ABSTRACT
This research is a qualitative type which looked into the learning experiences of student nurses in the special areas, community and school that helped transformed their lives. It used the narrative analysis method of research and focused on the students’ stories. Data were collected through interview and analyzed through narrative analysis.
The respondents are 28 fourth year student nurses selected through purposive sampling. The researchers used an interview guide in gathering the data. The respondents were given ample amount of time to share their stories. The student nurses freely shared their narratives considering that their experiences have been a good transformational learning for them.

The research findings postulated five thematic analyses from the narratives. These are: Empowerment and professional transformation; Strengthened relationships with mentors and classmates, including families; Optimism, proper discernment and better vision in nursing and about life in general; Improved decision-making and problem solving initiatives; and finally, Evolving as better learners and ready to be lifelong learners. These five thematic analyses resulted from the students’ perception of their exceptional experiential learnings in the various areas while going through their nursing education.

Developing Post-Operative Survival Prediction Models for Lung Cancer Resection Patients

Corey Stone
corey.stone@student.bond.edu.au

Abstract
The purpose of this report is to analyse the factors that may lead to a greater understanding of the post-operative survival rate in lung cancer patients who undergo a lung resection. This paper will explore the relationships between data collected prior to the operation, and whether the patient is still alive 12 months after the operation. Cutting edge Recursive Partitioning techniques such as Discriminant Analysis, Decision Tree Method, Artificial Neural Network and Hybrid Method will form the basis of the methodologies used for building a predictive model. A random sample of 225 patients who underwent surgery between the years of 2007 and 2011 in Wrawclaw, Poland will be used. Of the 225 patient sample, 63 survived more than 12 months after the operation; the remaining of which deceased.
Choline alfoscerate is used for the treatment of an Alzheimer’s disease and dementia. Soft capsule (400 mg) is in the market for three times per day oral administration. The objective of this study was to overcome its hygroscopic property and formulate a sustained-release tablet for twice a day administration. Choline alfoscerate granules were prepared using fluid bed granulator, and then their flow property and hygroscopic value were measured. Granules formulated with Eudragit L100 showed optimum fluidity and minimum moisture uptake at 75% relative humidity. Tablets containing 600 mg choline alfoscerate were prepared with various sustained-release polymers including HPMC. The in vitro release of choline alfoscerate was optimized to be released about 60% of dose at 3 hr and completely released at about 12 hr. Dissolution of the optimized tablet followed Higuchi’s release profile, indicating a swelling matrix system. Pharmacokinetic studies were carried out in beagle dogs after oral administration of coated tablet. AUC and C_{max} values of the test tablet were not significantly different from those of the commercial product, and they were bioequivalent. Therefore, the sustained-released tablet formulation of choline alfoscerate was successfully developed with good stability against humidity and could reduce dosing frequency.

Keywords: Choline alfoscerate, Hygroscopic, Sustained release, Fluid bed granulator, Bioequivalent

Polyethylene glycol-modified arachidyl chitosan self-assembled nanoparticles for prolonged blood circulation of doxorubicin

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Abstract

Polyethylene glycol-conjugated arachidyl chitosan oligosaccharide (CSOAA-PEG) self-assembled nanoparticles were prepared for loading doxorubicin (DOX). PEG was conjugated with CSOAA backbone and the conjugation was verified by 1H NMR analysis.
The CSOAA-PEG nanoparticles showed a 166-nm mean diameter, positive zeta potential, and spherical shape after loading DOX. In the serum solution (50% fetal bovine serum) condition, CSOAA-PEG nanoparticles maintained relative constant particle size over 72 h, and were more stable compared with CSOAA nanoparticles. The sustained release pattern of DOX from CSOAA-PEG nanoparticles was demonstrated at physiological pH, and the release rate increased under the acidic pH conditions. The synthesized CSOAA-PEG conjugate showed negligible cytotoxicity in human leukemia cells (K562) at the concentration range tested (~100 µg/ml). The uptake rate of DOX from the nanoparticles against K562 cells was higher than that from the DOX solution. In in vivo pharmacokinetic studies, clearance of DOX from the CSOAA-PEG nanoparticle group was slowest compared to other groups, indicating the prolonged blood circulation. Thus, the PEGylated CSOAA-based nanoparticles could present an effective nano-sized delivery system for anticancer treatment.

Keywords. Arachidyl chitosan; Polyethylene glycol; Doxorubicin; Leukemia; Prolonged blood circulation

Preparation and Evaluation of Hyaluronic Acid-Ceramide-Coated Poly(lactic-co-glycolic) Acid Nanoparticles for Targeted Anticancer Drug Delivery

Ju-Hwan Park, Hyun-Jong Cho and Dae-Duk Kim*
Department of Pharmaceutics, College of Pharmacy, Seoul National University, Seoul 151-742, South Korea

Abstract

Various types of nanoparticle systems have been studied for targeted anticancer drug delivery. Among them, poly(lactic-co-glycolic) acid (PLGA) nanoparticles (NPs) have been reported to be useful for passive targeting via EPR (enhanced permeability and retention) effect, yet their targetability to cancer cells is still known to be insufficient. Hyaluronic acid has been used as an active tumor-targeting moiety due to its affinity to CD44 receptor which is overexpressed in diverse cancer cells. In this study, amphiphilic hyaluronic acid-ceramide (HACE) was coated on PLGA NPs in order to enhance their tumor targetability. Docetaxel, as a model anticancer drug, was loaded in PLGA NPs. Spherical PLGA NPs with a mean diameter of 250-280nm were successfully prepared. A sustained drug release pattern was observed in both control NPs and HACE-coated NPs. In in vitro cytotoxicity study, both formulations
without docetaxel showed negligible toxicity against NIH3T3 cells and MDA-MB-231 cells. In vitro cellular uptake test was performed with flow cytometry and confocal laser scanning microscopy by loading coumarin 6 as a fluorescence probe. HACE-coated PLGA NPs showed higher cellular uptake compared to control PLGA NPs. Moreover, when cyanine 5.5 (Cy5.5)-labeled NPs were injected intravenously into a MDA-MB-231 tumor xenograft mouse model, HACE-coated PLGA demonstrated enhanced tumor targetability, compared with Cy5.5-PLGA NPs in near-infrared fluorescence (NIRF) imaging study. These results suggest that the HACE-coated PLGA NPs can be a useful system for the tumor-targeted anticancer drug delivery.

**Keywords:** Nanoparticles Hyaluronic acid-ceramide; Tumor targeting

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**Amphiphilic hyaluronic acid derivative and PEG-lipid nanocomplex for anticancer drug delivery**

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Lipid-hybridized amphiphilic hyaluronic acid derivative (i.e., hyaluronic acid-ceramide conjugate, HACE)-based nanocomplexes were prepared for targeted delivery of 20(S)-ginsenoside Rg 3 [(S)-Rg3], a natural anticancer agent of Panax ginseng. These nanocomplexes showed less than 200 nm mean diameter, narrow size distribution, spherical shape, and negative zeta potential. Their structural stability in the blood stream was evaluated by observing the particle size change in serum condition. The nanocomplex system consisting of HACE, phosphatidylcholine, and 1,2-distearyl-sn-glycero-3-pho-sphethanolamine [methoxy(polyethyleneglycol)-2000] (DSPE-PEG) showed a sustained drug release profile compared with other formulations. Blank nanocomplexes exhibited negligible cytotoxicity in A549 human lung adenocarcinoma cells within the tested concentration range. The cellular uptake efficiency of hybrid nanocomplexes was improved compared with the HACE-based nanoparticles probably...
because of interactions between lipids and the cellular membrane. The results of pharmacokinetic study in rats showed the decrease in in vivo clearance of (S)-Rg3 in hybrid nanocomplex groups. The structural stability of the lipid-hybrid system and existence of outer PEG chain likely contributed to enhanced in vivo performance of the formulations. Thus, these developed hybrid nanocomplexes could be good candidates for tumor-targeted delivery of anticancer agents.

Tsun Chiang
GIC1415058

Using Somatosensory Technology to Promote Intergenerational Digital Learning and Holistic Health on Children and the Elderly: Evaluating Benefits of Body Awareness, Cognitive Functions and Social Interaction
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Abstract
With the trends of global aging, changes of family structures, lifelong learning, and segregation of intergeneration, the concept of “intergenerational learning” has been actively promoted to increase interactive reciprocal learning in a variety of professions and applied research, such as performance arts, language, science and technology, environmental education, and history. However, the concept of using “intergenerational digital learning” is still in the infant stage and there is a lack of research on using this modality to promote holistic health. The purpose of this study is to develop somatosensory game intervention programs for intergenerational digital learning on promoting holistic health of children and the elderly, especially focusing on body awareness, cognitive functions and social interactions. The study collected and analyzed the strength and weakness of current somatosensory games in the market and selected a user-friendly operation interface for children and the elderly, and then, conducted a pilot study to test its usability. Then, 3-stage (qualitative-quantitative-qualitative) multi-methods was employed to analyse the efficacy of this intervention approach and to understand the effects of health promotion on these two populations. This study enrichs the diversity of intergenerational digital learning for children and the elderly and to promote their health and quality of life.

Keywords: intergenerational education, digital learning,
<table>
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<th>Som Phong GIC1415059</th>
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| **Comparative Study of Self-directed Learning Readiness Among Nursing Students Between PBL and Non-PBL Approaches**  
Som Phong Chit1* and Shuki Osman2  
1Division of Training Management,  
Ministry of Health Malaysia.  
2School of Educational Studies,  
Universiti Sains Malaysia.  

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Abstract  
Self-study habits and skills are needed by health care professionals (HCP) in order to keep up with continuous advances in medical and allied health sciences. Many medical and allied health science training institutions have included self-directed learning approach in their training programs to train HCP to be self, independent and lifelong learners in their career. However, not many students are receptive to the benefits of such an approach for their learning, as they tend to be more reliant to their teachers in face-to-face instruction. Diploma of Nursing Program, USM in Malaysia had advocated on the application of SDL among their teachers to teach students, with Problem-based Learning approach was started in Semester II of their study onward. Whereas in Nursing College Alor Setar, Ministry of Health Malaysia was remain as conventional teaching and learning approach.  
**KEYWORDS:** self-directed learning, lifelong learners, SRSSDL, nursing students.|

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<th>Mary Joy GIC1415060</th>
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| **The Extent of Use, Usage and Impact of Multimedia Instruction in Selected Board Courses in the College of Nursing**  
Mary Joy B. Sande, RN., RM., PhDNEd  
College of Nursing  
Bicol University  
Legazpi City, Philippines  
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Abstract— The study determined the extent of use, usage and perceived impact of Multimedia Instruction (MMI) in Nursing Care Management (NCM) 103 and NCM 104 courses in the College of |
Nursing. A descriptive research design was utilized wherein 28 permanent faculty members of the College of Nursing and 143 student nurses from Level III were chosen as respondents. The study found out that most of the respondent’s extent of use of MMI for education/recreation related activities ranged from no use to moderate use of 3-5 hours and the teachers’ extent of usage for computer programs was Occasional while the students’ was Frequent. In NCM 103, the teachers’ extent of use in education/recreation related activities had a positive strong significant relationship with the students’ grades and between the teachers’ extent of use in creative/innovative activities to the students’ grades. In NCM 104, however, the study showed a strong and direct but no significant relationship with the teachers’ extent of use of MMI in education and creative/innovative activities to the students’ grades. Furthermore, the teachers identified that MMI had a very high impact in the teaching- learning process whereas, the students perceived that it only had a high impact

Index Terms— Extent of use, Extent of Usage, Impact, Multimedia instruction, Blended Learning

Transcendental Formation among Bicolano Nurse Administrators

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Abstract - This study dwelt on spirituality as experienced, understood and practiced by the nurse administrators in Bicol, Philippines. Through a combination of Grounded theory and Descriptive method, was derived the description and ways of living out spirituality as reflected in the behaviors at work and the performed roles both as managers and leaders. Participants were from the 48 private and public hospitals and nursing schools located in all the six provinces of Bicol. A total of 160 participants were selected through theoretical and purposive samplings. With the Strauss and Corbin method validated by statistical treatments, the analyzed information created the model that visualized spirituality as a means to improve health services through enhanced administration in the realm of nursing education and practice. The emerged model referred to as Transcendental Formation, is a triple triangle which symbolizes the process of continued encounter of the nurse administrators with God that develops their work values and
Assessment of the relationship between under-nutrition and malaria in preschool children at Bahir Dar special zone, Ethiopia: a comparative cross-sectional study

HAMID YIMAM (MPH) 1, JEMAL HIDER (MD, MSc. CME, Asso. Professor) 2

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ABSTRACT

Background: Malaria and under-nutrition are the two major causes of childhood mortality in sub-Saharan Africa. More than half of child mortality related to major infectious diseases is attributed at least in part to under nutrition. In Ethiopia both under nutrition and malaria are very important public health problem. Although the relationship of malnutrition and respiratory infection, diarrheal diseases is well studied, the relation with malaria is still controversial. The information that obtained in this study will substantiate the non-conclusive findings that will help to develop a better approach on prevention and management of under nutrition and malaria at individual as well as at community level.

The survey of extract garlic on lead detoxification in kidney in neonatal rats

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Abstract:
Garlic because of kinds active components has various
pharmacological characters. In this investigation, was determined the effect of garlic alcoholic-water extract in kidney poisoning treatment induced by lead in neonatal rat. For this purpose body weight kidney and serum concentration of urea, uric acid, creatinine, sodium and potassium were determined.

**Weerasekara**
**GIC1415064**

**Superficial fungal foot infections: Aetiology and risk factors among diabetic patients in Sri Lanka**

**MM Weerasekera**¹

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U. Bulugahapitiya²
J. Kottahachchi¹
S. S. N. Fernando¹

**Affiliation**
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² Consultant endocrinologist, Colombo South Teaching Hospital, Sri Lanka

**Abstract**

Superficial fungal foot infection (SFFI) in diabetic patients increases the risk of developing serious sequelae such as the diabetic foot syndrome which may lead to limb amputation and other life threatening complications. Infected nail is an important source of recurrent SFFI. In Sri Lanka 16% of urban population is suffering from diabetes, and are at increased risk for SFFI. As the diabetes patients are more prone to get fungal foot infections, early intervention is advisable owing to the progressive nature of the infection. There is no data on the prevalence of SFFI in diabetic patients in Sri Lanka. This study was conducted to determine the etiological agents causing SFFI and associated risk factors in patients with type 2 diabetes.

**Gunasekara**
**GIC1415065**

**Molecular epidemiology, serology and clinical presentation of leptospirosis in Sri Lanka.**
TDCP Gunasekara¹

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M.M. Weerasekara\textsuperscript{1}  
K.N.P. Ranasinghe \textsuperscript{2}  
C. Marasinghe\textsuperscript{3}  
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\textbf{Introduction}

Leptospirosis is a major public health problem in Sri Lanka. Clinical presentation of leptospirosis has been shown to vary in different geographical locations and outbreaks, which could be associated with the infecting strain. Further differential diagnosis in a resource poor setting is challenging. Due to the highly endemic nature of the disease, and associated morbidity and mortality it is important to investigate the molecular epidemiology at different time frames and the usefulness of rapid diagnostic testing in a resource poor setting.

Fernando GIC1415066

\textit{Helicobacter pylori, risk factors and resistance to clarithromycin among dyspeptic patients in Sri Lanka}

Presenting Author: SSN Fernando\textsuperscript{1}

\textbf{Co-authors:}

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TDCP Gunasekara\textsuperscript{1}  
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2 Department of Surgery, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka

\textbf{Abstract}

Infection with \textit{H. pylori} is considered a major cause of chronic gastritis, peptic ulcer disease and gastric cancer. More than half of
the world population is infected with *H. pylori* and a 70% prevalence has been reported from Sri Lanka. Due to the difficulty in culture and Antibiotic Susceptibility Testing in the laboratory, it is treated empirically using clarithromycin as part of the triple therapy. The resistance to these antibiotics in Sri Lanka are not known. Thus it is of paramount importance to determine the clarithromycin resistance of *H. pylori* in Sri Lanka. The aim of this study was to determine the current proportion of *H. pylori* and to investigate the clarithromycin resistant A2142G and A2143G mutations present in the 23S rRNA gene of *H. pylori* strains. Further the risk factors for infection with *H. pylori* were investigated.

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<th>Habibollah GIC1415067</th>
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**The Effects of Hydro-Alcoholic Extract of Zingiber Officinale on Prevention from Plumbism in Kidney Tissue of Neonatal Rats**

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**Background:** In the present research, the effects of hydro-alcoholic extract of *Zingiber officinale* (ginger) on treating lead-poisoned kidney of neonatal rats was studied.  

**Materials and Methods:** This research was conducted as a laboratory work. The neonatal rats were divided into 7 groups of 10 samples. The first control group received no treatment. The second control group received 0.1 mg of distilled water. As an experimental group, the one received an amount of 0.6 g/l lead. The fourth group received only 2 g/kg body weight of hydro-alcoholic extract of ginger. Groups 5 to 7 each initially received 0.6 g/l lead and then amounts of 0.5, 1 and 2 g/kg hydro-alcoholic extract of ginger. The injections were administered via oral gavage during 10 consecutive days.

**Results:** According to the obtained results, the body and kidney weights showed a significant reduction in experimental groups that had received amounts of 1 and 2 g/kg in comparison with the group that had received lead. The kidney weight of the group that had
received only extract showed no significant difference in comparison with the control group. As for the body weights, however, it showed a significant increase. Moreover, the body and kidney weights of the lead-injected group showed a significant increase in comparison with the control group.

**Conclusion:** Lead can cause damage to kidney tissues. Due to its antioxidant and protective effect, ginger can be a medication to nephrotoxicity of lead and prevent kidney tissues from destruction.

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**Occurrence of rare three types of chromosome (mosaic) configuration in an irrational breeding problem Murrah buffalo (Bubalus Bubalis)**

Dr Sulochna

[sen.sulochana@gmail.com](mailto:sen.sulochana@gmail.com)

**ABSTRACT**

Chromosomal abnormalities are deviations in normal genetic architecture and lead to disorders in bearer individuals. These can be both in number and structure of autosomes or sex chromosomes, usually inflict adverse effects on reproductive performance in domestic animals. Present report is on a female Murrah buffalo (*Bubalus bubalis*), which was among animals with inefficient reproductive performance and cytogenetic screening programme at Cattle Yard, National Dairy Research Institute (NDRI), Karnal. Metaphase chromosome preparations were obtained with whole blood cell cultures standard method. Slides were stained with Giemsa, treated for R-banding (RB-FPG technique) and C-banding. Karyotypes were constructed and abnormal chromosome was identified. Reproduction history covered a period from 2007-2013, which included three calving. Succeeding to second calving, buffalo conceived after 6 unsuccessful AIs from different bulls, inter-calving period between second and third calving was approximately 3.5 years. Cytogenetic evaluation of 407 metaphase spreads revealed three types of chromosome configurations, viz. 49, 50 and 51 all with XX, overall frequency was 16.7, 76.7 and 6.6 per cent, respectively. The R- and C- bandings confirmed autosome 11 both in monosomy (2n=49) and trisomy (2n=51), respectively. This unusual chromosomal constitution might have arisen due to non-disjunction during early stage of zygotic development of the buffalo. Nevertheless in young stage ovulations occur in such cases, subsequently follicular atresia becomes fast resulting in anoestrous condition as in this buffalo.

**Key words:** Numerical anomaly, Mosaicism, Murrah, R- banding, C-banding
<table>
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<tr>
<th>The Impact of Stress and Ways To Eliminate It</th>
<th>From a Distance: A grounded theory study of incarcerated Filipino elderly’s separation anxiety</th>
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<tr>
<td>Author: Ajeng Nurina Ayuningtyas</td>
<td>Allan B. de Guzman ¹,²,³,⁴, Rochelle Gabrielle R. Gatan¹, Ira Bianca Mae G. Gesmundo¹, Astley Justine H. Golosinda¹</td>
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<td>Co-Author: Aulia Novi Rachmadayanti</td>
<td><strong>¹</strong>College of Nursing, <strong>²</strong>Research Cluster for Culture, Education, and Social Issues, <strong>³</strong>College of Education, <strong>⁴</strong>The Graduate School University of Santo Tomas</td>
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<td>University Of Indonesia</td>
<td><strong>¹</strong>College of Nursing, <strong>²</strong>Research Cluster for Culture, Education, and Social Issues, <strong>³</strong>College of Education, <strong>⁴</strong>The Graduate School University of Santo Tomas</td>
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<td><a href="mailto:aulia.novi@ui.ac.idViraj">aulia.novi@ui.ac.idViraj</a> R. Shah</td>
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</table>

**ABSTRACT**

Stress has become a common thing for many people. The impacts of stress are very various, ranged from small things such as mild headache and sores occurred in several body organs, until dangerous diseases such as heart attack. This research was intended to find out ways to help reducing stress experienced by many people.

The method that we used for this research was qualitative descriptive method. Questionnaires were used for data collection and 10 random respondents from undergraduate and graduate university students at the Faculty of Public Health, University of Indonesia were selected as sample.

The result from the 10 respondents was that stress was found more frequently in the age group higher than 15 years old by the percentage of 80% and was also commonly caused by overload work (85%), economic factor (10%), and family (5%). Several respondents also stated that the things that they would most likely do when experiencing stress were sleeping (27%), hanging out with friends (23%), and listening to music (19%).

**Keywords:** Stress, Disease

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**Ira GIC1415070**

*From a Distance: A grounded theory study of incarcerated Filipino elderly’s separation anxiety*

Allan B. de Guzman ¹,²,³,⁴, Rochelle Gabrielle R. Gatan¹, Ira Bianca Mae G. Gesmundo¹, Astley Justine H. Golosinda¹

¹College of Nursing, ²Research Cluster for Culture, Education, and Social Issues, ³College of Education, ⁴The Graduate School University of Santo Tomas
ABSTRACT

Background: While in prison, the elderly, like the younger prisoners, face specific problems and deprivations arising directly from their imprisonment, one of which is forced separation from family and loved ones. Despite the numerous studies that examined the impact of separation and separation anxiety on the emotions and behavior of young individuals, little is known about separation anxiety in the elderly population.

Objective: This grounded theory study purports to describe the process of separation anxiety among incarcerated Filipino elderly men.

Method: Individual interviews and participant observations were conducted with 25 incarcerated elderly Filipino men who are first-time prisoners, sentenced to lifetime imprisonment and were analyzed using constant comparative method.

Results: Following Strauss and Corbin’s protocol, a four-part process emerged to describe the studied layer of human experience. The Tectonic Model of Separation Anxiety among incarcerated Filipino elderly men comprises of four phases: Winkling, Wilting, Weeding, and Weaving.

Conclusion: This study has inductively and creatively explored the process of separation anxiety among the Filipino incarcerated elderly men. Findings of this study invite nurses and other clinicians to identify developmentally appropriate strategies and interventions for this vulnerable and neglected sector of society.

Keywords: elderly; grounded theory; separation anxiety; Filipino; incarcerated

Vinay Gupta GiC1415071

R.B.S.K : A Multi-crore Mission – An Introduction And How We Can Make it Better

Dr. VINAY GUPTA
Medical Officer (Dental)
District Early Intervention Centre
(Rashtriya Bal Swasthya Karyakram)
Kaithal, Haryana, India
Abstract:
Rashtriya Bal Swasthya Karyakram (RBSK) is a new initiative by National Rural Health Mission (NRHM) aimed at screening over 27 crore children from 0 to 18 years for 4 Ds - Defects at birth, Diseases, Deficiencies and Development Delays including Disabilities. Children diagnosed with illnesses will receive follow up including surgeries at tertiary level, free of cost under NRHM. The task is gigantic but quite possible, through the systematic approach that RBSK envisages. Implemented in right earnest, it would yield rich dividends in protecting and promoting the health of our children.

Key Words:
M.H.T, Screening, DEIC, RBSK, 4-Ds, Defects, Diseases, Deficiencies, Development Delays, Anganwadis, Schools, Dental Diseases, Referral, Diagnosis, Treatment

Identification of Tiger’s Scat: a case study from Chitwan National Park, Nepal
Shivish Bhandari, Mukesh Kumar Chalise and Rashmi Kunwar
Central Department of Zoology
Trihuvan University
E-mail: shivish.bhandari@yahoo.com

Abstract:
The study was conducted from March to June 2014 in the three potential sites of Chitwan National Park named as Madi, Kasara and Sauraha. The scats of tiger were collected from trail, fire land, grass land, river bank, etc by using opportunistic survey. Among the total samples (N=85), the average diameter of tiger’s scat was 4.9 inch
measured and dry weight 123 gram recorded.

**Key Words:**
Diameter, tiger, weight

**Prof. Anderson GIC1415073**

**Reducing food losses through sustainable plant disease management in Nigeria**

Amadioha, A. C.
Department of Plant Health Management
College of Crop and Soil Sciences,
Michael Okpara University of Agriculture, Umudike,
Umuahia, Abia State, Nigeria.

**ABSTRACT**
Investigations were carried out to evaluate; *Azadirachta indica*, *Xylopia aethiopica*, *Ocimum gratissimum*, *O. sanctum*, *Cymbopogon citratus*, *Piper nigrum*, *P. bitle*, *Citrus limom*, *Nicotiana tabacum*, *Carica papaya*, *Casia alata*, *Asystacia gangatica*, *Aframenum melenguata* and *Ageratum conyzoides* against some pathogenic organisms causing diseases in crops and their products both in the field and storage. The studies confirmed the fungicidal potentials of extracts of these plant materials in reducing the amount of food lost through attack by pathogenic organisms. The exploitation and use of these plant materials as potent biopesticides and possible substitutes for synthetic fungicides by resource poor farmers in the control of plant diseases in the field and storage will not only reduce food losses arising from pathogenic organisms and increase food production but also conserve the biodiversity of developing countries.

**Yang Yu GIC1415074**

**Valuable Insights on the Super-Infection Model of Immune System T (I_T) Cells for crHIV-1 Gene Therapy**
Yufei Xie*, Y. Yang, Zhiyao Jin, Kai Song & Xiaohui Liu

**Abstract**
Development of crHIV-1 vectors has been tested in vitro, but the requirements for a crHIV-1 vector to proliferate and persist in vivo have not been fully explored. The aim of this study is to construct an expanded mathematical model to better simulate the mechanism. The expanded gene therapy model representing a superinfection from crHIV-1 on I_T and corresponding equations will be...
investigated using Matlab. The HIV-1 set point has been significantly lowered down to $10^2$ grade and Matlab plots have been reproduced with almost the same trends. Results from super-infection Model showed significantly improved HIV-1 set point reduction compared to basic one. Thus, crHIV-1 super-infection, which is likely to occur, improves therapy.

**Keywords**: Gene Therapy, crHIV-1 vector, viral inhibition, superinfection, Matlab Simulation, ordinary differential equation, steady state and stability analysis, time factor, setting point

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<th>Park So Young</th>
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<td>Park So Young, Lee Seul Ki, Kwak Hui Chan, Ryu Chang Seon,</td>
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<td>College of Pharmacy, Chungnam National University, 99 Daekak-ro, Yuseong-gu, Daejeon 305-764, Korea, College of Pharmacy, Chungnam National University, Korea.</td>
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The present study was aimed to understand the effect of aging on the hepatic metabolism of methionine in 2-month-old (young), 6-month-old (adult), 18-month-old (middle-aged), and 30-month-old (aged) male C57BL/6 mice. For this purpose, comparison of metabolite profiles of methionine metabolism from methionine to taurine or glutathione (GSH) in plasma and liver was performed in four different aged mice. Total cysteine, homocysteine, GSH and methionine concentrations were determined in plasma from mice with increasing age. And hepatic cysteine, homocysteine, GSH, glutathione disulfide, methionine, S-adenosylmethionine (SAM), S-adenosylhomocysteine (SAH), betaine, taurine and hypotaurine levels were monitored by HPLC system with UV, fluorescence or MS/MS. Moreover, hepatic levels and activities of MAT, SAHH, BHMT, MS, MTHFR, CβS, CDC, and GCL enzymes involved in methionine metabolism were determined to investigate whether the difference in sulfur amino acid metabolic profiles reflected changes in activities of their metabolizing enzymes.

30-month-old mice exhibited the alterations in hepatic methionine metabolism, such as elevation of hepatic cysteine and methionine, and decrease in SAM, SAH and homocysteine. The changes in homocysteine and cysteine in liver may be attributed to up-regulation of CβS. Despite the increase of methionine and up-
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**In vitro assessment of cytochrome P450-mediated herb-drug interaction of Hwang-Ryun-Hae-Dok-Tang in human liver microsomes**

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**Abstract**

The herb-drug interaction using Hwang-Ryun-Hae-Dok-Tang (HR) extracts mediated by cytochrome P450 (CYP) inhibition was determined in human liver microsomes. In direct inhibition assay, HR strongly inhibited CYP1A2 and moderately inhibited CYP2C19, CYP2D6, and CYP3A4 (testosterone). CYP1A2 inhibition showed competitively reversible ($K_i$, 13.4 ± 1.8 µg/mL), and CYP2D6 inhibition is quasi-irreversible ($K_{i}$, 0.234 ± 0.138 µg/mL; $k_{inact}$, 0.067 ± 0.006 min$^{-1}$). Biotransformation (fermentation) using *Lactobacillus* did not attenuate the HR-induced CYP inhibition, except for that using *Lactobacillus acidophilus*. CYP2D6 inhibition was markedly attenuated by fermentation using *Lactobacillus acidophilus*. The results suggest the possibility of HR-drug interaction through inhibition of CYP, which may be attenuated by fermentation using *L. acidophilus*.

**Running head**: Herb-drug interaction of Hwang-Ryun-Hae-Dok-Tang

**Key words**: cytochrome P450, fermentation, herb-drug interaction, Hwang-Ryun-Hae-Dok-Tang
The mediating role of Health Consciousness in the relationship between Existential Insecurity and Health Prevention Behavior among travelers

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Objectives: The study aims to investigate the mediating effect of health consciousness on the relationship between existential insecurity and health prevention behavior among travelers at the international airport. Methods: A field experiment of 2(existential insecurity: insecurity vs. no insecurity) factorial design was conducted from April to September 2014. A total sample of 110 passengers at boarding gates participated in this study, and were presented with an article that highlighted either the existential insecurity (n = 52), or no existential insecurity (n = 51). All participants answered the questionnaires comprising health consciousness, existential insecurity, health prevention behaviors, and personal information. Results: The results indicated that passengers exposed to the existential insecurity group had significantly higher health consciousness and health preventive behaviors than those exposed to no insecurity group. More importantly, health consciousness partially mediated the effect of existential insecurity on health prevention behaviors. Conclusions: The study contributes to an important understanding of how existential insecurity concerns are related to health prevention behaviors. The study provides some empirical evidence supporting this model in a population of travelers. That is, passengers exposed to existential insecurity would enhance their health consciousness, which in turn increase their health preventive behaviors. Pragmatically, these findings could be used to develop strategies to encourage health behaviors on health promotion program at the international airport.

Key Words: existential insecurity, health consciousness, health prevention, field experiment

Age dynamics of bone mineral density in women taking into account regional peculiarities

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Osteoporosis is one of the most common non-communicable
diseases of modern society. In women, this pathology is found significantly more often than men. Diagnosis of osteopenia and osteoporosis is based on the definition of reduction of bone mineral density in patients. One of the methods allowing to determine bone loss is a dual-energy X-ray absorptiometry (dual-energy X-ray absorptiometry — DXA). During the DXA results are then compared with the reference base of the BMD that was originally put in the densitometric system equipment manufacturer. Often, however, the existing base is different from the reference population BMD patients from other regions.

On the basis of the recommendations of the International Society for Clinical Densitometry women are used to assess the BMD is not absolute values and relative values, depending on the age of the survey. Z-score (used up to 50 years of age) represents the number of standard deviations (SD) from the average level (M), bone mineral density for women in this age group. If the Z-score is higher than –2 SD, it is believed that bone mineral density corresponds to the age norm. T-test gives an estimate of bone mass in the subjects with 50 years or older. It represents the number of standard deviations from the mean peak bone mineral density of young women. Conclusion of low bone density (osteopenia) is done, if the T-score ranges from -1 SD to –2,4 SD. Osteoporosis corresponds to the values of T-score –2,5 SD and below. According to international recommendations T-score should be calculated on the basis of the database National Health and Nutrition Examination Survey (NHANES III), formed for the United States population [1]. At the same time, the calculation of Z-score should be performed based on the population database bone mineral density for a specific region [2].

In the occurrence of osteoporotic changes are also important regional aspects (of climatic and geographical location, the environmental situation, ethnic characteristics) [3]. In Kemerovo region are more than 5,000 industrial facilities. In the Kemerovo region has high levels of a variety of diseases, including bone. In this regard, an assessment of bone mass in women Kemerovo region in different age groups is relevant, and formed population database of bone mineral density in healthy women will improve the accuracy of diagnosis of osteoporotic changes.

Santhosh GIC1415079

Controlled release of metal ions from a medical device implant using a biodegradable polymer film

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Abstract: Coating which controls the Copper Intra uterine devices represent an important contraceptive option for nearly 160 million women worldwide [1]. Major side effect related to a copper bearing IUD is increased menstrual bleeding, cramping and abdominal pain. Research results showed that this is due to the high corrosive rate during the first few months of insertion [2, 3]. In the present study PLGA films having proper degradation period were prepared by solvent casting method which could prevent initial bulk release of copper ions from a copper intrauterine device, leading to increased efficacy and acceptability. PLGA becomes more attractive as compared to natural hydrophilic polymer, because the release profile of the drug (copper ions) can be controlled by diffusion and the erosion of the polymer. From our discovery we showed that PLGA film with thickness 0.05 -0.1 mm coated over the copper Intra uterine device is safe and effective in controlling copper ion release in the required level of contraception. The minimum amount of copper ions required for contraceptive action is 25 - 80 μg/day [4]. The initial copper release from PLGA film coated copper Intra uterine device was controlled to 58 μg/day whereas conventional copper Intra uterine device is around 114 μg /day (Fig 1). The PLGA film has been characterized for its thermal and mechanical properties.

Keywords: Copper Intrauterine device, PLGA, controlled release