

**2018 – 8th International Conference on Research in Life-Sciences & Healthcare  
(ICRLSH), 22-23 Dec, Bangkok**

**22-23 December 2018**

## **Conference Venue**

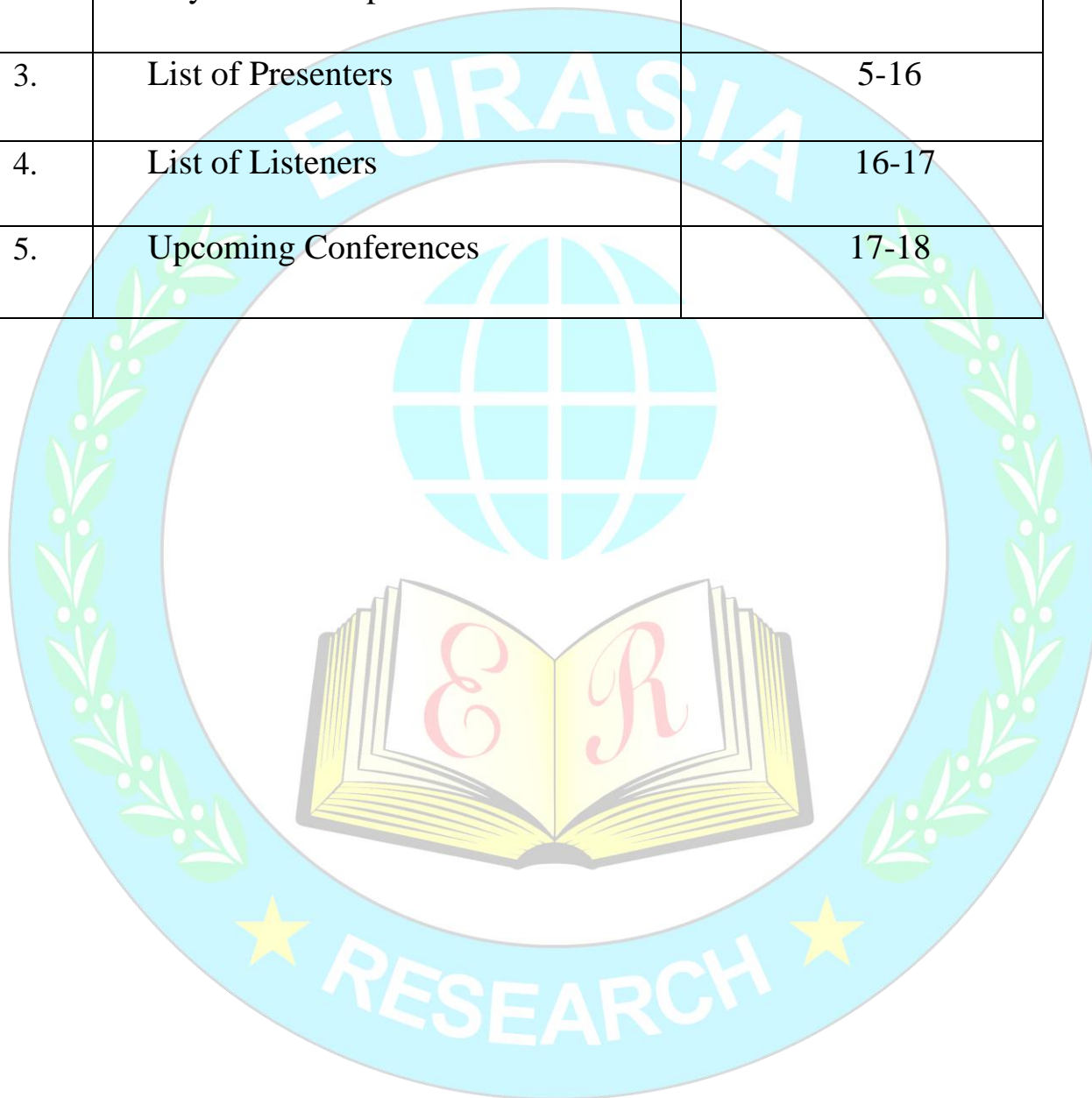
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<b>S. No.</b>	<b>Particulars</b>	<b>Page Numbers</b>
1.	Preface	3
2.	Keynote Description	4
3.	List of Presenters	5-16
4.	List of Listeners	16-17
5.	Upcoming Conferences	17-18



## **Preface:**

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## **KEYNOTE SPEAKER**



**Nizar Abdul Majeed Kutty**  
**Department of Physiotherapy at University Tunku Abdul Rahman, Malaysia**

Mr. Nizar is a Senior Lecturer in the Department of Physiotherapy at University Tunku Abdul Rahman, Malaysia. His commitment to teaching excellence has earned him accolades. His research interest spans a variety of topics in physical activity, multi-sensory reweighting, ergonomics, and diabetic peripheral neuropathy. Mr. Nizar presented his research findings at international conferences, published articles in prolific journals, and was awarded scholarships and research grants. A few of his academic articles have been translated into other languages. He serves as associate editor and reviewer for high-end academic journals from the United States. Mr. Nizar served as Head of Department of Physiotherapy at Mahatma Gandhi University, Kerala, India.

**Weblink:** <https://www.utar.edu.my/fmhs/index.jsp?fccatid=253&fcontentid=1222&f2ndcontentid=3296>

**PLENARY SPEAKER**



**Janet H. Davis MBA, PhD, RN, CNE**

**Collaboration across Disciplines and Countries through Evidence-based Practice**

Dr. Davis earned her BSN at Georgetown University, her MS in Maternal Child Nursing from Boston University, an MBA with concentrations in entrepreneurship and strategic management from the University of Illinois at Chicago and her PhD in Education from Loyola University Chicago. During her distinguished career in higher education she has held the roles of faculty, Academic Dean, Founding Dean, Director of the Center for Learning Excellence and Director of Academic Affairs Programs. These roles were performed at a number of prominent institutions throughout the Midwest area including the University of Illinois at Chicago College of Nursing, Robert Morris University and Purdue University Northwest. Her funded research has included approximately \$200,000 in grants. Dr. Davis is an accomplished author, having published research abstracts, more than thirty articles, a book, and chapters in two additional books. Dr. Davis is a Higher Learning Commission Consultant Evaluator. She is a resident of Chicago's northwest side where she lives with her husband of 40 years. They have two wonderful daughters and one treasured grandson.



Septian Putra Adi Nugroho  
ERCICRLSH1805051

### The Influence of Giving Trichoderma Mushroom for The Growth of Manilkara Kauki

Septian Putra Adi Nugroho

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#### ABSTRACT

Manilkara Kauki is a plant with many advantages as shade tree, fruit tree (for the consumed fruit), getting its wood to be utilized for engraving industry, building, and household facilities. However, its number in nature gets decreased. Besides its rare existence, Manilkara kauki's natural growth is also a slow one. Therefore, there should be a certain effort to take care of it, which is, through artificial regeneration using qualified seeds with the treatment of giving Trichoderma mushroom, apart from being a decomposing organism; it can take function as the biological agent and simulator of plant's growth. The purpose of this research is to discover the influence of giving the Trichoderma mushroom in some dosages towards the seedling growth of Manilkara kauki for 6 months. The research method applied in this research is Completely Randomized Design with 3 treatments, three of which are control treatment (0 gram), treatment of giving Trichoderma mushroom of 10 and 20 grams. Each of the treatments is done thrice and each treatment has 25 seedling samples. The obtained data are analysed using one way variance analysis and the descriptive quantitative analysis in the form of graph. The result is that one way anova test for each treatment shows the real influence result towards the growth of height of Manilkara kauki seedling. From the result of quantitative descriptive with graph, it can be known that the percentage of the living of the highest plant seedling is on the control treatment; the result of height growth of the highest Manilkara kauki seedling is on the treatment of giving 10 grams of Trichoderma mushroom; and the result of diameter growth and the length measurement of biggest and the longest Manilkara kauki's root seedling is on the treatment of giving 20 grams of Trichoderma mushroom.

Keywords : Trichoderma Mushroom, Growth, Seedling, Manilkara Kauki



Tadesse Hailu Jember  
ERCICRLSH1805053

### Prevalence of intestinal parasitic infection and determinant factors among pregnant women in West Gojjam zone, Northwest Ethiopia

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#### Abstract

**Background:** Intestinal parasite infections are the major causes of morbidity and mortality in Sub-Saharan countries. The disease burden and impact of these parasites are significantly high among pregnant women in developing countries like Ethiopia. Poor sanitation and hygiene are believed to be the major contributing factor.

**Objectives:** The aim of this study was to determine the magnitude of intestinal parasitic infection and identify the associated factors among pregnant women.

**Methods:** A cross sectional study was conducted from February to June, 2017. A structured questionnaire was used to obtain the socio-demographic. Stool samples were collected and examined using Formol Ether concentration techniques. The magnitude of parasitic infection was calculated using descriptive statistics. Association between intestinal parasitic infection and determinant factors was calculated by logistic regression. The differences were considered to be statistically significant if p-value was less than 0.05.

**Results:** A total 743 pregnant women enrolled in this study. Overall 277 (37.3%) pregnant women had intestinal parasitosis. The prevalence of hookworm 138 (18.6%) was the leading

	<p>cause of intestinal parasitosis. Dwelling in rural area (AOR: 2.9 [95%CI: 1.85-4.85]), being farmer (AOR: 1.91 [95 % CI: 1.20-3.03]), eating raw vegetables (AOR: 1.45,95%CI:0.09-0.24), proper utilization of latrine(AOR: 2.89 [95%1.18-7.08]), poor in environmental sanitation(AOR: 0.19, [95%: CI:0.08-0.47]), habit of soil eating (AOR: 0.42 [95% CI: 0.25 - 0.72]), having irrigation practice (AOR: 0.47 [95% CI: 0.29 - 0.77]) and lack of health education (AOR: 0.32 [95%CI: 0.13-0.77]) were significantly associated with intestinal parasitic infections.</p> <p>Conclusions: Intestinal parasitic infection was a major public health problem among pregnant women. High parasitic infection was associated with limited hygiene and sanitation in the study area. Therefore, awareness should be created on the prevention of intestinal parasitic infection and determinant factors during pregnancy through health education.</p> <p>Keywords: Prevalence, Pregnant, Parasite, determinant factors</p>
<p>Baris Sezer ERCICRLSH1805055</p>	<p><b>Prevalence of Nomophobia among Medical Students: Do we need to worry about it?</b></p> <p>Baris Sezer Department of Medical Education and Informatics, Hacettepe University, Ankara, Turkey</p> <p><b>Abstract</b></p> <p>The aim of this study was to investigate the nomophobia levels of medical students. It has also been investigated the relationship between prevalence of nomophobia and some variables (gender, class level, academic success, place of residence, people living together). The survey method was used in this research. The ethical approval was obtained from Hacettepe University Ethics Committee. The study group consisted of physician candidates (N= 680) at Hacettepe University, Faculty of Medicine. With the purpose of seeing research variables' changes on class base, data of 680 out of 2661 students that could be contacted and showed willingness was collected. Of these, 296 (%43.5) are male and 384 (%56.5) are female. Out of the physician candidates, 124 (%18.2) are first-year students, 112 (%16.5) are second-year students, 115 (%16.9) are third-year students, 106 (%15.6) are fourth-year students, 115 (%16.9) are fifth-year students and 108 (%15.9) are last-year students. A nomophobia scale and demographics questionnaire were used for data collection. The data was collected via electronic format. For the statistical analysis of the collected data for the research, the SPSS 22 package program was used. According to findings, it was determined that the nomophobia levels of medical students was found to be slightly above average. Pertaining to gender differences, female students have a higher tendency to exhibit nomophobic behaviours compared to male students. It was found that the students who live together with their families are more nomophobic in the sub-dimension of 'Not Being Able to Access Information', 'Not Being able to Communicate', and 'Giving up Convenience'. There also was a significant difference in the level of nomophobia for those living in the dormitory in the sub-dimension of 'Losing Connectedness'. According to class level has no effect on the prevalence of nomophobia. Besides, it was found that there was a significant correlation between academic success and prevalence of nomophobia in all sub-dimensions. In other words, it was discovered that when levels of the nomophobic behaviour skills of physician-candidates group, their academic success falls. These results show that advanced counselling service has been given to students in their academic lives. In addition to this, some elective or mandatory courses may be included to their academic program.</p> <p>Keywords: medical students, nomophobia, counselling, academic success.</p>
<p>Ruijia Ge ERCICRLSH1805056</p>	<p><b>Predicting Breast Cancer using Artificial Neural Network and Logistic Regression</b></p> <p>Ruijia Ge The Madeira School, McLean, Virginia, USA</p> <p><b>Abstract</b></p> <p><b>Objective:</b> This study aims to build a predictive model for breast cancer using artificial neural network and compare its performance to logistic regression model.</p> <p><b>Methods:</b> Wisconsin Diagnostic Breast Cancer (WDBC) data was used in this study. Features</p>

were computed from a digitized image of a fine needle aspirate (FNA) of a breast mass. They described characteristics of the cell nuclei present in the image.

All the participants who were eligible were randomly assigned into 2 groups: training sample and testing sample. Two models were built using training sample: artificial neural network and logistic regression. We used these two models to predict the risk of breast cancer in the testing sample. Receiver operating characteristic (ROC) were calculated and compared for these two models for their discrimination capability and a curve using predicted probability versus observed probability were plotted to demonstrate the calibration measure for these two models.

Results: A total of 569 patients were included in this analysis, 357 (62.74%) benign, 212 (37.26%) malignant breast cancer patients.

According to the logistic regression, number of concave portions of the contour and texture (standard deviation of gray-scale values) were at important predictors for malignant breast cancer.

According to this neural network, the top 5 most important predictors were worst area, mean of severity of concave portions of the contour, worst of severity of concave portions of the contour, worst of symmetry, worst of compactness.

For training sample, the ROC was 1.0 for the Logistic regression and 1.0 for the artificial neural network. Artificial neural network performed better clearly. While in testing sample, the ROC was 0.92 for the Logistic regression and 0.99 for the artificial neural network. Artificial neural network had better performance.

As to calibration measure, predictions made by the neural network are (in general) less concentrated around the 45-degree line (a perfect alignment with the line would indicate an ideal perfect calibration) than those made by the Logistic model.

Conclusions: In this study, we identified several important predictors for breast cancer e.g., number of concave portions of the contour, worst of symmetry, worst of compactness. This provided important information for providers and patients for timely accurate diagnosis. We built a predictive model using artificial neural network as well as logistic regression to provide a tool for timely accurate diagnosis. When compared to artificial neural network model, logistic regression had a worse discriminating capability and a better calibration between predicted probability and observed probability.

#### Portable Equipment for Sterilizing - Surgical Instruments

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#### ABSTRACT

There are various surgeries done, in this world. But most, failures occur due to improper sterilization. The sterilization is basically made by boiling the surgical instruments. But in this case, the sterilization is not completely processed.

While planning for complete sterilization, it requires an huge machineries with high initial amount and high maintenance. So, here the Portable Sterilizing equipment is used, it is very effective and it is mainly cost efficient. The equipment contains three step sterilizing process.

At the first step, the surgical instruments are sent into the cold chamber, here the chamber is fully covered with the cold coil and thus making it cold. And simultaneously the chamber is kept in vacuum pressure. This cold chamber makes germs inactive and germs are paralyzed. At the second step, the surgical instruments are sent into the hot chamber, here the chamber is covered up with heating coil. The electrical coil is energized and heat is produced. The chamber is also maintained with vacuum pressure. At this stage the germs are killed. This equipment has the in-build UV rays sterilization process, in which the surgical equipments are sent into UV light chamber, it is an add-on for providing complete sterilization.

**KEYWORDS:** hot Chamber, Cold Chamber, UV chamber

Bioavailability and Pharmacokinetics Parameters of Lupeol In Cd-1 Mice



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#### Abstract

**Introduction:** Bioavailability of therapeutic agents administered through oral route is a subject of vital importance in the discovery and development of bioactive compounds to treat different diseases. Most of the available therapeutic agents are administered orally and it is well known that a poor oral bioavailability is one of the major causes of therapeutic variability. **Methodology:** Female mice of CD-1 strain were used. Lupeol was administered orally (200mg/kg body weight). There were 6 experimental times (0.5-2-4-8-12-24h). The mice were sacrificed, to collect blood, urine, feces and organs (stomach, small intestine, large intestine, liver and kidneys). A micro-extraction with ethyl acetate was performed to extract the lupeol from the samples and the samples were analyzed by LC-APCI-TQMS. **Results:** Lupeol was able to reach the systemic circulation in mice, having a  $C_{max}$   $8.071 \pm 2.930 \mu\text{g/mL}$ , a  $T_{max}$   $6.444 \pm 0.851\text{h}$ . In organs, it was possible to appreciate that those directly related to the digestive process and absorption have a significant concentration of lupeol in the first administration times (stomach  $137.25 \pm 19.94 \mu\text{g/mg}$  and small intestine  $99 \pm 12.99 \mu\text{g/mg}$ ), in liver and kidneys the lupeol concentration was not found to be elevated. The route of excretion is by feces with a maximum value at 12h post-administration ( $163.28 \pm 9.83 \mu\text{g/mg}$ ), whereas its level in urine was practically undetectable. **Conclusions:** It was possible to detect lupeol in plasma and the different organs, despite the non-polar nature of this triterpene. Its level in the samples analyzed was relatively constant over time. This behavior suggests that this compound could be used as a therapeutic agent to treat different diseases.

**Keywords:** Bioavailability, lupeol, oral.

#### Seizure Based Brain Surgery To Cure Epilepsy Disorder

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#### Abstract

Epilepsy is a neurological disorder that involve sudden recurrent episodes of sensory disturbance and loss of consciousness associated with abnormal electrical activity in the brain. It is a chronic disorder that cause unprovoked recurrent seizures. Since, seizure is a sudden rush of electrical activity in the brain thus, it may occur in two different ways. First one is a generalized seizures that affect the whole brain and the other one is focal or partial seizure that affect some part of the brain. There may be a mild seizure or stronger one. A mild seizure is difficult to recognize and it last a few seconds during which a patient lack awareness. Whereas, in stronger seizure some people become confused or loss consciousness and then they have no memory of it happening. Symptoms of epilepsy disorder involve temporary confusions, uncontrollable jerking movements of the arms and legs, a straining spells, loss of consciousness or awareness, psychic symptoms such as fear, anxiety, staring blankly, unresponsiveness and performing repetitive movements. There are several issues and challenges for epilepsy patient involving cognitive or learning problems, not doing well at home school, work, or with friends, sleeping problem, unexplained injuries, falls, thinning of the bones, reproductive problems and risk of death. Worldwide, there are about 50 million patients of epilepsy. An estimate of 30 to 50 per 100000 people in the general public are suffering from epilepsy and the rate is two to three time high in the developing country. It is more common in New Zealand but in Pakistan 9.99 per 1000 people of total population are suffering from epilepsy disease. All though medication solution is available for epilepsy disorder but the same is time consuming and not 100 percent correct in most of the cases. Since, there are various types of seizure in epilepsy disorder thus, we have proposed brain surgeries in specific portion of brain for each type of seizure as resectivesurgery, multiple



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	<p>subpial transection, corpus colostomy. With epilepsy surgery, a surgeon have to remove that areas of patient's brain that causing seizures as per above mentioned surgeries. In our future work, we aim to propose most accurate medication treatments since, most of the people are reluctant from brain surgeries.</p> <p><b>Keywords:</b> epilepsy, seizure, disorder, consciousness, unresponsiveness</p>
<p><b>Faheem Sultan</b> ERCICRLSH1805064</p>	<p><b>Rosuvastatin and Retinoic Acid Mitigate Isoproterenol-Induced Myocardial Injury by Improving Antioxidant Status through Nrf2 mRNA Expression and Cytokine Modulation</b></p> <p><b>Faheem Sultan</b> Department of Veterinary Pharmacology and Toxicology, Guru Angad Dev Veterinary And Animal Sciences University, Ludhiana, India</p> <p><b>Abstract</b></p> <p>Cardiovascular diseases still remain the leading cause of death globally. Out of the various cardiovascular problems, ischemic heart disease contributes to the maximum number of deaths. This study was carried out to investigate the cardioprotective effects of rosuvastatin and retinoic acid against isoproterenol-induced myocardial infarction in rats and the mechanisms involved in cardioprotection. Rosuvastatin (oral) and retinoic acid (intraperitoneal) were administered to Wistar rats in individual and in combination for one week. After this, the rats were given high doses of isoproterenol subcutaneously to induce myocardial injury/necrosis. The levels of various serum marker enzymes like creatine kinase-MB (CK-MB), aspartate transaminase (AST), alanine transaminase (ALT), lactate dehydrogenase (LDH) as well as cardiac troponin-I (cTnI), thiobarbituric acid reactive substances (TBARS) levels, superoxide dismutase (SOD), glutathione peroxidase (GPx), catalase (CAT) activities, reduced glutathione (GSH) concentrations and total antioxidant status (TAS) were determined. Tissue sections were hematoxylin and eosin stained to study histopathological changes. Cardiac tissue levels of cytokines like TNF-<math>\alpha</math> and IL-6 were determined using enzyme-linked immunosorbent assays. The mRNA levels of nuclear factor erythroid 2-related factor-2 (Nrf2) were determined by qRT-PCR. Pretreatment with rosuvastatin and/or retinoic acid significantly decreased the levels of marker indices (cTnI, CK-MB, LDH, AST and ALT), TBARS and significantly increased the activities of endogenous antioxidants, total antioxidants and mRNA expression of Nrf2 when compared with the isoproterenol-treated group. Our results revealed that treatment with rosuvastatin and/or retinoic acid improved the histopathological alterations in the myocardium and decreased the levels of TNF-<math>\alpha</math> but the levels of IL-6 remained statistically unaffected. Our study indicates, rosuvastatin and retinoic acid significantly relieve isoproterenol-induced myocardial injury but to our surprise, the combination does not seem to have advantage over our individual drugs. The mechanism of cardioprotection might involve improving antioxidant status through the involvement of Nrf2 and attenuation of inflammation through modulation of cytokines like TNF-<math>\alpha</math> and IL-6.</p> <p><b>Keywords:</b> Cardiovascular, rosuvastatin, retinoic acid, Nrf2</p>
<p><b>Dr. Narendra Pamidi</b> ERCICRLSH1805067</p>	<p><b>The Establishment of Type 2 Diabetes Rat Model By Induction of High-Fat High-Sucrose Diet and The Influence of Environmental Enrichment (EE) Exposure on The Model</b></p> <p><b>Dr. Narendra Pamidi</b> Senior Lecturer in Anatomy, Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia, Kuala Lumpur, Malaysia</p> <p><b>Teh Rasyidah Ismail</b> Phd Student, Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia, Kuala Lumpur, Malaysia</p> <p><b>Christina Gertrude Yap</b> Senior Lecturer, Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia, Kuala Lumpur, Malaysia</p>

**Rakesh Naidu**  
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**Abstract**

**Introduction/Background:** The development of type 2 diabetes (T2D) is contributed by unhealthy diet and sedentary lifestyle. However, the precise mechanism involved is not entirely identified. Various experimental models are used to study T2D including genetic- and chemically induced- models. Unfortunately, these models are much different from the T2D in general population. In addition, although there are increasing studies on therapeutic approaches for T2D, the studies emphasized on environmental enrichment (EE) are limited.

**Aims:** To investigate the effects of a high-fat high-sucrose diet (HFS) on the development of T2D rat model and the influence of environmental enrichment on the metabolic abnormalities associated with T2D.

**Methods:** Twenty four male Wistar rats were randomly divided into three groups; C (control rats fed with normal chow diet and water), D (rats fed with HFS diet), and DE (rats fed with HFS diet and exposed to EE). The total duration of the study was 42 weeks and the parameters including weekly mean body weights (BW), percentage of body weight gain (PWG), adiposity index (AI), metabolic profiles and oxidative stress markers were analyzed. Data are expressed as mean  $\pm$  SD, mean (SEM) or median(percentile 25– percentile 75) when appropriate.

**Results:** Rats fed with HFS diet displayed significant indications of T2D characterized by increased of final mean BW, PWG, AI, fasting blood glucose (FBG), abnormal lipid panel (triglyceride, total cholesterol and its components) and increased of oxidative stress marker (FORT). However, most of these outcomes were more prominent towards the end of the study. Despite of having similar diet, rats that underwent EE had lower ( $p < 0.05$ ) final mean BW, PWG, AI, FBG, improved lipid panel, and lower FORT.

**Conclusion:** High-fat and high-sucrose diet significantly induced T2D in extended duration. This study highlighted environmental enrichment exposure attenuate metabolic abnormalities associated with T2D.

**Effects of Economic Development on Health Policies: As A Case Study Southeastern Anatolia Region and Southeastern Anatolia Project (GAP) in Turkey**

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**ABSTRACT**

The Southeastern Anatolia Project(GAP) is one of the biggest regional development projects both Turkey and the world. The aim of this project is to make the use of unvalued rich resources of the Southeastern Anatolia Region and to develop the welfare and health of the region's people. As a result of this project development, there will be a considerable change in conditions of climate and agricultural structure of the region. As this big project has enormous dams, it will cause the climate to get softer and it will change the classical harvesting and watering procedures which have been used for hundred of years. It will also change the range of agricultural products.

Great changes caused by The GAP Project are not important for only from the respect of conditions of climate and agricultural structure, but at same time these changes will cause to change radically on health policies of the region that lead a change in the way of living in the people of region. As a result of these changes conneted to each other, there will be a raised demand for health services and will find out new diseases.

The aim of this study will be to determine the conditions of supply and demand in health economy short, mid and long term in the region. For this reason, the structure of new health economy and new projects for the region will be analyzed. The last stage, because of chancing requirements of the region, some strategies and politics of short, mid and long term



**Bulent Acma**  
ERCICRLSH1805070

will be proposed.  
Keywords: Health Economy, Health Policies, Economic Development, Sustainable Regional Development, Southeastern Anatolia Region, The Southeastern Anatolia Project(GAP)



Manoj M.C.  
ERCICRLSH1805071

### Screening of Bacillus Species with Anti-MRSA Activity from Different Soil Samples of Kathmandu Valley

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#### ABSTRACT

**Introduction:** Emergence of Methicillin Resistant *Staphylococcus aureus* (MRSA) strain has become a global concern in 21<sup>st</sup> century. So, it is necessary to recover new antibiotics against this pathogen. **Objective:** The main objective of this study was to screen *Bacillus* with anti-MRSA activity from different soil samples and also test their antimicrobial activity against other drug resistant bacteria. **Materials and Methods:** Serially diluted soil samples were spread plated on Nutrient Agar plates and *Bacillus* colonies with zone of inhibition around them were selected. They were screened first against *S. aureus* ATCC 25923 followed by clinical isolates of MRSA by spot inoculation technique. From the isolates of *Bacillus* with positive screening test, antimicrobial compounds were produced. The yield, MIC value and proteinaceous nature of the extract was determined and tested against other drug resistant isolates of bacteria. **Results:** From 60 soil samples, Altogether 11 isolates of *Bacillus* with anti-MRSA were screened as antibiotic producing strains from which only 6 isolates revealed anti-MRSA in secondary screening. Among them maximum antimicrobial effect was revealed by *Bacillus subtilis* (isolate 4X6) with a crude yield of 749.66µg/mL and MIC value of 1097.45µg/mL on MRSA. The extract also had antimicrobial activity against ESBL producing *E. coli* and *Salmonella Typhi* but not against *Pseudomonas aeruginosa*. The extract was proteinaceous in nature. This study concludes that *Bacillus* with anti-MRSA activity can be found in soil. Considering the antimicrobial effect of the isolates especially against MRSA, intended compounds can be purified that may act as lead molecules for further researches.  
**Key words:** *Bacillus*, Polypeptide, anti-MRSA, Antibiotics, Soil



Janet Davis  
ERCICRLSH1805054

### An Innovation for Engaging Students in Translational Research: The Impact of an Electronic Poster

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#### Abstract

Educators across the health science disciplines struggle to determine strategies that will actively engage learners in the critical appraisal and translation of research to improve healthcare. The objective of this case study was to examine the impact of an electronic poster as an innovative means for students to engage in evidence-based practice through a structured, critical examination of translational research. The poster assignment required each student enrolled in a healthcare management course to develop a PICO (Population of interest; Intervention needed for practice; a Comparison; Outcomes related to practice) question based on one of the course's five case studies. Each case study incorporated a focus relating to a course objective. The electronic poster was built upon a clear statement of the student's question. The student searched a minimum of five databases and included a coherent description of the search process, justification of the selection of evidence based on the structured appraisal system, ranking of the evidence using a standard rubric and an explanation of the implications of the evidence for clinical practice. The student verbally presented highlights of the electronic poster to the class and posed two follow-up questions to the group for reflective discussion. It was found that using PICO

	<p>immediately engaged the student in the identification of researchable questions while developing a critical appraisal skill set for evidence-based practice. Students identified gaps in clinical practices and policies relative to translational research. Based on this case study, it was concluded that PICO offers an applied context for synthesizing advanced clinical knowledge with the best available evidence. The electronic poster engages students in the process of applying and communicating the critical appraisal and translation of research for informing clinical practice.</p> <p><b>Keywords:</b> Evidence-base practice, education, translational research</p>
<p><b>Shuxuan Luo</b> ERCICRLSH1805058</p>	<p><b>The Relationship between 2008 Financial Crisis and American People's Sleep Disorders</b></p> <p><b>Shuxuan Luo</b> Santa Catalina School, Santa Catalina School, Monterey, U.S</p> <p><b>Abstract</b></p> <p><b>A. Aim:</b> In this study I examine the sleep disorder diagnosis among US adults before, during, and after 2008 financial crisis. I also explore if there is any different effect of this crisis across different subpopulation.</p> <p><b>B. Methods:</b> The study population comprises patients in National Health and Nutrition Examination Survey (NHANES), which is a series of stratified, multistage probability surveys designed to obtain information on the health and nutritional status of the civilian, US population. The datasets of 2005-2006, 2007-2008, 2009-2010, 2011-2012, and 2013-2014 National Health and Nutrition Examination Survey (herein referred to as NHANES dataset) are used for analysis. US adults aged 16 and above are included in this study. I compare the percentage of people with sleep disorder in each year using Logistic Regression Model. Other independent variables are also included, e.g., age, sex, race, education level, annual household income, total number of people in the household, marital status, BMI, waist circumference.</p> <p><b>C. Results:</b> A total of 31100 participants are included for the final analysis. There are 6139 participants in year 2005-2006; 6546 in year 2007-2008, 6889 in year 2009-2010, 6175 in year 2011-2012 and 6464 in year 2013-2014. Among the whole sample, 2327 participants are clinically diagnosed with sleep disorder, 7.48%. Before the crisis, only 6.03% participants are clinically diagnosed as sleep disorder in year 2005-2006. It jumps to 7.39% in year 2007-2008, 6.92% in year 2009-2010, 7.85% in year 2011-2012 and 8.96% in year 2013-2014. It reaches its highest level to 8.96% about 6 years after 2008 financial crisis. Compare to the year before crisis (2005-2006), participants in year 2007-2008 are 1.20 times more likely to have sleep disorder; 1.14 more likely for people in year 2009-2010, 1.34 times more likely in year 2011-2012 and 1.56 times more likely in year 2013-2014.</p> <p><b>D. Conclusions:</b> A significant increase in prevalence rate of sleep disorder is observed after the 2008 financial crisis among US adults. Six years after the crisis, the increasing trend does appear to stop. Health education and intervention are needed to help general population to better mentally prepare for economic bad turns.</p>
	<p><b>Surface Functionalization of Poly (3-Hydroxybutyrate-Co-4-Hydroxybutyrate) Scaffolds as Potential Biomaterial</b></p> <p><b>Vigneswari Sevakumran</b> Faculty of Fundamental Science, University of Malaysia Terengganu, Terengganu, Malaysia</p> <p><b>Abstract</b></p> <p>The biomaterial surface plays a crucial role as it forms the interface between the scaffold and the cells. Polymers have exhibited poor cell attachment capability due to the hydrophobic and lack of cell recognition sites thus, limiting their application. There are numerous approaches in functionalizing a biomaterial. In this study, we propose to investigate the</p>

 <p>Vigneswari Sevakumran ERCICRLSH1805060</p>	<p>biofunctionalization of P(3HB-co-4HB) biopolymer using short peptide sequences [Arg-Gly-Asp (RGD)] to enhance cell attachment, proliferation and cell material interaction. Recently, we have proven that nanofibrous P(3HB-co-4HB) biopolymer has enhanced the biocompatibility and cell attachment efficacy of the biopolymer. The P(3HB-co-4HB) will be electrospun in an attempt to mimic an extracellular matrix structure and RGD will be immobilized onto the surface. A P(3HB-co-4HB) mixture dissolved in 1:4 volume of dimethylformamide and chloroform will be electrospun to produce a nanofiber scaffolds and RGD, will be covalently grafted onto the surface of the electrospun P(3HB-co-4HB) by aminolysis. Due to the fibrous framework of the nano-P(3HB-co-4HB) matrix which mimics the extracellular matrix, immobilization of RGD peptide in improving the functional characteristics and microenvironment of the scaffold as potential cardiac patch will be investigated. The goal of this study is to fabricate nano-P(3HB-co-4HB)-RGD scaffold aimed to address the common problem faced in cardiac tissue engineering by achieving a surface with favorable characteristics that enhances cell attachment and maturation.</p>
<p>Kesaven Bhubalan ERCICRLSH1805061</p>	<p><b>Application of Biodegradable Polyhydroxyalkanoate-Based Microbeads as Exfoliation Agent</b></p> <p style="text-align: center;">Kesaven Bhubalan School of Marine and Environmental Sciences, Universiti Malaysia Terengganu, 21030 Kuala Nerus, Terengganu, Malaysia</p> <p style="text-align: center;"><b>Abstract</b></p> <p>Major environment stressors include the influx of petrochemical-based plastic waste. The waste ranges from large plastic objects such as building debris, to the invisible microplastics. Significant source of microplastics are from the usage of microbeads in market as this material are used in cosmetic scrubs. The possible way to counteract the problem is by substitution of synthetic plastics to natural biodegradable polymer. Polyhydroxyalkanoate (PHA) is a well-known biodegradable polymer which exhibits properties of some common plastics. Poly(3-hydroxybutyrate) [P(3HB)] is the most common type of PHA produced by bacteria under imbalanced growth conditions. In this study, <i>Massiliahaematophilla</i>UMTKB-2, a brackish water bacterium was used to synthesize P(3HB) in shaken-flask culture up to <math>0.8 \pm 0.05</math> g/L by using glucose as the sole carbon source. Endotoxins from the polymer was removed using oxidizing agents and was evaluated using E-TOXATE™ kits. The P(3HB) produced was characterized for its thermal properties and mechanical strength by differential scanning calorimetry and tensile machine, respectively. The P(3HB) was found to have a glass transition temperature (<math>T_g</math>) of <math>6.85 \pm 0.1</math> °C and melting temperate (<math>T_m</math>) of <math>173.66 \pm 1.75</math> °C. The tensile strength, Young's Modulus and elongation to break of the P(3HB) are <math>17.33 \pm 2.9</math> MPa, <math>0.2 \pm 0.06</math> GPa and <math>2 \pm 0.09\%</math> respectively. P(3HB) microbeads which are targeted to act as dermal exfoliating substances were prepared by the double emulsion solvent evaporation technique, and when observed under scanning electron microscope for its shape and size with an average diameter of 38.44 μm that ranged from 10.1 -140 μm. <i>In vitro</i> cell culture was carried out using human keratinocyte cells (HaCaT) on the P(3HB) microbeads to evaluate the cytotoxicity. The ingestion of P(3HB) microbeads into marine organism (brine shrimp) was also studied. A dermal scrub was formulated with the microbeads by mixing them with a semi-solid base which is known as Hamin. The efficiency of the P(3HB)-based dermal exfoliation agent was tested using DermaLab® Series SkinLab-Combo. The plastic-like properties of P(3HB) makes a potential substitute for the conventional plastic-based microbeads.</p> <p><b>Keywords:</b> polyhydroxyalkanoate, biodegradable, microbeads, exfoliationagent, cosmetics</p>
<p>Bulent Acma ERCICRLSH1805070</p>	<p><b>Effects of Economic Development on Health Policies: As A Case Study Southeastern Anatolia Region and Southeastern Anatolia Project (GAP) in Turkey</b></p> <p style="text-align: center;">Bulent Acma Economics, Anadou University, Eskisehir, Turkey</p>

	<p style="text-align: center;"><b>ABSTRACT</b></p> <p>The Southeastern Anatolia Project(GAP) is one of the biggest regional development projects both Turkey and the world. The aim of this project is to make the use of unvalued rich resources of the Southeastern Anatolia Region and to develop the welfare and health of the region's people. As a result of this project development, there will be a considerable change in conditions of climate and agricultural structure of the region . As this big project has enormous dams, it will cause the climate to get softer and it will change the classical harvesting and watering procedures which have been used for hundred of years. It will also change the range of agricultural products.</p> <p>Great changes caused by The GAP Project are not important for only from the respect of conditions of climate and agricultural structure, but at same time these changes will cause to change radically on health policies of the region that lead a change in the way of living in the people of region. As a result of these changes connected to each other, there will be a raised demand for health services and will find out new diseases.</p> <p>The aim of this study will be to determine the conditions of supply and demand in health economy short, mid and long term in the region. For this reason, the structure of new health economy and new projects for the region will be analyzed. The last stage, because of changing requirements of the region, some strategies and politics of short, mid and long term will be proposed.</p> <p><b>Keywords:</b> Health Economy, Health Policies, Economic Development, Sustainable Regional Development, Southeastern Anatolia Region, The Southeastern Anatolia Project(GAP)</p>
 <p style="text-align: center;"><b>Shristi Singh</b> ERCICRLSH1805075</p>	<p style="text-align: center;"><b>Assessing the Generation, Collection and Recycling Practices of Electronic-Waste (E-Waste) from Patna, India (Dirtiest State Capital in the Country)</b></p> <p style="text-align: center;"><b>Shristi Singh</b> Civil and Environmental Engg., IIT, Patna, India</p> <p style="text-align: center;"><b>Abstract</b></p> <p>Patna, the capital city of Bihar, though boasts of rich cultural heritage, is unfortunately also known as the garbage city of the country. In this study, I have focused on E-Waste which is commercial as well as residential and is generated in all over the city. Patna, is the largest consumers of electronic goods in the state as large corporate, business houses, IT companies and Malls are situated in the city. Rapid Industrial and economic growth in the city has triggered greater consumption and waste generation of Electronic Equipment. Emerging issue of E-waste in Patna demands its effective management strategy for the City. However, it cannot be achieved until assessment of e-waste quantification and disposal is carried out. The main objective of this study was to quantify the E-waste inventory and its processing from Patna to evaluate its generation and recycling practices. E-Waste has been classified as Information technology &amp; Telecommunication equipment category. The study reveals that Municipal Corporation has no record regarding how much E-waste the city generates. Data states that Bihar Government has specified 57 E-Waste collection points and 2 Warehouses in the city however no recycling centre is there. Patna still doesn't have any mechanism to dispose electronic waste. During city visits, it has been observed the streets of city are strewn with garbage including E- waste which have several environmental concerns. Findings of my study strongly recommend dire need for urgent and effective monitoring as well as control of e-waste management in Patna.</p>
<p style="text-align: center;"><b>Hanieh Abdi</b> ERCICRLSH1805077</p>	<p style="text-align: center;"><b>Medical Tourism</b></p> <p style="text-align: center;"><b>Hanieh Abdi</b> Department of Health, Qazvin University of Medical Science, Qazvin, Iran</p> <p style="text-align: center;"><b>Abstract</b></p> <p>Modern medical tourism is the product of the citizens of advanced countries. Those who for certain reasons, such as the high cost of health services, prolong treatment process, can't use medical services in their own countries. So, this items will increase the demand for such services in developing countries. Therefore, there are various internal and external factors to</p>

choose a country for medical tourism. By studying the global experiences, it was found that at the beginning, the cost of medical services was decisive in determining the medical tourism. But with the intensive competition between the destinations of medical tourism, the quality factor has been the substitute by medical services. This research was accomplished to investigate the internal factors affecting the attraction of medical tourists in Iran. To achieve this goal, internal factors were selected from documentary studies to attract medical tourists which includes four main criteria and 15 sub-criteria. Then, to evaluate them, the Analytical Hierarchy Process was selected as the evaluation method (A.H.P). The criteria and sub-criteria were designed as a questionnaire and presented to 30 university specialists in the field of tourism and medical tourism, physicians and hospital managers, and medical tourism services. Finally, the questionnaires were analyzed by using Expert Choice software. Based on the results of the research, among the four main criteria, the criteria for medical resources with a weight of 0.609, and among the 15 sub-criteria, the sub-criteria of medical equipment with a weight of 0.347 were the highest scores.

**Key words:** *Medical tourism, Determinants, Health, Iran*

Ramzi Shawahna  
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**Women Issues in Epilepsy: What Information Should Community Pharmacists in Palestine Know?**

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#### ABSTRACT

**Objective:** The aim of this study was to develop and achieve consensus on a core list of important knowledge items that community pharmacists should know on women's issues in epilepsy.

**Methods:** This was a consensual study using a modified Delphi technique. Knowledge items were collected from the literature and from nine key contacts who were interviewed on their views on what information community pharmacists should have on women's issues in epilepsy. More knowledge items were suggested by five researchers with interest in women's issues who were contacted to rate and comment on the knowledge items collected. Two iterative Delphi rounds were conducted among a panel of pharmacists ( $n = 30$ ) to achieve consensus on the knowledge items to be included in the core list. Ten panelists ranked the knowledge items by their importance using the analytical hierarchy process.

**Results:** Consensus was achieved to include 68 knowledge under 13 categories in the final core list. Items ranked by their importance were related to: teratogenicity (10.3%), effect of pregnancy on epilepsy (7.4%), preconception counseling (10.3%), bone health (5.9%), catamenial epilepsy (7.4%), menopause and hormonal replacement therapy (2.9%), contraception (14.7%), menstrual disorders and infertility (8.8%), eclampsia (2.9%), breastfeeding (4.4%), folic acid and vitamin K (5.9%), counseling on general issues (14.7%), and sexuality (4.4%).

**Conclusion:** Using consensual knowledge lists might promote congruence in educating and/or training community pharmacists on women's issues in epilepsy. Future studies are needed to investigate if such lists can improve health services provided to women with epilepsy.

**Key words:** Antiepileptic drugs; Epilepsy; Pharmacists; Women's issues; Knowledge; Pregnancy

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