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Session 1

Objective and subjective evaluation of continuous positive airway pressure in obstructive sleep apnoea

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Introduction

Recently, the percentage of the world's population who suffer from Obstructive sleep apnoea (OSA) has increased. Excessive daytime sleepiness and Excessive body weight are the main two symptoms for OSA that results from instability of the upper airway during sleep. This disease can be reserve by the most widely employed nonsurgical choice which is continuous positive airway pressure (CPAP). Reduce day time sleepiness may enhance the body energy expenditure (BEE) that could be potentially useful for objectively monitoring and to further subjectively assessment Epworth sleepiness questionnaire (ESS) and functional outcomes of sleep questionnaire (FOQS) to evaluate the impact of CPAP on the ability of OSA patients to conduct daily activity.

Methods

Eight men who recently diagnose with Obstructive sleep apnoea participated in this study aged 47.01 ± 13.06 years and apnoea –hypopnoea index $32.55 \pm 13.65/h$. The study design depended upon use of the Actiheart system (CamNtech Neurotechnology Ltd, Cambridge UK) that placed over the subject's chest to objectively minute by minute estimate BEE. Minute by minute, BEE Data collected over 3 one-week periods: 1-2 weeks prior, 1-2 weeks after and 5-6 weeks after commencement of nightly CPAP treatment. Furthermore, ESS and FOQS questionnaires completed at the end of the three study periods.

Results

After 5-6 weeks of commencement CPAP treatment, a significant improvement occurred in BEE, ESS and FOQS (9384 ± 4010 versus 12604 ± 4730 , $P < 0.0003$) (9.75 ± 2.37 versus 3.0 ± 2.1 , $P < 0.0001$) (3.24 ± 0.35 versus 3.85 ± 0.11 , $P < 0.0011$) respectively. Whereas, after 1-2 weeks of commencement CPAP treatment the significant improvement occurred for ESS and FOQS (9.75 ± 2.37 versus 4.0 ± 2.26 , $P < 0.0001$) and (3.24 ± 0.35 versus 3.67 ± 0.18 , $P < 0.0015$) but not for BEE (9384 ± 4010 versus 10641 ± 5419 , $P < 0.1829$).

Discussion

The study objectively and subjectively found, for the first time, that the CPAP was effective treatment for OSA patients. In six weeks, improvement in Daily BEE, ESS and FOSQ were observed in 8 OSA patients. We speculate that the failure of daily BEE to improve significantly after 2 weeks of commencement CPAP may reflect slower onset of behaviour changes in daily activities when excessive daytime sleepiness is reduced. This possibility serves to illustrate the potential benefit of including actigraphic estimates of daily BEE to provide more comprehensive monitoring of functional outcomes in OSA patients receiving CPAP therapy.

Keywords: body energy expenditure, continuous positive airway pressure. Obstructive sleep apnoea.

Efficacy and safety of a novel CdSe/L-Cys quantum dots for investigation of pathology of women reproductive system: in vitro analysis

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Semiconductor nanocrystals (quantum dots, QDs) are usually described as fluorophores having remarkable photostability, large absorption cross sections, and tunable emission peaks. The unique optical properties of QDs make them useful as in vivo and in vitro fluorophores in a variety of biomedical investigations in which traditional organic fluorophores fall short of providing long-term stability and simultaneous detection of multiple signals. QDs are mostly synthesized in nonpolar organic solvents. Only low-cost, green, and environmentally friendlier reagents were used in the reaction of nanoparticle synthesis. Ligand exchange with cysteine was achieved using a biphasic exchange method in which QDs dispersed in chloroform were mixed with a solution of DL-cysteine in phosphate buffered saline (PBS). The aim of the study was to investigate possible toxic effects of CdSe/L-Cys QDs in vitro. Two cell lines ZR-75-1 (human breast carcinoma) and HeLa (human cervical cancer) were used. An inverted Olympus FV1000 laser scanning confocal microscope was used to obtain a series of image sections of cells at 0, 6, and 24 h after a 90-min load of QDs in different concentration to investigate the QDs uptake by cells. Live-dead cell viability assay with propidium iodide, cell proliferation assay were performed to investigate time-dependent toxicity and dose dependent toxicity. The novel CdSe/L-Cys QDs are stable in a water solution, have a stable fluorescence signal within time, in lower dose they didn't affect the viability of the cells. Thus they can be used in investigation and diagnostic of reproductive system pathology.

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Steroidogenic enzymes, their related transcription factors and nuclear receptors in human sebaceous glands under normal and pathological conditions

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The sebaceous gland is a major site of steroid synthesis in human skin, but details of the status of steroidogenic enzymes and their regulation in human sebaceous glands under normal and pathological conditions have rarely been reported. Therefore, in this study, we examined the status of steroidogenic enzymes, sex steroid receptors and transcription factors in human sebaceous glands under normal and pathological conditions to explore their possible roles in in situ steroid production in human skin. Immunohistochemical analysis was performed in a total of 59 human skin specimens, including 22 normal human sebaceous glands, 12 with sebaceous nevus, 12 with sebaceous gland hyperplasia, 3 with sebaceoma and 10 with sebaceous carcinoma. Immortalised human SZ95 sebocytes were treated with forskolin or vehicle for 3 h, 6 h, 12 h or 24 h, and the mRNA levels of steroidogenic enzymes were evaluated at each time point using quantitative RT-PCR (qPCR). The results of immunohistochemistry demonstrated the immunoreactivity of 3 β -HSD1, CYP11A1, StAR, 17 β -HSD5, CYP17A1, 5 α -red1, PRB,

AR and NGFI-B in normal human sebaceous gland, with lower levels of expression in pathological sebaceous glands. The results of the in vitro study also indicated that the expression levels of 3β -HSD1, CYP11A1, StAR, 5α -red1 and NGFI-B were elevated by forskolin. 3β -HSD1 and other steroidogenic enzymes were expressed in sebaceous glands resulting in in situ androgen and progesterone synthesis and their functions.

The role of the Unknown Bacterial Agent in the Etiology and Pathogenesis of Primary Liver Cancer

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The idea of our research ‘‘was born’’ after we had noticed that oncology patients with primary cancer, had high temperatures of unknown etiology. At the same time, their blood was sterile. Antibiotic therapy didn’t result in temperature reduction. In order to reduce the temperature, the patients mainly used non-steroid, anti-inflammatory drugs. Detoxifying and antitumor therapy couldn’t provide thermal regulation. Namely, Liver Cancer was randomly chosen because these patients were being observed concerning the characteristics of Melatonin exchange. 21 patients were investigated for 2 years. All of them were infected with C Hepatitis. According to the Fibro-elastic-graphic data, the patients had F3-F4 stage. In spite of cytostatic and targeted therapy, the high temperature of 38-38.7 to 40-41 degrees Celsius was fixed (39.23 degrees Celsius on average). We have created specific polyvalent Bacteriophage from the high mountain zone lake (2400m). The patients were given the concentrate of the above phage in every 3 hours, for 10 days, which resulted in temperature reduction by 2.5 units, compared to the average figure. In 10 days, the average temperature came to 36.7 degrees C (during this period, no patient received non-steroid, anti-inflammatory drugs). After 10 days the treatment was continued with the same phage concentrate, but in every 6 hours and for 10 days again. After that the temperature was normalized and the average figure came to 36.2 degrees C. Before starting the treatment with bacteriophage, 5ml blood samples were taken from every patient in EDTA tubes, which were studied bacteriologically on the specific soil. The soil was selected considering the fact, that all the patients had low blood pH or acid and Na level increase in blood or over-the –limit indicator, Hypomagnemia. The soil was selected by us Halobacterium Agar+Vitamin C+MgSO₄. The cultivation was carried out in aerobic environment standard incubator at 37.0 degrees C. A week later, the special colonies were grown, which were best dyed with Indigocarmine and Fluorescein. The above bacterial culture was entirely destroyed in the experiment in vitro by the bacteriophage, produced by us. Hence, in our clinical cases, we found Halophilic Bacteremia that allows us to declare: 1. In the particular case, we can say firmly that the resistant fever in Hepatocellular Carcinoma is caused by Halophilic bacteria. 2. The given Halophilic bacteria are supposedly involved in the mechanisms of initiation, promotion and progress of Hepatocellular Carcinoma. It is not excluded that similarly to H. Pylori, the Halophilic bacterium, identified by us, was the carcinogenic agent of the Hepatocellular Carcinoma in Gastric Cancer.

FIXED DOSE DRUG COMBINATIONS IN INDIA- IS THERE ENOUGH SCIENTIFIC EVIDENCE

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Introduction: Fixed Dose Drug Combinations (FDCs) are defined by the World Health Organization as a combination of two or more active ingredients in a fixed ratio of doses. To be useful a FDC should be of known efficacy and rationality.

Material & Methods: This study was carried out to analyse the Fixed Dose drug Combinations (FDCs) in the Indian market. A quantitative, qualitative and cost analysis was carried out. For quantitative analysis of FDCs; the number of individual drugs, the number of FDCs and the number of drug formulations were assessed. The number of constituents in the FDCs was noted. For the qualitative analysis of FDCs, the amount of constituent in each FDC per unit dose and the presence and absence of banned constituents of

FDCs was assessed. The availability of scientific evidence for the FDCs was assessed using accessible electronic and print sources of drug information. The availability of scientific evidence was assessed from print media like Medical journals, standard Pharmacology and Medicine text books, Pharmacopoeias, Formulary etc. In the electronic media all the prominent online databases like Cochrane database, Pubmed, Medline, Copernicus and Evidence based medicine database were accessed. The FDCs were analyzed using a rationality score which was based on the WHO criteria of a rational and irrational FDC; a higher score indicated higher rationality and a lower score indicated low rationality. Cost analysis was done for the FDCs; where the cost of each FDC per unit dose was assessed, a cost comparison was done between the cost of the FDC and the cost of individual constituents. Also the variation in the cost of same FDC that was being marketed by different pharmaceutical companies was assessed.

Results: In all the pharmacological drug systems, there were more than 1,000 individual drugs. These drugs were present in more than 3,500 Fixed Dose drug Combinations (FDCs). There were more than 37,000 total drug formulations. Vitamins and minerals had the presence of maximum number of FDCs followed by musculoskeletal system and antimicrobial agents. The rationality score of most of these FDCs was in the intermediate range. The FDCs in the system of antimicrobial agents had the highest rationality score whereas the score was lowest in the system of vitamins and minerals. The scientific evidence, in general, was very low. It was lowest (<1% of FDCs) in vitamins and minerals; whereas the evidence was highest (38% of FDCs) for the FDCs present in cardiovascular system. Of all the FDCs, approximately 3% FDCs were banned by the office of Drugs Controller General of India; yet these were marketed in India. Cost analysis revealed that FDCs offer a cost advantage to the patient.

Conclusion: This study shows that the number of FDCs available in the Indian market is very high. Scientific evidence for most of these FDCs is lacking and a fraction of these FDCs are banned. The rationality score for the existing FDCs ranges from very low to intermediate. A positive aspect was the economic advantage with the use of FDCs.

Is there enough evidence for intermittent iron supplementation?

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Introduction: Both daily and weekly iron supplementations have been documented to improve haematological status in children; however there is a paucity of similar data in the age group of 6 to 24 months, particularly in non anemic infants. This study was designed to generate data in this context. It's a first of its kind study in this age group in India.

Material & Methods: In a prospective randomized controlled trial, 103 non anemic babies were randomly allocated to receive either daily oral iron supplementation in a dose of 1 mg/kg/day or weekly oral iron supplementation 2 mg/kg/week. Anthropometric (length, weight & head circumference) and hematological parameters (Serum Hemoglobin {Hb}, Serum Ferritin & peripheral smear) were recorded at baseline and at the end of 3 months.

Results: An increase in hematological parameters was seen in both the daily and weekly groups. However the increase was significantly greater in the daily group (p value=0.000). No significant differences in improvement in anthropometric parameters were observed in any of the two groups at the end of 3 months.

Conclusion: The scientific evidence that exists favours the daily supplementation approach to a greater extent as compared to the intermittent iron supplementation. The findings of our study have also added to the pool of scientific evidence that exists in favour of the daily approach.

Health Geographic Information System for Public Health's Model

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At the onset of the new millennium, parasite infections continue to exist as epidemics, particularly among impoverished populations. In order to control these infections, current information regarding distribution, location, and extent of infections is essential. Working together, governmental and international health organizations must ensure the collection of ongoing and accurate information. However, budgets of all groups are limited, and acquiring essential information efficiently is of paramount importance. In Thailand, Helminthiasis, predominantly opisthorchiasis and hookworm, are still significant public health problems. Endemic infections are closely related to geography, socio-economic status and risk behaviors. They are more common among villagers in rural and remote areas. In order to prevent, control and eradicate these diseases, the National helminthiasis control program has established a national plan to promote and coordinate interaction and intervention among provincial public health sectors. The program managers first require evidence based information. Our collected data are, we believe, representative of the population of Thailand and are derived from nationwide household surveys. The report was done to determine the health informatics' model of helminthiasis in Thailand. The investigators evaluated how health informatics' model could be used to predict the control and eradication in a cost effective manner. Fish-borne helminthiasis caused by *Opisthorchis viverrini* remains a major public health problem in many parts of Southeast Asia including Thailand, Lao PDR, Vietnam and Cambodia. The epicenter of this disease is located in northeast Thailand, where high prevalence coexists with a high incidence of cholangiocarcinoma (CHCA): a major primary carcinoma of the liver with a very poor prognosis. The current data was conducted to determine the mathematic model of surveillance the characteristics and using geographic information system. The ministry of public health concluded that mass treatment for helminthiasis in the thai population targeting high risk individuals may be a cost-effective way to allocate limited funds. Perhaps this type of approach and further study on the correlation of clinical symptoms with environmental and geographic information may offer a comprehensive strategy to the helminthes dilemma.

Key words : Helminthiasis, Geographic information system, health informatics model

Medical lab Professionals' Perception's about Continuous Medical Education in Security Forces Hospital, Riyadh, KSA

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Background:

Emerging professional, social and political demands highlight the needs of long-term learning for medical laboratories professionals. Continuing medical education (CME) facilitates long term learning and is an essential factor in the ensuring safe and updated practice. CME activities include lectures, workshops, conferences and simulation training. The beneficial effects of CME can be maintained in the long term and can improve practical outcome. New CME must emphasize actual performance and should correlate with practical outcomes to lead to practice modification with a focus towards excellent patient care.

Objective:

The objective of this research is to assess perception and of medical lab professionals towards attending CME and to explore factors that influence attending CMEs in SFHPR.

Method:

This is a descriptive and analytical study, based on distribution of a "questionnaire". The questionnaire was built based on previous literatures, researches and articles related to the study subject. The literature was searched using Medline, Psychinfo and Google Scholar.

The questionnaire of this study was first developed by the researcher on March 24 year 2014G and being reviewed by three academic reviewers then tested through Cronbach's alpha to measure its reliability. This questionnaire consisted of 5 main sections exploring the demographic data, assessment of any attendance of CME activities ,assessing the perceptions about continuous medical education (CME) in SFHPR, encouraging factors for medical lab professionals to attend CMEs and the last section is about medical lab professionals' opinions on different types of CME. The questionnaire was distributed to 120 medical lab professionals. The returned ones were 107, of which only 103 were valid. Data were collected, analyzed. The statistical program used was SPSS version 21.

Results:

Different descriptive statistical methods were used in assessing and analyzing the data which were collected from the 103 valid questionnaires, such as frequencies and percentage, mean and standard deviation, Pearson's correlation coefficient, Cranach's alpha, T-test, and One way Anova. All ranks of the medical lab professionals, with different degrees, ages, and experience participated in the study; most of them have work experience ranges from 1-5 years. However, they gave the impression of positive perception towards implementing a CME program for them at SFHPR, with preference of short courses and workshops, and higher educational courses.

On the other hand, their perception towards the factors that influence attending CMEs in SFHPR, it was found that, the main enabling factor is to have these CME activities certified from Saudi Commission of health specialist (SCHS), and to increase the awareness of the importance of CME among Medical lab personnel.

Conclusion and recommendations:

Because the practice of the laboratory world are rapidly changing, successful CME must be truly continuous and not erratic, opportunistic, or casual. CME is useful in acquiring and retaining of knowledge, skills, attitudes and clinical outcomes. It leads to continuing practice improvement and implementation with excellent patient care.

This humble research was needed to better assess the needs and combined contributions of the various aspects of CME that should be provided to medical lab professionals in SFHPR, in order to identify their educational needs, develop activities to target those needs and as result set objective criteria of

performance to achieve these targets. Then, and as a result, CME can offer the opportunity to fulfill many of the objectives of medical lab professionals' recertification and revalidation.

Engagement of Medical Aesthetic Clinicians in a Health Educational Campaign to Increase Public Knowledge and Awareness on Safety & Efficacy of Over the Counter Products Labeled by Stem Cell

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Background: Over the counter products labelled with stem cell (OTC-SC), are advertised and promoted in community pharmacies, beauty salons, cosmetic shops and social media. Although the safety and efficacy of OTC-SC products have not been investigated but there are increasing demand and public acceptability on these products.

Objective: This study was aimed to: i. assess the public awareness and knowledge on efficacy and safety of OTC-SC, ii. investigate the success of educational campaign by engaging medical aesthetic clinicians to increase the public knowledge and awareness on OTC-SC.

Methodology: A questionnaire was developed and randomly administered to 100 consented participants in Kuala Lumpur. Questions included socio-demographic factors, perception and level of awareness on OTC-SC and self- knowledge assessment. Educational talk was given by medical aestheticians together with a leaflet. After the educational session, participants answered the similar self-knowledge assessment questions. Total scores of correct answer were used to assess the level of knowledge. Descriptive statistics, one way ANOVA and chi-squared test was used for statistical analysis.

Results: The response rate was 91%. Majority of participants were 20-29 years old, 80% were female, 78% have a university degree, and dominant race was Chinese (54%). A total of 92% of the participants were aware of the availability of OTC-SC in Malaysia, however, only 24% have consumed these products. The most common concerns of consumers were reported to be nutritional value of OTC-SC. None of the participants were agree with the idea that government should ban all of these products in the market but 54% were in favor of providing public education by government. Educational session significantly increased the score of knowledge from mean of 2.18 ± 1.27 in pre-educational test to 4.32 ± 1.28 in the post educational test ($p=0.00$). Leaflet and educational talk conducted by clinicians was highly accepted by participants.

Conclusion: Public in the selected study sites had poor level of knowledge regarding stem cell science even educated individuals. The educational campaign by clinicians was able to improve the knowledge and awareness of participants regarding OTC-SC. This kind of educational campaign is cost effective and it is well accepted by public.

Anti-Hyperglycemic Effect of Duku (*Lansium domesticum* Corr) Seed Extract in Alloxan Induced Diabetic Rats

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Background: Diabetes Mellitus is a chronic disease growing in prevalence worldwide. Pharmacologic therapy is to achieve optimal blood glucose control. *Lansium domesticum* (duku) seed extract is one of potential alternative treatment. The objective of this study was to determine anti-hyperglycemic effect of *L.domesticum* seed extract.

Methods: Experimental study of pre-and post-test design with control group was carried out at Animal House, Medical Faculty of Sriwijaya University, in January 2014 to March 2014. Thirty albino rats aged 3 months and weighing 200-250g acclimatized for seven days and were injected intraperitoneally with 160 mg/kgbw of alloxan. All subjects were divided into five groups. Group 1 treated with aquadest, group 2, 3, 4 treated with 100, 200, and 300 mg/kgbw of *L. domesticum* seed extract, and group 5 treated with 1 mg

of glimepiride. All treatments were administered orally for 2 weeks. The data obtained was analyzed with normality test, paired sample t test, ANOVA, and Post Hoc test by using SPSS version 20.

Results: Phytochemical analysis of *L.domesticum* seed extract showed the presence of flavonoid, triterpenoid, and saponin. The treatment of 100mg/kg duku seed extract showed difference significantly ($P<0.05$) on the 2nd hours until 12th hours. Two-weeks oral administration of 100mg/kg duku seed extract were significantly reduced ($p<0.05$) blood glucose amount of 44.72%.

Conclusions: Small dose of *L. domesticum* seed extract is potential in controlling blood glucose levels on alloxan induced diabetic rats.

Keywords: *L.domesticum*, seed, alloxan, experimental, study

Sensitivity and specificity EXAMINATION Rapid Diagnostic Test (RDT) and microscopic examination on *Plasmodium falciparum*

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Malaria is still becoming healthy problem in tropical country. Malaria cases in the province of Bangka Belitung still above 1/1.000. The highest influences is on west, south and east Bangka. The highest rate of malaria found in the West Bangka, about 86.87 per 1000 population. However, the availability of expert microscopic examination is limited. Therefore it is important to find alternative examination in this province because of the highest rate of malaria infection. The purpose of research is to investigate the sensitivity, specificity, positive predictive value, and negative predictive value by using the method of examination of *Plasmodium falciparum* Rapid Diagnostic Test (RDT) and microscopic at General Hospital West Bangka district. The testing of these two sensitivity test has been done in the Hospital of the West Bangka Sejiran Setason from April 1st, 2013 to April, 20th 2013. In 134 samples by using purposive sampling based on consideration that fulfil the inclusion criteria of the researcher. The sample was taken by Passive Case Detection (PCD). The results from 134 respondents were male respondents was about 68 (50.75%) and, more in adulthood at 85 (63.43%), with un educated respondent is about 47 (35.07%), and the level of employment of farmers about 71 respondents (52.99%). By using microscopic the result was 8 positive samples and as many as 126 samples were negative. By using RDT showed zero positive in the sample and negative results was 134 samples, therefore the sensitivity in this research was 0.0002%, specificity 100%, positive predictive value of 0.5%, and negative predictive value 94.02 %. The conclusions obtained in this research was that there still the limitation skilled laboran, RDT was still becoming an alternative, but it was need to have further research with bigger number of sample by using other type RDT. Therefore it can be decided which RDT was perfectly implemented on such area

Keywords: *Plasmodium falciparum*, PfHRP II, RDT.

Session 2

Barriers to talking about sexual health issues with physicians

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Objective: Although patient barriers to discussing sexual problems within medical consultations remain relatively unexplored patients may have a hard time talking about sex at one time or another. Whether asking a medical sex question to the physician, sex talk can feel anywhere from awkward to impossible. Keeping silent about sex keeps patients ignorant and potentially leads to negative health outcomes and allows perpetuating sex myths. Research shows both patients and physicians face barriers to communication about sexuality. The aim of this study was to explore patients' barriers to talk about sexual health issues with physicians.

Method: A face to face questionnaire was conducted among patients attending to gynecologic polyclinics, where participants were asked explicitly about their sexual life, problems and talking about sexual health issues with physicians and experience of seeking treatment for sexual problems.

Results: This study reports findings from a questionnaire with 43 women aged 25–59 years (mean 38.81 ± 8.28), 62.8% housewife of 79.1% gave a sexual satisfaction point of ≥ 6 points over 10 (mean 6.74 ± 2.59) with her partners. The age of first sexual intercourse was 22.58 ± 6.28 years old. 60.5% had a dyspareunia of a pain score of 3.21 ± 2.11 (over 10 points scale) and 34.9% avoid having a sexual intercourse because of the pain in the past six months. 53.5% did not talk sexual health issues with physicians but 83.7% of them thought it should be talked with physicians. The patients' barriers to talking about sexual health issues with physicians were embarrassment and lack of a trusting and comfortable professional relationship 18.6%, waiting the physicians to ask the sexual issues 7 %, don't think that physicians help to sexual problems 2.3%, and forget asking the sexual problem during consultation 4.7%. Patient may speak sexual issues if the patient is in confidence in speaking about sexual practices and had a reason to talk about sexual health 51.2%, if physician asks about sexual issues 32.6%, if the physician is women 2.3%.

Conclusion: Although sexuality is a key aspect of women's physical and psychological health, it is often not discussed during the course of general practice consultation. The most obvious reason is that physicians usually focus on the problem of the day and there is a lack of the time to discuss general health issues. However there may be many other reasons for not talking to patients about sex, including embarrassment, fear of alienating the patient, lack of a trusting and comfortable professional relationship with the patient (although a close relationship can also act as a barrier), lack of confidence in speaking about sexual practices and lack of a reason to talk about sexual health. **Keywords:** Talking sexual issues, barriers, physician aspects

The Symptom Differences In Anxiety Disorders According To Gender

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Objective: In this study, the distribution and differences of the symptoms of anxiety disorders according to gender has been investigated.

Method: 201 psychiatric outpatients (141 females, 60 males) applied to our clinic with a DSM-IV-TR diagnosis of anxiety disorder within six months period are included in this study. A detailed psychiatric interview through sociodemographic data form, Structured Clinical Interview for the DSM-IV Axis I Disorders, Hamilton Anxiety Rating Scale and Yale-Brown Obsessive Compulsive Scale are performed by the interviewer. Beck Depression Scale, Generalized Anxiety Disorder Rating Scale, Panic Agoraphobia Rating Scale, State-Trait Anxiety Inventory have been submitted by the patients.

Results: Beck Depression Scale, Panic Agoraphobia Rating Scale, State-Trait Anxiety Inventory scores demonstrated significantly higher severity in females ($p < 0,05$). Hamilton Anxiety Rating Scale somatic complaints and depressed mood subscale scores were significantly higher in females ($p < 0,05$). Severity of cardiovascular system symptoms in patients with panic disorder were significantly higher in males ($p < 0,05$). In obsessive compulsive patients; dirt/contamination obsessions were most frequent obsessions; while washing/cleaning compulsions were the most frequent compulsions. Both genders exhibited highest number of comorbidity with obsessive compulsive disorder.

Conclusion: This study has contributed to the literature suggesting more severe symptom profile of the anxiety disorders in females. Awareness of the gender differences in anxiety disorders will help clinician to make well educated guesses on comorbidity, symptom severity and diverse presentations of the disorder. Thus, convenient treatment interventions may readily be administered.

Keywords: anxiety disorders, gender, symptoms, distribution, differences.

Evaluation of the Factors that Direct Football Audience to Violence

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Sports are the most widespread social event of a modern society. In sports, there are unethical behaviors and ethical rules. Among the branches of sports, football differs from the other branches as it has a feature of being a kind of sport for beholding and of luring large masses of people. In terms of psychosocial aspect, it is observed that the audiences come out of their everyday lives and take part in these activities with different identities. Football competitions turn to be the environment where the personality gets lots especially in the crowds and where desired or undesired collective events happen through the impact of various external stimuli. This study has been conducted to obtain results through the questionnaire regarding the assessment of the factors that direct the audiences of the football teams of Fenerbahçe, Beşiktaş, and Galatasaray, which are situated in the province of Istanbul and which play in Sports Toto Super league, toward violence. As the Method of the Research, Football audience examine the evaluation of the factors that led to violence in this study a method of scan was applied. The scope of the research consists of those audiences of the football teams of Fenerbahçe, Beşiktaş, and Galatasaray, which are situated in the province of Istanbul and which play in Sports Toto Super league, who go to the stadium to see the matches. The sample group of the research consists of 1000 persons among the audiences of the football teams of Fenerbahçe, Beşiktaş, and Galatasaray, which are situated in the province of Istanbul and which play in Sports Toto Super league, who go to the stadium to see the matches. In the Statistical Analyses of the data, the questionnaires collected were checked and those filled incompletely or erroneously were excluded from the research. Subsequent to taking the frequency and percentage distributions, crosstabs were created between the variables that we deemed interrelated. A Chi-square test was applied on the crosstabs. As a result of the research, it was seen that the Sports media must be away from provocation, broadcast objectively, and inform the audience regarding prevention of aggressiveness and violence in sports. Media must choose the broadcastings it will conduct prior to matches in a more careful and diligent manner and avoid broadcastings that might motivate and direct the football audience toward aggressiveness. Educational institutions must handle the issue of violence and aggressiveness in sports along with all its aspects. Female audience must be encouraged to go see the competitions. Referees must be careful in terms of provoking the audience and avoid the wrong decisions, attitudes, and behaviors. Persons who act aggressively in the sports fields must be legally punished. Sufficient in-field and out-field precautions against the violence events must be taken and the authorized institutions must be organized well. Sports executives and footballers must avoid provoking the audience in the competitions and media and conduct attitudes and behaviors that support the understanding of fair play. The audience supporting teams must gain the understanding of not viewing the opponent audience as enemies. The understanding that it is necessary to fulfill the expectations of the audience regarding the position of their team in the league and that everything is to be done in order to win at all times must be abandoned. Remarks of the executives of the clubs prior to the competitions must not be provoking the audience. The audience of the opponent team must also avoid provoking behaviors.

Keywords: Football; Football Audience; Sports; Violence.

PHYSICAL FEASIBILITY COMPONENTS RELATING TO HEALTH IN CHILDREN AND ADOLESCENTS

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The terms of growth, development and maturation define changes in body from birth. Growth means any increase in any parts of body whichin organs can be measured in terms of length and weight. In childhood and adolescence period, individuals have a rapid development and a physical change. This change affects physical activity level and power, flexibility, body composition and aerobic endurance being physical feasibility parameters associated with health. The physical feasibility components relating to adolescencents' health are heart-circulation feasibility (aerobic feasibility), muscle feasibility (muscle power and endurance), flexibility (mobility) and body composition. Aerobic feasibility mostly develops in girls and boys at the ages of 5-8, development becomes slow in next periods. That is, a slow change is observed in boys aged over 18 and girls aged over 14. Aerobic endurance increases in boys aged between 5-17 in directly proportional to ages. Flexibility is also affected by anatomical and physiological changes during adolescence period. Flexibility is constant in boys aged between 5-8. Power improves depending on height, body weight, development of skeletal system and muscle mass of whole body as well as age. Studies show that increases in muscle power reach at the highest level due to sexual differences in the ages of 10-11. With age rise and muscle mass increase, power increases as well. Generally individuals have risks in terms of health since their physical feasibility levels are not enough in adolescence period, if their sport habit is not achieved enough in childhood. If there is any increase in adolescent ones' physical activity levels, it is considered that any increase will be at their physical feasibility levels and thus the number of persons with health risks will reduce. In childhood and adolescence period, activities encouraging information level such as conference, panel discussion, leaflet, introduction can be made for having physical feasibility and healthy life behaviours (exercise and nutrition habit, health responsibility, stress management, drug addiction, doping usage)

Key Words : Childhood, Adolescence Period, Physical Feasibility, Health

NEUROPHYSIOLOGICAL EFFECTS ON HEALTH OF EXERCISES AT THE ELDERLY

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Exercise, many changes in the lives of people brings with individual well-being and quality of life improves. As in all age groups, this situation is also true for the elderly population in elderly and a young person, as in the regular exercise has many benefits. The main topics as cardiovascular, neurophysiologic, musculoskeletal health effects on body composition and metabolism besides there are many benefits on the proven. Exercise, musculoskeletal system, increase muscle mass and strength, improvement in range of motion, balance correcting provides benefits such as a reduction in falls. Increase in people's independence and functional disability helps to decrease. Exercise content, in all age groups as well as endurance exercise (walking, cycling, swimming), strengthening exercises, range of motion exercises, flexibility exercises, stretching exercises, balance and act in concert in order to be specialized exercises, deep sensory exercises and all combinations of these containing different types of exercise (yoga) can. Applied to older individuals have many positive effects of regular exercise program. In particular, neurophysiologic; an increase in the quality and duration of sleep, improvement in cognitive function, increase memory close attention, a prolonged decline in the frequency of depression and wounds can be very important as increased well-being. Finally, as with all individuals exercise in elderly individuals and provides physiological and psychological well-being improves. The increasing level of independence and ensures more. Besides the benefits of the planned audit risk increases the program's success. Of elderly

individuals should be individualized exercise programs. Life should include changes, program an individual's existing diseases, life style must be suitable and must be approved by the individual. Easy to understand and follow written and visual materials should be enriched individual programs should be included in the next group programs. Also available for diseases that includes risk management, specializing in exercise changes should be made and should be supervised by health professionals.

Keywords: Aging, Exercise, Health, Neurophysiologic effects

The evaluation of a cognitive behavioral group program to enhance the self-concept in distressed Icelandic female students

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Stress is common among university students, especially females, and has been associated with psychological distress. University life is a crucial time of transition in many young peoples' lives and may give rise to a number of different challenges and opportunities. The stress is commonly related to strains of university life, financial concerns and interpersonal relationships. Psychological distress is more likely to occur if the sources of stress affect the individual's personal resources or self-concept, including mastery and self-esteem. Therefore, a brief cognitive behavioral group program (CBGT) was formulated for distressed Icelandic female students to enhance their self-concept, mastery and self-esteem. The intervention was carried out in 4 weekly group sessions. They were facilitated by two advanced practice psychiatric nurses and five to eight women were enrolled in each group. The program was provided to a sample of 19 women between 22-45 years of age representing most faculties. The program was pilot tested with a pre, post and follow-up design and individual qualitative interviews, asking participants about their experiences concerning participation in the program. The effectiveness was assessed with Rosenberg Self-esteem Scale and Pearlin's Mastery Scale. Results showed significant improvement in self-esteem and mastery from pre-treatment to 7 month follow-up. These improvements were reflected in the results of the qualitative content analysis where the women expressed three main benefits of the intervention: To gain knowledge and understanding, to become more positive and balanced in thinking and to feel more in control. Finally the women expressed a need for more opportunities for in depth reflections and exercise of cognitive behavioral techniques in one or two additional sessions. The self-concept, including mastery and self-esteem, is a key resource that enables a person to meet challenges in everyday life. As this pilot study showed that the brief CBGT program was effective in enhancing these resources among university female students, further evaluation of the program in a large-scale experimental study is needed. The theoretical background and study results will be described in more detail in the presentation.

Abandoned elderly and health problem in the Lower Northern Region of Thailand

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Recent social and demographic changes affecting Thailand mean that the numbers of abandoned elderly are increasing. This study investigates a population of over-60s in a rural Thai province to examine the relationships between abandonment and health problem. It investigates how far abandoned older people or with carers practiced a range of healthy and unhealthy, and how far particular behaviours were associated with health problem. The population investigated in this study included all patients with chronic disease over the age of 60 meeting the study criteria and registered with five community "health promotion" hospitals in Mueang district, Phitsanulok province, in the lower northern region of Thailand, which has been identified as the Thai region with the highest proportion of older people living alone. Almost ninety percent of the target group, comprising seventh hundred and sixty two persons were included in the study (87.59%). The data were collected between June 10 and September 10, 2014. The research employed a purpose-designed questionnaire, which included items on healthy and unhealthy

behaviours and diagnosed chronic medical conditions. Possible associations between presence of healthy and unhealthy behaviours and reported health status were examined using logistic regression analysis and odds ratios (OR), confidence intervals (CI), and chi-square results were calculated. Those abandoned were more likely to have smoked tobacco, used alcohol to hazardous levels, be socially isolated, have depression and engage in low levels of regular physical activity. After controlling for confounding variables, the study found that abandonment was significantly associated with less health behaviors, with high alcohol use and with higher levels of depression. Older people living alone were more than twice as likely to use excessive alcohol as those living with a caregiver and more than twice as likely to report significant depression. Regarding the relationship between chronic conditions and abandonment, living alone was found to be significantly associated with depression. The likelihood of depression which were diagnosed by medical doctors was 3.42 times higher in those abandoned (OR =2.86, 95% confidence interval [CI] = 1.1 to 12.4). Given the results of this study, we suggest that increased attention must be focused on health promoting behaviors for elderly abandoned with chronic disease.

Keywords Abandonment, elderly, chronic disease.

An Investigation About The Relationship Between Life Satisfaction and Leisure Negotiation of University Students

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Introduction: Leisure time activities of individuals constitute emotional satisfaction like creating of pleasure, make friends, adventure and new experiences, sense of achievement, physical endurance, emotional experience etc.

Purpose: To investigate the relationship between life satisfaction and leisure negotiation of health management students in a university.

Material&Method: This study was conducted in the relational screening model. The study population consisted of 89 female and 65 male totalling 154 university students. For testing the leisure negotiation strategies of participants "Leisure Negotiation Strategies Scale (LNSS)" which was developed as a scale by Hubbard and Mannell (2001), modified to recreational campus sports by Elkins (2004) and that validation has been verified by Beggs et al. (2005) was utilized. This scale is adapted into Turkish for university students by Yerlisu Lapa (2012). The scale consisted of 31 items and related to six basic negotiation strategies: time-management strategies, skill-acquisition strategies, interpersonal relations, intrapersonal validation strategies, physical fitness strategies and financial management. The resulting reliability coefficients ranged between 0.85-0.91 and for the present study, while internal consistency of the general of the scale was .76; internal consistency coefficients for the factors of the scale were found to be .66, .70, .70, .71, .73 and .66 respectively.

Life Satisfaction Inventory", which was developed by Diener et al. (1985) and adapted into Turkish by Köker (1991), was used in order to determine life satisfaction of participants. The scale is consisted of 5 items. In this study, the reliability of the scale was found .86 and test-retest reliability was found to be .73. By the life satisfaction scale,

the highest score is 35; the lowest score is 5 points. Evaluation of the data was performed by mean, standard deviation, frequency and correlation analysis.

Results: The average age of the students who participated in the study 20.66 ± 1.44 , 19.76 ± 6.05 average of life satisfaction score, the mean of leisure negotiation total score was 3.33 ± 0.34 . According to the results of Pearson Correlation analysis, which was carried out in order to explain the relation between life satisfaction and leisure negotiation; it was determined that there is weak positive correlation between life satisfaction score and leisure negotiation score ($r=0.024$, $p=0.766$).

Conclusion: There was a weak positive correlation between life satisfaction score and leisure negotiation score. The most important limitation of this study is that the data was collected from only one department and sample was not sufficient enough.

The Effects of Two Different Exercise Programs on Serum Leptin and Adiponectin Levels in Sedentary Middle-Aged Women

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Introduction: It has been well known that sedentary lifestyle has negative effect on obesity-associated disorders such as type II diabetes, hypertension, coroner artery disease and metabolic syndrome. Prevention and treatment of obesity are mainly based on increasing energy expenditure and reducing energy. Adipose tissue-derived adipokines, adiponectin and leptin, may be an important risk factor according as excess adipose tissue. This study was designed to investigate the effects of aerobic and core exercise on body composition and serum adiponectin and leptin levels in sedentary middle-aged women.

Methods: Forty-five healthy subjects were selected randomly from 35±10 aged sedentary women volunteers. All selected subjects were randomly divided into two groups as aerobic step (AS, n=20) and core exercise (CE, n=20) groups. Subjects kept going to exercise during 16 wk. The exercise program for both groups (Aerobic-step and core) was undertaken 4 days of each week during 16 consecutive weeks with the intensity of 60% to 70% of their target heart rates. Three fasting blood samples were taken before-the exercise, at the end of 8 and 16 weeks. Serum adiponectin and leptin levels were determined with immunoassay method.

Results: After 8 and 16 weeks of training BMI, Body weight and fat mass decreased significantly for both exercise groups ($p<0.001$). Compared with the baseline values, percent changes in serum adiponectin levels were not significant after 8 weeks of training but significant at the end of the 16-week training period for both exercise groups (AS; 16.1 %, AC; 15.8 %, $p<0.05$). Serum leptin levels showed significant decrease only in core exercise group after 8 weeks of training (AC; 22.9 %, $p<0.05$) but percent change was not significant at the end of 16 weeks for both groups.

Conclusion: This data suggest that long term (16 weeks) physical training have positive effects on serum adiponectin levels and body composition of sedentary women but have not on serum leptin levels.

Hard to Reach Populations: The development of a philosophical, methodological triangulation strategy examining risk behaviors, health care needs and lived experience of women in prostitution in Belfast, Northern Ireland

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BACKGROUND: This study explored the complexity and multifaceted reality of the methodological difficulties encountered in working with hidden and hard to reach populations. Following an ethnographic approach to obtain narratives of the women in prostitution a methodological triangulation strategy with a multi-method approach was introduced to obtain more meaning of the lived experience of being a female street prostitute in Belfast,

METHOD: Following an interpretive ethnography approach a Gadamerian hermeneutic phenomenological approach was used to provide further structure and guidance and to aid data analysis. This was based on mixed methods with the use of a focus group and in-depth, unstructured individual interviews. From these results the third stage of the methodological triangulation, questionnaires were constructed to validate the findings from both the interpretive ethnography and hermeneutic phenomenology results.

RESULTS: The findings that emerged from the triangulation of data is a pattern of convergence, as all three different sources collected through different methods confirm an overall interpretation of five themes: (i) Childhood incidents; (ii) violence; (iii) Health issues; (iv) High risk behavior and; (v) Self Identity.

CONCLUSIONS: The picture that emerged from the lived experience of these women was an appalling lifetime continuum of physical, psychological and sexual abuses resulting in low self-esteem and chronic ill health. A risk versus survival' model emerged from the findings that should heightened public awareness to the women's' horrific lifestyles, risk behaviors, health and social care needs.

Elderly Patients satisfaction with Home Health Care Program in Saudi Arabia

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The program of Home Health Care (HHC) is an integrated services program, which is composed from a series of interrelated health care procedures. The major function of the HHC program is to provide healthcare for individuals and families in their homes. Generally, home health care services are new service to the Saudi context. In the past, the focus of health activities was directed to hospital-based services. In addition to which the majority of health professionals including doctors and nurses are expatriates, thus the healthcare services delivered in Saudi Arabia need more evaluation so that decision makers may judge the extent to which the new services are successful? This issue generates a lot of contemporary challenges including many aspects within home health care. For instance, the growing in the pervasiveness of chronic diseases, caducity of inhabitants, and hospital expenditure, transmission of infections risks and other matters, where such factors threaten the patient's comfort and satisfaction level. It is true that home health care in Saudi Arabia is in its early stages, and in general programs which exist are based only on hospitals. On the other hand, what makes home health care featured within Saudi Arabia distinctive are the inimitable cultural and religious considerations. To date the number of patients in home health care program (HHC) is more than 20,000 from the time when it was introduced. Since the middle of the twentieth century Saudi Arabia has completed remarkable steps in order to improve the healthcare infrastructure. In view of the fact that there is a need for specialized health care employees in home health care there will need to be preparation for home health care be included in the student, graduate, and ongoing education of general practitioners as well as more research and development in such segments. Within the previous phase, a set of educational institutes and research enterprises and several home health care centers have been founded. Added to that, more training programs are taking place in the development of HHC workforces. The Saudi practice makes it apparent that with strong economic support as well as scientific research, it should be possible to put up advanced facilities as well as services, and fill up them with a diverse and highly skilled workforce able to provide home health care and clinical outcomes at a high level of quality and patient satisfaction. The real challenge revolves around the possibility of making the system turn out to be well-organized, effective, and sustainable.

Session 3

EFFECT OF BUTEYKO METHOD ON ASTHMA CONTROL AND QUALITY OF LIFE OF FILIPINO ADULTS WITH BRONCHIAL ASTHMA

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Background: Buteyko Method is a breathing technique that has shown to be effective in decreasing the number and severity of the asthma attacks in certain populations.

Objectives: The aim of this study is to determine the effect of the Buteyko Method on asthma control and quality of life in adults with bronchial asthma.

Methods: A quasi-experimental approach with pre-test and post-test design was used to evaluate the effect of the Buteyko Method. Sixteen adults with bronchial asthma, aged 18-40 years old, participated in the study. The experimental group (n=8) was given a 2 hour lecture on Buteyko Method and performed 90

minutes of breathing exercises daily. The control group (n=8) continued their usual treatment regimen. Asthma control and quality of life scores were measured every week for four consecutive weeks using the Asthma Control Questionnaire (ACQ) and Asthma Quality of Life Questionnaire (AQLQ).

Findings: The pre-test and post-test scores of the experimental group showed significant improvement in asthma control ($p=0.029$) and quality of life ($p=0.006$). Whereas the control group had no significant differences in asthma control ($p=0.289$) and quality of life ($p=0.390$).

Conclusion: The Buteyko Method has a significant positive effect on asthma control and quality of life when used as adjunct treatment in adults with bronchial asthma.

Implication: Buteyko Method application in asthmatic adults can therefore be considered as another breakthrough in the area of nursing education, research, and practice. Moreover, it can be regarded as a therapeutic intervention contributing to a comprehensive, innovative, and up-to-date nursing care for asthmatic patients.

Keywords: Buteyko Method, Bronchial Asthma, Asthma Control, Asthma Quality of Life

THE IMPACT OF TIME OUT HOURS FOR BREAST FEEDING ON WORK PERFORMANCE AMONG NURSES IN BAHRAIN

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The world health organization and the American Academy of Pediatrics emphasize the importance of breastfeeding for mothers as well as children. Literatures reveal that this right eventually will create a new healthy generation better immune towards diseases. Female nurses in the kingdom of Bahrain, who resume duty on hospitals after two months of maternity leave, face difficulty to continue natural feeding although two hours breast feeding system is implemented. Caring of patients in the hospital is a very stressful role that requires high level of accuracy, concentration and tolerance to pressure and work load. Therefore, nurses' mothers face difficulty to balance between work performance and early outing for breast feeding. Nurses' mothers intrinsically sense helping others but unable to help their own babies. This study aimed to identify difficulties nurses' mothers' face in continuation of breastfeeding practices. Quantitative design was used, and data was collected by using formulated questionnaire with a total sample of 73 nurses' mothers and 6 nurse supervisors. Interviews were conducted in different acute health care settings in one of the hospitals in Bahrain. Result revealed that the existing system is ineffective in the hospital though it's effectiveness in other organization. Set of recommendations were raised. To increase the duration of maternity leave up to 6 months. To establish a breast feeding center, facilitating mothers feeding their babies or storing mothers' milk in the working areas. Lastly, increase nursing manpower in order to ease the implementation of this system.

A quest for smoking cessation among nursing students

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Objective: Nurses are uniquely positioned to provide health promotion interventions. Studies have shown that personal smoking of health care professionals and students may negatively influence their attitudes toward tobacco control and ability to provide smoking prevention or cessation interventions. The aim of this research was firstly to describe the baccalaureate nursing students smoking habits. Secondly to evaluate the influence of a didactic health promotions course on the students smoking habits.

Methods: A survey aimed to check self-answered questionnaire was administered, to a second and third year nursing students, pre and post the health promotion course.

Results: The sample included a total of 176 students (second year student's n-126, third year student's n-50). Approximately 26% of the second year students were current smokers .That rate didn't decrease among the third year students even after taking the course. Moreover all students demonstrated low motivation to quit smoking.

Conclusion: Examination of the results showed that in spite of the theoretical studies concerning proper health life style behavior, and the clinical exposure to sickness and death, their health life style behavior did not improve. Since didactic curses probably have no effect on students' smoking habits, there is a further need to offer smoking cessation programs through the nursing studies.

Views of future nurses about sexual health

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Objective: Giving educations about sexual health to young people shall provide that they are acting in a mature and responsible way and are making the rightest selection and shall also improve sexual health in society. Due to that it is very important to determine youths' requirements regarding sexual health and prepare education programs about sexuality according to the needs of the group. With this study it was aimed to determine the information, attitude and behaviour of young people in Health Colleges regarding sexual health, their expectations from health servicesand to give sexual health education according to their expectations.

Methods: The sample of study, which was aimed to be defining and cross-sectional, was constituted of all students (n=266), receiving education at Health College between the dates of (10-21.03.14), when the study was carried out. Questionnaire forms were used as data collection tools. Research data was evaluated with appropriate statistical methods.

Results and Findings: The average age of students included in the study was 21 ± 2.5 aged and 27.4 % of them were male. 63 % of boys and 60.1 % of girls in the study have indicated that they want to receive information about sexual health from health personnel, 5.5 % of boys and 10.4 % of girls wanted to receive the information from their families. While male students wanted more that health centres, where they shall get information about sexual health, were in an easy reachable place, female students wanted that in these centres shall be given treatment and consulting services. According to genders it was determined that "treatment and consulting services shall be given" and "shall be in an easy place" answers were statistically meaningful. ($p < 0.05$).

Discussion: Obtained findings in this study; determined that most of the young receive information about sexual health but they see the information as insufficient and they need education about sexual health.

Key words:nursing, the young, sexual health, sexual health services

Team Training Enhances Collaboration and Patient Safety: A Systematic Approach and Implementation Suggestions

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Purpose: The purpose is to evaluate the existing literature to determine if team-training methods in healthcare enhance multidisciplinary collaboration and patient safety with suggestions on how to implement it.

Aim: To describe the findings of a systematic review that is aimed to provide an overview of the methods used team training in healthcare.

Background: Teamwork is defined as behaviors, cognitions and attitudes to achieve the same goal. Healthcare service is a team play. Everyone included into the care of a patient has very crucial part to achieve the same goal, which is the wellbeing of the patient. Poor teamwork within healthcare professionals indicated in the literature that causes problems for patient safety and multidisciplinary healthcare team dysfunction.

Methods: The systematic literature search was conducted using CINAHL, PUBMED and WILEY databases. The search started with English language research articles published in peer-reviewed journals between 2004-2014 using keywords “teamwork”, “team training” and “patient safety”. First database searched resulted with 800 articles. It is narrowed down to 44 articles after the initial search. After reading their abstracts 20 articles were included to the study based on the relevance of the subject.

Conclusion: The studies indicated that team-training methods/resources are beneficial improving patient safety especially in stressful work environments such as EDs, ICUs and ORs. It also has enhances on interprofessional collaboration.

Clinical Implications: The methods can be used in team-training are situ- simulation and TeamSTEPPS. Evidence showed that both have positive impact and it is also useful.

Evaluations of Nursing Care of Patients Hospitalized during the Postoperative Period

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Aim: The aim of this study was to evaluate nursing care of patients hospitalized during the postoperative period.

Material and Method: This descriptive study was conducted with 526 patients who were hospitalized in Surgical Clinics of Atatürk University Research Hospital in the province of Erzurum between April 2013 and August 2014. Being collected with form of descriptive characteristics and Nursing Care Assessment Inventory (NCAI), the data were evaluated as number and percentage in categorical measurements and mean and standard deviation in digital measurements. We used Cronbach’s α in evaluating the internal consistency of NCAI, t and ANOVA in comparing the digital measurements; and Post Hoc Dunnet and Post Hoc LSD tests in advanced analyses.

Results: The difference between mean scores of NCAI was significant according to state of complication in safety; gender, educational status and operation experience in physiological; educational status and operation experience in psychosocial, which are subscales ($p < 0.05$). In total, there was a significant difference between mean scores of NCAI according to the educational status and operation experience ($p < 0.05$). Comparing the subscale of hygienic with descriptive characteristics, no difference was observed between mean scores of NCAI ($p > 0.05$). There was a significant difference between all the subscale mean scores and total mean scores according to the clinics where the patients were receiving treatment ($p < 0.05$). However, as a result of the advanced analysis, it was determined that the difference between the mean scores of the subscale of hygienic was not significant. Mean scores of NCAI were higher in patients in the Thoracic Surgery Clinic in Safety and Physiological fields; and in the Plastic and Reconstructive Surgical Clinic in Hygienic, Psychosocial fields and in total. (Thoracic Surgery safety 26.60 ± 4.31 , physiological 65.33 ± 10.05 ; Plastic and Reconstructive Surgery hygienic 24.10 ± 6.32 , psychosocial 90.53 ± 18.98 , total 204.93 ± 43.50)

Conclusion: In general, it could be asserted that patients are satisfied with the nursing care. Satisfaction levels in terms of nursing show a difference according to the descriptive characteristics of patients, as well as the clinics where they receive care except for the subscale of hygienic.

Keywords: Nurse, nursing care, nursing services, patient satisfaction.

Information and attitudes of nurses regarding patient rights; Training hospital sample

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Objective: Patient rights are defined as rights, which from health services benefiting people possess, when they are in interaction with institutions and health personnel providing health services. As the protection of patient rights and provision of rights about health care is closely related to the nursing profession, nurses must have perfect knowledge about patient rights. With this study it was aimed to evaluate the information and attitudes of in Çorum working nurses regarding patient rights and to create the basis for the planned educational program.

Material: Sample selection was not made in this study, but all nurses (n=939) working between the dates of the study have created the sample. Questionnaire forms were used as data collection tools. Research data was evaluated with appropriate statistical methods.

Results: In the study was seen that 92.3 % have received education about patient rights, 2.2 % did never hear anything about the concept patient rights and 86.6 % became aware of the concept from sources outside of school. It was determined that the attitudes of nurses regarding the universal patient rights differ for every patient and that this rate changes from 35.8 % to 98.1 %.

Conclusion: As there is a requirement for studies devoted to patient rights that is playing an important role in the development of health services, "Patient Right Centres" should be established and carried out according to the foreseen model of the national and international health system. Studies aiming to teach health personnel and patient relatives about patient and patient rights, must be carried out.

Key words: patient rights, nurse, patient satisfaction

Meta-analysis of the Effects of Nursing Interventions for Patients with Coronary Artery Disease

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Introduction

One of the most serious problems of coronary artery disease is that reoccurrence and death rates increase if disease risk factors are not consistently managed after medical treatment. Nursing interventions focusing on improving patient lifestyle are reported to exert beneficial effects on the management of coronary artery disease risk factors and the prevention of disease reoccurrence. However, such studies have employed a diverse array of nursing interventions, and the sizes of the effect of each intervention have varied. Thus, the application of nursing interventions for patients with coronary artery disease is limited due to uncertainty about the appropriateness and efficacy of each program. Accordingly, it is important to conduct a comprehensive meta-analysis to objectively compare the results of previous studies. Therefore, the aim of this study was to integrate information on various Korean nursing intervention programs for patients with coronary artery disease.

Methods

We collected information on 23 Korean studies conducted between January 1990 and February 2007 that examined the effects of nursing interventions for patients with coronary artery disease. The studies contained the key words 'myocardial infarction', 'angina pectoris', or 'coronary artery disease' and were published in the Journal of Korean Academy of Nursing, Korean Journal of Adult Nursing, Journal of Korean Biological Nursing Science, Journal of Korean Academy of Fundamentals of Nursing, or Journal of Korean Community Nursing or were Master's or Doctoral dissertation manuscripts. Data were analyzed using SAS (version 9.13) statistical software.

Results

The mean (\pm standard error of the mean) number of patients in the experimental and control groups were 26.82(\pm 10.64) and 25.91(\pm 10.85), respectively. The average age of patients was 54.8(\pm 15.21) years, and most patients (78%) were male. Approximately half (56.51%; 13 of 23) of the nursing interventions focused on patient education and counseling, and the rest focused on including exercise. Most nursing

interventions for patients with coronary artery disease occurred within 2 weeks, and interventions were typically conducted three times a week. Most of the studies (60.87%; 14 of 23) were published in journals, and the rest were Master's or Doctoral dissertation studies. Education and counseling interventions for patients with coronary artery disease had the greatest effects on health behavior performance ($d=0.813$) and quality of life ($d=0.6740$), with a smaller effect on anxiety ($d=0.034$). By contrast, exercise program interventions had the greatest effects on health behavior performance ($d=0.596$) and anxiety ($d=0.366$), with a smaller effect on quality of life ($d=0.2274$).

Conclusions

The results of our meta-analysis show that nursing interventions in patients with coronary artery disease effectively improve anxiety, quality of life, and health behavior performance. Nursing interventions focused on patient education and counseling were particularly effective in improving health behavior performance.

Keywords: Coronary artery disease, Meta-analysis, Nursing intervention

Session 4

Implementing of a IR device to record blood flow

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Blood flow is the amount of blood circulating in a section at a given time, however, determining the blood flow is not easy, it is pulsed, runs through a number of branches of varying sizes and also blood is a fluid with nonlinear properties and composed of different elements, complicating the use of simplified mathematical models. This project has been prepared for recording of blood flow by using an infrared sensor (IR), which works at a wavelength between 600 and 950 nm and is a noninvasive system; the wavelength is absorbed by hemoglobin and can be easily identified refraction by a sensor. An array of light emitting diodes of high wavelength has been implemented, arranged in a circular form with a sensor capable of detecting the amount of infrared light that strikes it, located in the center of the array. Then to place on the device a section of the body, it is recorded that the body tissue reflect the emitted IR light, but being a property of the hemoglobin to absorb infrared light, one can obtain a variation in refractive incident on the sensor, which is directly proportional to the amount of blood that passes through the body section at this time. By monitoring the voltage variation in the sensor (to date by means of an oscilloscope), a curve, which can refer directly to the blood flow, this same shape similar to that described in other medical documents obtained with a robust or invasive methods, such as using a Doppler guide, without any damage or discomfort of any kind.

The involvement of pharmacists in wound care management in Cluj-Napoca, Romania

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Introduction: Chronic wounds (as pressure ulcers, diabetic ulcers, leg ulcers) are an important source of healthcare expenditure and disability for patients that require advance wound management. As part of the medical team, the pharmacist should know and provide the patient the necessary information and advice concerning the selection and use of various products, including active dressings, which are widely recommended in the treatment of chronic wounds.

Materials and methods: The study examines the prevalence of wound dressing products recommended and dispensed in hospital and community pharmacies from Cluj-Napoca, Romania and the types of pharmacist interventions regarding the counselling of the patients suffering from chronic wounds, which are difficult to heal. The interview and a questionnaire-based survey was used.

Results: Only 10% of the hospital pharmacies in Cluj-Napoca have to discharge these specific medical devices, but they have not ordered modern dressings, active in advance wound therapy. The traditional wound dressing products are available in all community pharmacies from Cluj-Napoca, but the active wound dressings represent only 1 to 10% of the dressings materials (stock and sales) available, with significant differences between pharmacies (data offered by actual management). Currently, only several advanced wound care products are available on the market in community pharmacies. The non-availability of reimbursement and a lack of awareness about the importance of these modern products could explain the market size and the currently wound care management. The pharmacists must ensure an accurate supply of appropriate wound management products, but their professional activities also cover the counselling of patients at the time of dispensing such products, in which case special knowledge is demanded with regard to wound-healing processes, the types of wound care products available, their action, uses and nevertheless, their benefits.

Conclusion: In Romania, traditional wound dressings continue to represent the principal products used in wound management, due to a lack of reimbursement and a lack of expertise regarding advanced wound care products. The development of modern wound care requires the involvement of the pharmacist in the health teamwork and also in the education of patients.

Assessment of health status and accessibility of health care services among elderly group in Riyadh city

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Objectives: To assess the perceived health status of the elderly group in terms of SRH and morbidity, and to describe the illness response among the elderly, and determine the factors influencing their access to which type of health care services including health status and health insurance.

Methods: This study is a descriptive analytical study, 200 questionnaires were distributed randomly and the researcher received 155 valid questionnaires. Frequencies, chi-square and correlation are used to test the association.

Results: the results showed that (84.5%) of the participants were diagnosed with chronic illness. In general, women reported more chronic illness (90%) as compared to older male (77%) ($p=0.026$). the prevalence of Hyperion among older men and women was 49% while diabetes was 56% and cardiovascular diseases were (19%). There was no significant difference between two genders in common illness. The morbidity rate in the four weeks preceding the survey was (83.9%) of the study sample, (73%) of those reported illnesses sought medical care to treat their illness, while only (9%) were self-treated only. Noticeable, no one went to drug store to buy any medicines.

In addition, for those elderly who do nothing for their illnesses, the most common reported reasons were the experienced medical treatment was not effective and illness was not severed. The regular sources of health care among elderly population was seeking specialist care from public hospital as they preferred to be treated by specialized doctors due to most of them have chronic illness and also because they have affiliation to this governmental health sector. Private health care was most used by those who had health insurance and they most likely use it for specialty Care.

Conclusion: Overall, HCS in Riyadh either public or private sectors are accessible to the elderly. The study suggested that the elderly overused the two types of health care services (by highly utilization of specialist services both in private or public). Therefore, the study recommend to establish integrated managed geriatric health care centers are crucial to meet the increasing demand of the this social group and contain the duplicated efforts and money in the different health care services.

The best prediction model for hospital readmission within 28 days: datamining approach using hospital large database

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Background: Recently, readmission rate, one of the indicators that reflect quality of hospital care, has been recieved much attention. Readmission refers to being hospitalized again after being discharged and is significant for two reasons: low quality and high cost of health care. This study aims to explore risk factors for readmission using three statistical models, and select the most successful model by comparing among them.

Methods: Models were constructed with three methods, i.e. logistic regression, decision tree and neural network, in order to predict the risk of readmission within 28 days after discharge. Then the models were compared and evaluated in light of their misclassification rate, root asymptotic standard error, lift chart, and receiver operating characteristic curve. Inpatients database including 11951 patients of one university hospital was used.

Results: From a comparison of the root ASE to evaluate the predictive power of the three models, the decision tree showed the highest predictive power (where regression=0.385, decision tree=0.369 and neural network=0.383). In the comparison of the misclassification rate, the decision tree also showed the highest predictive power (where regression=0.217, decision tree=0.177 and neural network= 0.211). The lift chart and ROC curve, which are widely used to evaluate a given model's predictive power, were also used, and from the results, both the lift chart and ROC curve found the decision tree to have stronger predictive power. Thus, from the model comparison, the decision tree was selected as the most successful model. According to this model, the risk of readmission was higher when the length of stay (LOS) was less than 2 days, route of admission was through the out-patient department (OPD), medical department was in internal medicine, 10th revision of the International Classification of Diseases code was neoplasm, LOS was relatively shorter, and the frequency of OPD visit was greater.

Conclusions: This study introduces how to make and select best prediction model for readmission in order to explore the risk factors associated with readmission. According to present results, when a patient is to be discharged within 2 days, the appropriateness of discharge should be considered, with special concern of undiscovered complications and co-morbidities. In particular, if the patient is admitted through the OPD, any suspected disease should be appropriately examined and prompt outcomes of tests should be secured. Moreover, for patients of internal medicine practitioners, co-morbidity and complications caused by chronic illness should be given greater attention.

Factors that nurses consider important in determining the appropriate timing for using a movement sensor

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Background: In acute care hospitals, movement sensors are often used for patients with postoperative delirium to detect their movement in real time and protect them from falling. However, it is unclear whether enough consideration has been made on the use of movement sensors for patients with improved orientation disturbance or ambulation to the level before surgery. Therefore, the usefulness of a movement sensor cannot be determined based on a certain standard alone, but ensuring the quality of care is impossible if the decision depends on individual experiences. Taking into account the high-risk factors of falling that previous studies have revealed, establishing criteria to determine when to use a movement sensor as a basic rule may lead to a provision of a certain level of care by all nurses, regardless of their experience.

Purpose: The aim of this study was to reveal factors that nurses consider as important criteria in determining the appropriate timing for initiating the use of a movement sensor for patients.

Methods

Setting: Of the 8656 hospitals listed in the database of secondary medical regions, 1606 were included in this study, excluding (1) hospitals with fewer than 100 beds, (2) hospitals that have recuperation beds, (3) hospitals where more than 60% of the beds are for mental patients, and (4) hospitals that do not perform surgery.

Subjects: In each hospital, 4 nurses who met the following criteria were selected from the ward with the highest number of surgeries performed: if their experiences as a nurse were (1) more than 3 years but less than 6 years or (2) more than 6 years. However, nurses were excluded if they were chief nurses or if their work experience at the ward was less than 1 year.

Data collection: An anonymous and self-reporting questionnaire was mailed in October 2014. Items such as demographic information (age, years of experience as a nurse, department where the subject belonged to, etc.), hospital information (number of beds, standard of nursing practice, implementation status of seminars, etc.), the use of a movement sensor (when to initiate the use of a movement sensor, presence/absence of criteria, etc.), and criteria for initiating the use of a movement sensor (items related to the patient's status, placement of catheter/drain, use of drugs, etc.) were included in the questionnaire.

Data analysis: A descriptive statistical analysis was performed.

Ethical considerations: This study was conducted under the approval of the institutional ethics committee.

Results/Conclusion: In this study, factors that nurses consider as important criteria in determining the appropriate timing for initiating the use of a movement sensor were investigated. The results indicate that the items that were demonstrated as risk factors of falling were not considered as important criteria. Therefore, going forward, the results of this study may provide critical information in investigating methods and criteria for using a movement sensor.

The Comparative Effects of Aromatherapy and Music Listening on the Stress Response after Exposure to Noise

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Purposes of the Study The purposes of this study were to find the effects of stress reduction and sedation of aromatherapy essential oil inhalation for 30 minutes in laboratory room after hearing white noise as loading stressor.

Methods This study was a randomized controlled trial to compare the effects of aromatherapy essential oil inhalations and music listening on stress reduction and sedation after exposure to white noise. This study was the Laboratory Based Research to compare the effects of EO and music on stress reduction and sedation after experimental treatment between experimental I, II group and control group. Subjects were healthy young adults, who didn't have any health problem, was enrolled by recruit, and was consented in joining our study. 20 subjects were in experimental I group, 20 in experimental II group and 20 in control group. The stress loading method to induce the stress situation was hearing the white noise. The experimental treatment was to inhale the EO for 30 minutes or to hear the selected music. EO was blended with Lavender and YlangYlang with 1:1 ratio. Blending oils were inhaled by the subjects of experimental group with reservior mask, and selected music were listened by the subjects of experimental group II with ear phone. The EO inhalation group was administered with 2 drops (1drop=0.1cc) of blended oil in the reservior bag and the music listening group was to listen the selected music with ear phone. There was no treatment for the control group. The dependent variables to compare the effects after treatment were the perceived stress, blood pressure, BIS index score and SPO2. To find the effects, the dependent variables were measured through pretest and after loading the stress and after experimental treatment every 5 minutes during 30 minutes. The BIS index score was measured to measure the level of sedation using a BIS monitor as an objective measurement of awake-sedation level. Before the data collection, this research was approved by Institutional Review Board (IRB). The collected data were analyzed using IBM SPSS Statistics 21.0. The homogeneity between two groups were analyzed by ANOVA and X2-test. To compare the effects among three groups, the perceived stress, BP, BIS index score and SPO2 were analyzed by ANOVA and Repeated Measures of ANOVA.

Results After loading the stress, subjects were showing the stress response, which was increasing the BP, BIS index score. After experimental treatment, the perceived stress, BP between two groups were not statistically different ($p>.05$). However the BIS index score of the experimental group was statistically lower than control group ($p=.001$) and SPO2 was higher than control group ($p=.062$).

Conclusions Eo inhalation and music listening were possibly effective to reduce the stress and to induce the sedation.

Keywords : stress, aromatherapy, music listening, blood pressure, BIS index, SPO2

Safety and efficacy of fibrate-statin combination therapy compared to fibrate monotherapy in patients with dyslipidemia: A meta-analysis

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Background: Dyslipidemia is a major risk factor for the development of cardiovascular disease. Treatment with fibrate, statins, or other lipid-lowering drugs prevents primary or recurrent cardiovascular events. However, all lipid-lowering drugs have side effects, which may become more severe if combination therapy is prescribed.

Methods: We performed a meta-analysis of published data to compare the safety and efficacy of fibrates alone, compared to fibrate-statin combinations, in patients with dyslipidemia. Six articles were assessed in terms of the efficacy of therapy and nine from the viewpoint of therapeutic safety.

Results: In terms of efficacy, fibrate-statin combinations afforded significantly greater reductions in the levels of total cholesterol (SE = 2.837; 95% CI 2.530–3.143), LDL cholesterol (SE = 2.274; 95% CI 2.015–2.533), and triglycerides (SE = 0.509; 95% CI 0.300–0.719) compared to fibrate alone. In terms of safety, treatment with fibrate alone was associated with a significant reduction in the number of kidney-related adverse events (RR = 0.547; 95% CI 0.368–0.812), compared to treatment with fibrate-statin combinations.

Conclusion: We suggest that treatment with a fibrate-statin combination affords clinical benefits that are superior to those upon treatment with fibrate alone, but increases the risk of side effects (particularly renal). Therapy should thus be carefully monitored.

Predisposing risk factors for delirium in living donor liver transplantation patients in intensive care units

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Background: Delirium is one of the main causes of increased length of intensive care unit (ICU) stay among patients who have undergone living donor liver transplantation (LDLT). We aimed to evaluate risk factors for delirium after LDLT as well as to investigate whether delirium impacts the length of ICU and hospital stay.

Methods: Nine-eight patients who underwent LDLT during the period January 2011 to December 2013 at a single medical center were enrolled. The Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) scale was used to diagnose delirium. Preoperative, postoperative, and hematologic factors were included as potential risk factors for developing delirium.

Results: During the study period, delirium was diagnosed in 47 (48.0%) patients after LDLT. The mean onset of symptoms occurred 6.0 ± 5.5 days after surgery and the mean duration of symptoms was 6.0 ± 3.6 days. The length of stay for patients with delirium (40.8 ± 29.1 days) was significantly longer than that for patients without delirium (30.3 ± 19.0 days) ($p < 0.05$). Risk factors associated with delirium included history of alcohol abuse [odds ratio (OR) = 7.40, 95% confidence interval (CI): 2.85–21.06], hepatic encephalopathy (OR = 5.45, 95% CI: 2.36–12.51), APACHE II score ≥ 16 (OR = 2.73, 95% CI: 1.51–3.56), and duration of endotracheal intubation ≥ 5 days (OR = 2.81, 95% CI: 1.72–3.23).

Conclusions: Alcohol abuse history, hepatic encephalopathy, APACHE II scores ≥ 16 and endotracheal intubation ≥ 5 days were predictive of delirium in the ICU following liver transplantation surgery and were associated with increased the length of stay. It is, therefore, necessary to close monitoring of patients with APACHE II scores ≥ 16 and early removal of endotracheal tubes in order to reduce the risk of developing delirium in the ICU after living donor liver transplantation.

Key words: living donor liver transplantation, delirium, alcohol abuse history, APACHE II score

Modified Dietary Fiber from Cassava Pulp and Assessment of Mercury Bioaccessibility and Intestinal Uptake Using an In vitro Digestion/Caco-2 Model

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The objectives of this study were to determine the effects of modified dietary fiber (MDF) on mercury bioaccessibility and bioavailability. The preparation modified dietary fiber from cassava pulp was start by separation starch and protein from fiber by enzyme application to prepare crude dietary fiber and modified them with etherification method. In addition, to study the MDF affecting the mercury bioavailability was estimated by using couple in vitro digestion and Caco-2 human intestinal cell model system. In vitro digestion (bioaccessibility) showed that the MDF could reduce mercury bioaccessibility to 35-85% compared with control (0-1000 mg of MDF in 1 g of fish tissue) in a dose dependent manner. The effect of fish tissue amount (0 - 4 g) on mercury quantification when 500 mg of MDF was added in digestion model test showed that the MDF did assist with reduction of mercury amount in fish tissue from 70-84% compared with control that MDF was not added. Furthermore, the Caco-2 cell was utilized for evaluation of intestinal cell accumulation and supporting reliable estimating bioavailability. The results showed that the mercury transfer to intracellular range from 9.07-5.97% for control and 5.09-6.68% in the media containing 500 mg MDF. In conclusion, this study suggests that MDF prepared from cassava pulp could decrease mercury bioavailability by inhibition the mercury transfer to the aqueous fraction and could be applied in functional food and dietary supplement products.

Association of the FTO Gene SNP rs17817449 with obesity in Astana

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Introduction

Obesity is one of the major worldwide health problem. The prevalence of obesity increased dramatically over the last decades, the worldwide prevalence of obesity has nearly doubled between 1980 and 2008. Currently, More than two-thirds of adults are considered to be overweight or obese. The FTO gene variants are very important genetic determinant of body weight and obesity. The first knowledge on the association between FTO gene and obesity were obtained from a genomewide association study showing that FTO variants are associated with type 2 diabetes in a European population. However this association between FTO and diabetes disappeared after adjusting for body-mass index, suggesting that the association were-mediated by an association with BMI and type 2 diabetes. (Frayling 2007) In replication studies, a significant association of FTO variant (rs17817449) and obesity was observed in different European populations (Hubacek et al. 2008; Price et al. 2008), in Korean population (Cha et al. 2008) etc., no associations were found among African Americans (Wing et al. 2009). Due to lack of data in Central Asian region, we designed the Astana study to investigate the association of the FTO rs17817449 variant gene polymorphism with obesity and other cardiometabolic risk factors in Kazakhstani individuals.

Material and Methods

We studied the association of FTO gene (fat mass and obesity associated) variation (rs17817449) with BMI and the risk of being overweight and obese in Astana city population. We conducted a cross-sectional study of random samples of men and women aged 50-75 years old residents in Astana and registered in 8 polyclinics in Astana. Between November 2012 and August 2013, 888 subjects were invited to participate and 497 participated (response rate 56%). DNA was extracted using a salting out method. FTO SNP was genotyped using PCR-RT method.

ANOVA was used for the analysis of the potential effect of FTO variant on individual cardiometabolic risk factors. Values are given as means and standard deviations.

Results

Associations between FTO genotype and variables of interest are summarized in Table 1 “Association between FTO genotypes and individual characteristics”. As in other studies FTO SNP rs17817449 was associated with waist circumference, the mean waist values were as follows: 100.5 ± 12.1 cm in GG homozygotes, 98.4 ± 11.3 in GT heterozygotes and 96.7 ± 12.0 cm in TT homozygotes ($p < 0.02$). Other analyzed cardiometabolic risk factors (total cholesterol, HDL, LDL, triglycerides, diabetes and arterial hypertension) were not associated with FTO genotypes.

Distribution of FTO gene in different populations are presented in Table 2. In Astana study we received proportion of 11.2% who have GG homozygotes and compared to other studies of different ethnic groups worldwide. (see table 3)

Conclusion

This study replicated the genetic association of SNP of FTO (rs17817449) with obesity in Kazakhstan population and, which is the first such association study in a Central Asia region;

We establish association FTO (rs17817449) with obesity measure (waist and WTH ratio);

A study with large sample size is needed to further evaluate the associations between the FTO polymorphism and obesity risk in Kazakhstan national study.

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Laboratory diagnosis of fatal poisoning drug in Almaty

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One of the leading causes of sudden death addicts is acute impairment of cardiac activity. An important indicator of toxic myocardial injury with a negative or weakly result of chemical-toxicological research is the level of certain enzymes in the pericardial fluid. These markers are damaged cardiomyocytes enzymes creatine phosphokinase (CPK), alanine aminotransferase (ALT) and aspartate aminotransferase (AST). Therefore, the aim of our study was to investigate the biochemical and changes in the pericardial fluid and morphological changes of myocardial structures to further improve the forensic diagnosis of death from drug poisoning. The objectives of the study were to: 1 Identify the availability and types of drugs in the pericardial fluid of people who died from drug poisoning. 2 Identify the changes of the amounts of enzymes aspartate aminotransferase (AST), alanine aminotransferase (ALT) and creatine phosphokinase (CPK) in the pericardial fluid of people who died from drug poisoning. 3 To study the morphological changes of myocardial structures in people who have died from drug poisoning.

Methods: Objects of study - myocardium, pericardial fluid and blood taken at forensic autopsy from 247 deaths between the ages of 13 to 35 years. Of these, 142 people died of drug intoxication - a group of "Poison", 105 people died as a result of traffic accidents and hanging - a group of "control". Laboratory examination of the pericardial fluid and blood was carried out by thin-layer chromatography and colorimetry. For morphological studies of the myocardium and coronary vessels were taking pieces from

different parts of the heart: left ventricular (LV) wall of the right ventricle (RV), interventricular septum (IVS) and the coronary arteries of different caliber (SC). Used histological staining methods in paraffin-embedded tissues: hematoxylin and eosin, by Lee, by van Gison, by Weigert, by Mallory. Used light, polarization and phase-contrast microscopy.

Results: 1 by TLC in the \"Poison\" in the pericardial fluid revealed the presence and establish types of drugs. Noted the predominance of cases of fatal poisoning by morphine - 83.81%. In the group of \"control\" in any of the objects under study drugs were found. The significance of differences in the treatment and control groups was $r \geq 0,01$. 2 in the \"Poison\" in the pericardial fluid and blood revealed a significant increase in the number of enzymes AST ($180,5 \pm 4,5$ IU / L), ALT ($132,5 \pm 2,4$ IU / L) and CK ($598.5 \pm 12,3$ U / L). Under \"Control\" changes in biochemical parameters of enzymes have been identified, which indicates a high level of significance of differences in the groups studied ($r \geq 0,01$). Informativeness of the results allows us to recommend the use of pericardial fluid as a object of examination for chemical-toxicological and biochemical studies in forensic medical diagnosis of fatal poisoning drugs. 3. Patomorfologicheskoe study of the myocardium and coronary vessels in the \"Poison\" revealed morphological signs that the cardiotoxic effects of drugs. The morphological features of acute myocardial damage in cases of poisoning by morphine manifested disorders and circulatory centers kardiomitsitov alterations and vascular endothelium. Also revealed morphological signs of chronic toxic effect of morphine on the heart tissue in a noncoronary Cardiosclerosis focal and diffuse character with compensatory changes infarction - focal atrophy and hypertrophy of cardiomyocytes, endothelial focal hyperplasia of the coronary vessels.

Conclusion: Informativeness of the results allows us to recommend the use of pericardial fluid as a object of examination for chemical-toxicological and biochemical studies in forensic diagnosis of fatal poisoning drug in combination with a post mortem examination of the corpse.

Keywords: forensic medical examination, drug addiction, creatine phosphokinase (CPK), alanine aminotransferase (ALT) and aspartate aminotransferase (AST), myocardium, coronary vessels.

Development of acute paranoid psychosis in early adulthood from childhood abuse

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One of the issues in psychiatry which is often debated ; is whether the stress from having discordant family in childhood can contribute to/precipitate the development of psychosis in adulthood. We present the case/example of a young female patient whose early life experiences of perceived abuse by parents have culminated into a paranoid disorder /personality and the a possible correlation between these . The patient developed symptoms of paranoid psychosis in early adulthood on the background of significantly unstable/discordant family dynamics and now has started waging a internet warfare against her parents .Psychobiosocial treatments have been making little inroads into her recovery. This case supports/illustrates the possibility of a relationship between familial discord, with its inherent adverse impact on an individual's sense of security; and the subsequent vulnerability of the individual to develop psychosis in the face of external stressors/challenges.

The many faces of Fronto-temporal Dementia- Obsessive Compulsive symptoms as the presenting feature: A case report

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The frontotemporal dementias are a heterogeneous group of degenerative brain disorders known to give rise to a wide variety of psychiatric symptoms. These symptom clusters have generally been reported to be related to changes in behavior, affect, speech and language, cognitive functions, as well as neurological signs. The myriad of symptoms represent a diagnostic labyrinth often delaying accurate diagnosis. This case report describes a 58 year old Chinese lady with frontotemporal dementia whose presenting symptoms led to an initial diagnosis of obsessive compulsive disorder. The characterology of her presenting symptoms and how a clinical suspicion of frontotemporal affliction was aroused; in turn leading to further exploration and clinching of the accurate diagnosis; is discussed. We discuss the similarities and dissimilarities from other reported clinical presentations of frontotemporal dementia in the past. We also discuss the ramifications of such a clinical presentation for the search of a putative biological substrate for obsessive compulsive disorder

A ECMO donor experience of combined liver kidney transplantation

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When taking care of the donors who are on the verge of brain death, Extracorporeal Membrane Oxygenation (ECMO) is used on the donors who show seriously unstable vital signs.

Donor: A 19 years male diagnosed head injury with multiple skull bone fracture on 2008/2/20. CXR: Pulmonary edema and ARDS. BP: 89/68 mmHg, FiO₂: 100%, Blood gas: PH 7.29, CO₂ 51.8 mmHg, PO₂ 36.5 mmHg, HCO₃ 5.3 mmol/L, SaO₂ 70.7%. Secondary brain death determination successfully passed and donation liver and kidney on 2008/2/21.

Recipient: A 58 years male diagnosed 1. end stage liver cirrhosis 2. ESRD on Hemodialysis. Preoperation Biochemistry: Bil T: 2.58 mg/dl, Creatinine: 5.7mg/dl, Albumin: 2.8 g/dl, PT: 10.2 sec, MELD score: 23. Combined liver and renal transplantation on 2008/2/21. Kinney: CRRT on 2/21~2/23, Hemodialysis weekly 1.3.5 on 2/24~3/17, During 3/18-3/28 patient urine output 2000-2500 cc/day, creatinine keep 0.5-0.8 mg/dl and weaning hemodialysis. Liver: 2/22 Bil T 3.21mg/dl, the 7th day after surgery declining to 0.92 mg/dl, GPT declining to 40 U/L. The patient transfer to ward on 3/10 and discharge. on 3/28. Long term OPD regular follow up five years that patient and graft (liver kidney) survival until now.

Using the support of ECMO in the early stages of unstable potential donors can increase donor organ availability, and to decrease unpredictable cardiac arrest resulting in the death of the donors and subsequently lose of grafts.

Key words: ECMO, liver kidney transplantation

The effects of aroma essential oil inhalation on stress index and relative alpha, beta and theta wave in healthy adults

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Purposes The purpose of this study was to find the stress reduction and EEG change of aromatherapy. Aromatherapy is a kind of complementary and alternative medicine to take care of the body and mind using essential oils.

Methods This study was the quasi experimental, laboratory-based study to find the effects of aroma essential oil inhalation on stress and relative alpha, beta, and theta wave in healthy adults for 30 minutes.

The subjects were 99 healthy adults who were recruited, agreed to participate in this study, and didn't have any health problems. 99 participants were allocated in three groups, and they didn't know which group they were belonging in. Our study had three groups, experimental group to give essential oil inhalation, placebo group to give saline inhalation, and control group. The experimental treatment was to inhale the essential oils which were prepared with blending essential oils, Lemon and Rosemary at a 4:1 ratio. After treatment we measured the stress index with Canopy 9, EEG with QEEG-8(LAXTHA). Collected data were analyzed with ANOVA, repeated measures of ANOVA.

Results Before treatment, stress index and relative alpha, beta, and theta wave of three groups were homogenous. After treatment the stress index of experimental group was significantly lower than placebo, control groups. The relative theta wave measuring with QEEG-8(LAXTHA) was significantly high among three groups.

Conclusion Inhalation of Aromatherapy essential oils was effective to reduce the stress and to increase the relative theta wave.

Keywords : aromatherapy, stress, EEG, alpha wave, beta wave, theta wave

EMOTIONAL VIOLENCE AND CONTRACEPTIVE USE AMONG WOMEN IN NIGERIA: IMPLICATIONS FOR WOMEN'S HEALTH

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In spite of increasing attention to violence against women in Nigeria, little attention has been paid to understanding the relationship between emotional violence and contraceptive use in the country. This study assesses the relationship between emotional violence and contraceptive use with the view of identifying the implications on women's sexual and reproductive health. Data on emotional violence were extracted from the 2013 Nigeria Demographic and Health Survey (NDHS). Women who were not married (5,329 women) and those not selected for domestic violence module in the survey (11,314 women) were dropped from the total of 38,948 women covered in the survey. Hence, a weighted sample size of 21,196 women was analysed in the study. The explanatory variable of the study is emotional violence. The outcome variable was contraceptive use measured by current contraceptive use. The outcome variable was dichotomised into 'currently using' and 'not currently using'. Sample characteristics were described using descriptive statistics. The relationship between emotional violence and contraceptive use was examined using the chi-square statistic and the Cramer's V. The influence of emotional violence and selected individual level factors were further investigated by the binary logistic regression. The logistic regression was replicated in two models with the second model controlling for the selected individual factors. Results show that women's social environment predisposes them to emotional violence. Among women analysed 8.2% had ever been humiliated; 4.2% had ever been threatened with harm; and 14.3% had ever been insulted by their male partner. Contraceptive use was low among the women, only 15.1% were found to be currently using a modern method of contraception. Bivariate analysis showed that individual factors such as education ($\chi^2 = 358, p < 0.05$), age at first marriage ($\chi^2 = 124, p < 0.05$), and household wealth index ($\chi^2 = 338, p < 0.05$) were more significantly associated with contraceptive use than emotional violence. However, the logistic regression show that when the individual factors were controlled in the model, women who were ever humiliated (OR = 0.6892, $p < 0.05$); ever threatened with harm (OR = 0.8800, $p < 0.05$); and women who were ever insulted (OR = 0.6924, $p < 0.05$) by male partner were less likely to use contraceptive. The study concluded that elimination of emotional violence should be integrated into existing efforts to boost contraceptive prevalence to further improved women's health in the country.

Keywords: Emotional; women; violence, male; partner

Vlora women`s and cervical cancer screening: a study of awareness and barriers

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In the absence of the national cervical screening programme, cervical cancer is diagnosed in the last stage, therefore incurable with high prevalence in deaths. Little is known about the current situation regarding cervical cancer knowledge, awareness and prevalence of screening among women. This cross-sectional study, descriptive and analytical, with the use of conceptual framework Health Belief Model (HBM) will be trying to understand and identify possible perceived susceptibility, reasons, benefits, barriers and cues to action that might explain why women don't get a regular gynecological examination. A structured self administered questionnaire from March to May 2014 was used for the data collection. The participants were 200 woman range 25-65 years old with different socioeconomic and educational level that worked in several public institutions and private enterprise in Vlora city. The number of women ever screened was higher and not significant with educational level. Poor knowledge of symptoms and risk factors for cervical cancer. Significant the association between benefits, waste of time, emotional barriers and cervical screening. The economic barrier and fear of the outcomes remain the leading reasons for low participation. Talks with health operators is the most effective tool for cues to action. Strategies for raising cervical cancer screening, including programs to raise awareness of signs, risk factors and health insurance for service should be targeted at women of all ages and social groups. More research is needed in a larger population of women in order to strength findings.

Keywords: HBM; cervical cancer; barriers; knowledge; benefits;

Effects of Combinete Pelvic Floor Muscle Exercise in Patient with Urinary Incontinence

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Introduction: Urinary incontinence is a significant health problem with considerable social and economic impact. Women experience UI twice as often as men. Various factors may affect the development of UI. According to existing studies and literature few women go to consult a therapist who specializes in urinary incontinence in our country. Talking about this kind of problems it is a taboo for most women, especially for women living in small cities or rural area. For them it is difficult to even consider a therapist for such personal problems. Most of the cases women blame their self's for these problems. Purpose of the study: The purpose of the study was to investigate the effects of Combined Pelvic Floor Muscle Exercise (PFME) in patient with Urinary Incontinence. Methodology: 40 patient (women) aged over 18 years old were involved in a randomized control trial. The patients were randomly allocated into two groups, the control group and the experimental group. The experimental group practiced PFME at home, the control group didn't practice PFME at home. Assessment of UI was conducted at baseline and three months. Results: Statistical analysis of the data showed that PFME gives good results in controlling involuntary loss of urine. Conclusion. Physiotherapy is an effective treatment and less cost. To have this method of treatment introduced to patients will have a great impact in Improving their QOL. This treatment isn't very recognized in Albania. One of the best ways to introduce this method will be from the family doctors and from maternity staff who treats the most effected patients, future mothers.

Results of combined physiotherapy in patients with clinical signs of shoulder impingement syndrome : a randomized controlled trial.

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Shoulder pain is a very common disorder, affecting approximately 16% to 21% of the population. Moreover, nearly one-fifth of all disability payments for musculoskeletal disorders are for patients with shoulder disorders. The most frequent cause of shoulder pain is shoulder impingement syndrome, accounting for 44% to 60% of all complaints of shoulder pain during a physician office visit. The aim of the study was to investigate the effects of combination of taping neuromuscular with individually adapted exercises and individually adapted exercises alone in patient with shoulder impingement syndrome. A Total of 60 patients aged between 18-75 years with diagnosis of shoulder impingement syndrome were involved in this comparative study. The patients were randomly allocated into two groups: first group (experimental group) subjected of 12 sessions of individually adapted exercises + neuromuscular taping and a second (control group) group subjected of 12 sessions of individually adapted exercises. The patients were assessed by SPADI index score before and after the treatment. The results showed statistically significant improvement in SPADI index score in both the experimental and control groups. In our rehabilitation protocol of experimental group we preferred taping neuromuscular, which is indicated for the inflammatory response of soft tissue around the shoulder and the mean improvement was significantly greater in the experimental group than in the control group. Shoulder impingement syndrome is a common disorder in which definitive treatment is still uncertain. The study shows that the patients with this disorder can be treated successfully with individually adapted exercises but the combination of taping with individually adapted exercises gives better outcomes. Keywords: neuromuscular taping, shoulder pain, exercises



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An analysis of music license purchase tendency based on the user profiling

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In this study, we had analyzed the user's license purchase pattern or tendency on digital music library and predicted a user's next license purchase activity from the user profiling data. A user can play the songs through purchasing the music licenses that can provide as a kind of temporal, limited and combined form on streaming service or download service for one or bunch of songs. A digital music library user should purchase appropriate license for songs they want to listen in accordance with the terms of service of the music library service company. If there is somewhat closed relation between the user's license purchase tendency and the user's profiling data in the music library service company, we can provide a nice suggestion on the next license purchase to a specific user and enhance the license purchase frequency of the user. To make it sense, we extracted the metadata related on the user's license purchase from the user profiling data in existing music library service company and analyzed the metadata with history based tracking method to predict the user's next license purchase activity. The analysis results show over 80% of matching between prediction and real activities of the users' license purchases. Therefore, a user profiling data can be used as a useful source on the license purchase suggestion service that can give effective license purchase activities for users.

Photocapacitance of Schottky Barriers on Zinc Cadmium Selenide Solar Cells

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Saudi Arabia

Schottky barriers on Zinc Cadmium Selenide $Zn_x Cd_{1-x} Se$ mixed crystals grown from the vapor phase have been investigated. The barrier height and uncompensated donor density have been determined in this composition. Deep levels were also investigated in these diodes using photo capacitance techniques, which revealed the presence of two of about dominant levels with activation energies 0.2, 0.4, 0.55, 0.85 eV above the top of the valence and one with an activation energy at about 0.85 - 0.95 eV below the conduction band.

Semantic Modeling of Curriculum and Syllabus for Integrating the Structured Achievement Standards in Education

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Achievement standards describe what students should know and be able to do in terms of knowledge, skills, and attitudes. Until now, achievement standards are represented as curriculum objectives or learning objectives in most syllabuses and curricula. However, achievement standards described in textual format should be formalized to be used for interconnecting instructional plans, learning resources, and assessment. In this paper, we designed the integrated learning ontology conceptualizes multilevel knowledge structures, such as curriculum, syllabus, learning subject, and materials based on achievement standards linked open data, which describes the semantic model of achievement statements.

Design of a Semantic License Model for supporting Sell and Buy of User Created Content

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In these days, the creative user really enjoys creating digital items and sharing their works with other people on the Web. Most users, who create digital contents, want to make secured packages of their works and distribute them with the attachment of valid licenses. Current DRM systems, however, do not provide the functionality which supports the requirement of the creative users who are considered as just consumers by the current available DRM systems. To make the user-centric DRM functionality possible, we found that license management should be more intelligent to enable users make appropriate licenses for the secured distribution of their created works. In this paper, we define the semantic-based rights expression and management model for the user generated content. Unlike the previous XML-based rights expression models, our license management model conceptualizes the internal and external knowledge structures of entities like user, content, role, license, right, constraint, device, and domain by adopting ontological engineering. After creating a digital item, a user can make an instance of the UGC class by defining property values about the his own content, and then he creates a new license for the content by composing the required rights and constraints. Each user created content can have one or more licenses with different types, reproduction, distribution, and usage. Based on our semantic license model, we can support a new business model in which users can sell and buy their created digital items in a secure environment.

Effects of Electrolyte Concentration and Relative Cathode Electrode Area Sizes in Titania Film Formation by Plasma Electrolytic Oxidation

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PEO (Plasma Electrolytic Oxidation) is an eco-friendly convenient and effective technology to deposit high-quality oxide coatings on the surfaces of Ti, Al, Mg and their alloys. The roles of the electrolyte concentration and relative cathode electrode area sizes in the grown oxide film during titanium PEO were investigated. The higher the concentration of the electrolyte, the lower the value. The oxide film produced by the lower concentration of the electrolyte is thinner and less uniform than the film by the higher concentration, which is thick and porous. The cathode area size must be bigger than the anode area size in order to minimize the voltage drop across the cathode. The ratio of the cathode area size to the anode area size must be bigger than 8. Otherwise, the cathode will be another source for voltage drop, which is detrimental to and slows down the oxide growth.

The Fabrication of Micropatterned PDMS Scaffolds by Soft Lithography for Tissue Engineering

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In western countries, as a result of cardiovascular diseases lead to mortality, there is an increasing need to new treatment methods by developing of materials, devices and cell therapies [1]. Tissue engineering has been a promising approach for treatment in cardiovascular diseases due to limited supply, donor site morbidity, poor cell growth potential and long term results of autografting of the arteries or veins [2, 3]. In tissue engineering, three-dimensional scaffolds with specific and desired properties form a convenient platform to provide cell adhesion and growth [1]. Polydimethylsiloxane (PDMS) is preferred widely in design and fabrication of these scaffolds because of attractive physical and chemical properties such as biocompatibility, elasticity, optical transparency, flexible surface chemistry, low permeability to water, and low electrical conductivity [4]. In this study, 3-D PDMS scaffolds designed as plus-shaped, circular-shaped, square-shaped and linear-shaped with distinct dimensions (50 and 100 μm dimensions) were fabricated to investigate the influence of geometry on Mesenchymal Stem Cells (MSCs) and Endothelial

Cells (ECs) to determine the cell viability/proliferation performance. These scaffolds were produced by bonding of two PDMS layers. Cured top membrane was stretched to produce stress by a mechanical stretcher that was placed on the solid and adhesive semicured bottom layer to bond together [5]. According to the results, plus-shaped 100 μm showed the highest cell viability/proliferation capacity, relatively.

Thixotropic behaviors for Aqueous Solutions of Giant Polysaccharide \"Sacran\"

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Niigata University, Japan

The viscoelastic properties for aqueous solutions of “sacran” have been investigated by steady flow and dynamic viscoelastic measurements. The sacran is the giant molecule which was extracted from an algae “Aphanothece sacrum” in a Japanese river. At low flow rates, the sacran solutions demonstrated a negative thixotropic behavior, while the solutions showed thixotropic behavior under high flow rates. The mechanism of the negative and positive thixotropy is described.

INDICES OF FAILURE OF NETWORKS OF SANITATION-SIMULATION OF FLOODING IN A COLLECTOR

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In urban areas, soil sealing causes a considerable increase in the volume of surface water flow during rain and after a high load of sewerage networks , which induces overflows and floods when their under-sizing . This threatens the safety of goods and people as well as their health and the environment alongside key to human activity. Overflows when combined network are loaded wastewater pollutants because they carry with them the deposits accumulated organic matter in the network during the period of dry weather. This is very harmful to the environment and the population. To avoid all these problems, network managers must have a good design their network or in case of rehabilitation or in case of extension. A good evaluation capacity transit network requires the provision of adequate models of network simulation and control of suitable calculation formulas . In this context, this work is part of the efforts made by the laboratory researchers (LRS- WATER -ENP Algiers) in the field of urban flooding , and aims to develop a simulation tool overflows a sewerage system for a rain project payback period ten . This tool was used in the study of the sewerage system of the city of Ahmed RACHDI-wilaya of Mila.

Purple Ceramics With Metallic Lustre In AlRabdha Islamic Site

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AlRabdha is one of the early Islamic reserves. It constituted a major station among the stations located on Kufa Haj Road (Darb Zubaida \"Zubaida Road\"). It is also historically connected with the life of the venerable Prophet Muhammad's Companion Abu Dharr AlGhifari. Many references rich in information about AlRabdha were given in early historic and geographic sources. AlRabdha was depicted as having much water and that it has a pulpit. Geographer AlHarbi stood alone in giving AlRabdha a scientific description with description details almost completely conforming with the findings of archeological discoveries in the site that took place in recent years. It is understood from historic sources that the life of AlRabdha stopped in the 4th Hijri century. It was described by geographer AlMaqdisi as \"Deadly water and ruined site\". A group of ceramic findings of the kind of ceramics with metallic luster were discovered in AlRabdha site, including some fragments that are characterized by purple painting and embellishments executed with a golden colour or with the purple colour itself with different grades of colour. The embellishments were restricted to adjusted plant embellishments and some lines and simple geometric figures (plate 1 – figure 1). Researchers consider that it is more likely that the production of this kind of

ceramics with the metallic lustre was restricted to Samarra in the third Hijri century (the ninth Gregorian century). Samples like the fragments undergoing study were found kept in the Islamic Art Museum in Cairo, others kept in Kuwait National Museum and samples of this kind of purple ceramics with metallic lustre were found in the Kingdom of Saudi Arabia. This research studies eight fragments found in AlRabdha site for determining the nature of this kind of ceramics, the implication of its presence in AlRabdha site and the artistic characteristics that distinguish it. Hence, the study will be a comparative technical study of the sample found in AlRabdha site in accordance with the following:

First: Description and identification of the artistic characteristics of the fragments found in AlRabdha site.
Second: Comparison of the fragments with similar samples inside and outside the Kingdom of Saudi Arabia.

A- Decorative components.

B- Chemical analysis of the fragments under study with other samples of ceramics that differ in the artistic characteristics.

Third: Artistic implications of this kind of purple ceramics with metallic lustre.

****Optimization of solar energy using Kohonen topological maps**

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For a year, the sun sends to the earth four thousand times more energy than is consumed by all of the world population, prompting scientists to develop methods for harnessing solar energy, photovoltaics, ie, electricity generated from solar radiation is one of the methods developed. photovoltaic cells convert sunlight directly into electricity, they produce a continuous electrical current, if any; it may be converted into alternating current according to the characteristics of applications for electrical connection. The orientation of the solar photovoltaic panel greatly affects its performance, ie, the amount of stored energy depends directly on the position of the sun. In this article, we developed a new approach to optimize the solar energy captured by photovoltaic panels, and directing the photovoltaic panel optimally. We used in this work the Kohonen topological map that is a variant of the neural networks to develop a control system. The results of this work show that the panel is always moving into the position of the radiation are perpendicular or maximum energy

****Optimization of collector area for solar heating**

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The objective of this work is to size for four different configurations in the December installation of solar water heaters for industrial use to heat a capacity of 4500 liters at 60 ° C on the site Cheraga with an overall thermal study each field capture. Taking into account the implementation of these plans on a defined sensors terrace. In order to choose the optimum configuration according to the desired conditions.

Keywords: Solar System – Solar Sensor – Collector Area – Desire Temperature – Solar Fraction.

****Thermodynamic Analysis of Compression-Absorption System operates by Geothermal Energy in North of Algeria**

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The use of electric refrigerators and air conditioners can lead to peak power consumption, during the summer. Power consumption of these devices and their operation are testing production networks and electricity transmission, which greatly increases the risk of unexpected power, cuts across the country the objectives of this work to study the possibility of using geothermal energy in the absorption system to help

the refrigeration system with electric compression. All the alternative refrigerants selected can serve as potential substitutes for R22. Geothermal sources used are located north of Algeria. These sources have different temperatures in the range (47-94 ° C). The results show that the COP of cascade system is significantly higher than that of the compression refrigeration system. It is found that the COP can be improved by 30-60% compared to the conventional cycle, in the same operating conditions. Therefore, this system is a suitable solution.

****Experimental study of the thermal behavior of a direct solar floor**

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Solar radiation constitutes a source of free and non-polluting energy, so it is worth to promote it locally using various technologies. The building sector seems to be quite favourable for several reasons.

Technically, important surfaces (roofs, walls) can be used for solar collecting. Economically, the over costs can be reduced providing a suitable architectural integration. Socially, the reduction of heating costs is an additional asset. The aim of this research consists on:

- The investigation on materials and components improvement, for example the search for insulating and transparent materials which make it possible to collect the radiation with minimum thermal losses;
- The search of suitable integration of these technologies in an architectural envelope, in order to obtain good performance and to minimize costs;
- The realization of experimental operations (a direct solar floor) and proposal for national project for a solar house realization.

Thus, this study consists on developing this technique, which deals with habitat heating using solar energy in general and direct solar floor particularly, by investigating the thermal behaviour of the system in the site of Bouzaréah (Algiers).

****Influence of the auxiliary system in the determination of the optimal collecting areas for domestic solar heating installation**

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Algeria is a country potentially interesting for the exploitation of solar energy. It has indeed a vast territory with a considerable solar potential. It is thus of great interest for a country like Algeria to be able to consider the potentialities offered by such an energy and to identify the means of making use of it and integrating it in the country energetic strategy. One of the most widely used applications of solar energy is solar water heating, it is currently the most profitable application of this energy, and thus, it has the greatest chance to be developed in the short run. The purpose of this work is the development of a mathematical model to study the influence of the auxiliary system on the collecting field of a solar water heating system for various Algerian sites. This study is structured according to climatic zoning establishes by

Borel.

The advantage of this study is to determine the optimum area of given site taking into account, not only the economic aspects but also the following parameters:

- Thermal performance;
- Cost of each component of this installation;
- Nature of the auxiliary system;
- Length of life;
- Site nature;

****Optimization of collector area for solar heating**

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The objective of this work is to size for four different configurations in the December installation of solar water heaters for industrial use to heat a capacity of 4500 liters at 60 ° C on the site Cheraga with an overall thermal study each field capture. Taking into account the implementation of these plans on a defined sensors terrace. In order to choose the optimum configuration according to the desired conditions. Keywords: Solar System – Solar Sensor – Collector Area – Desire Temperature – Solar Fraction.

A Renewable Energy Microgrid System in Gapa Island, Korea: An Ideal Benchmarking case for Microgrids and Its Strategic implications for Developing Countries

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We live in a world of global warming and energy shortage crisis. To solve these problems, diverse nations have invested extensive resources to substitute the existing fossil-fuel oriented systems to renewable energization ones. However none of the countries have accomplished a 100% renewable community system other than Korea. In Korea, Unlike other microgrid facilities that utilizes on other sources of energy with renewable energy, Gapa facility implements 100% independent microgrid renewable energy system. Furthermore it provides highly contingent energy supply that grantees stable energization. This qualifies Gapa Island as an ideal case of utilizing microgrid system with 100% renewable energy free of any fossil energy sources. The former part of this article aims to introduce to the primary subject of renewable energy microgrid system. Later part will suggest strategic plans for developing countries, providing noteworthy perspectives and innovative contribution to the developing countries interested in renewable energy grid. It is to be hoped that this article will be able to provide an impetus for technician, and a chance for economists and politicians to think about environmentally friendly grid systems

Evaluation of Policy for the Development of an Electricity Market from Renewable Energy – A Case Study of Taiwan

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This study adopts a value evaluation model using Real Option Analysis (ROA) methods to quantitatively assess government-proposed policies for the development of renewable energy. The study's proposed model combines government policy, macroeconomics and technology to create elements that will impact power generation costs. Then the proposed model applies the Learning Curve Model and Grey Forecasting Model to new energy technology to determine factors related to renewable energy costs. This paper also explores the learning effect of power generation, as well as whether businesses can boost their efficiency through government subsidies and R&D. Furthermore, this model can predict the cost efficiency of new technology even if available data are limited. This paper then estimates the cost of power generation from renewable energy and the installed capacity of renewable energy over the next 30 years and predicts the cost of fossil fuel electricity over that same time. The findings can be used as a reference for the government for determining energy policies. Finally, this paper evaluates Taiwan's governmental policies regarding renewable energy development and the option value embedded in the current policy through empirical analysis. This technique for assessing policy can help determine the value of policy implementation for renewable energy worldwide. The proposed model's "policy value" is clear. The value of wind power policy is estimated to be NT 2.52 trillion dollars by 2030 while that of power from disposals is estimated to be NT 8.72 trillion dollars by 2030. However, the value of solar and fuel cell policies are negative, with NT -8.75 trillion dollars and NT -35.34 trillion dollars, respectively. The real

value of policy and the estimated cost of power generation from renewable energy, as well as the rate of revenue from investing in renewable energy, are all obtained through this research.

Insulation effect on the thermal behavior of the housing

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The purpose of this work concerns the study of the insulation effect upon the thermal behavior of a house built with local materials according to Algerian building standard. In this regard, some simulations have been performed using the energy simulation software package 'TRNSYS 16' with the numerical model type 56. Our project involves the introduction of insulating materials in a building, so as to improve the thermal comfort and reduce the consumed energy. Different solutions and variants were proposed, in order to make a relevant choice, ensuring the best thermal comfort of a house while being as less energy-greedy as possible.



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Session 6

The Diagnosis of Iron-Deficiency Anemia using Feedforward Backpropagation Neural Network

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Iron-deficiency anemia results from insufficient dietary intake and absorption of iron or iron loss from bleeding. The cause of chronic blood loss may be related with the patient's gender, age, and history. Iron-deficiency anemia is the most common anemia disease in the world. The diagnosis of iron-deficiency anemia requires blood tests and physicians' decision. This decision process can be estimated using neural networks by referencing previously taken sample object data. In this paper, at first 1441 iron-deficiency anemia samples trained using feed-forward neural network. A gradient descent with momentum back-propagation used as train technique. After this stage, implemented network tested with another 359 samples within 1800 samples. Experiments demonstrate that an approximately 99.53% success rate is reached, and the relative false detection rate is very low.

Keywords: Feedforward Backpropagation Neural Network, The Diagnosis Of Iron-Deficiency Anemia

ICT Impact on Competitiveness: The Case of Private Sector in Lithuania

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The private sector has had to change and renew business practices in order to survive in the context of intensifying globalization of national economies. Information and communication technologies (ICT) are well known as key technologies to promote competitiveness and economic growth in the private sector. Although it is known theoretically that ICT contributes to companies by providing more visibility, more information, lessening barriers in the market and facilitating financial operations, the impacts of ICT use on private sector are various and with diverse aspects. Therefore, in this paper we extend an existing approach to ICT economic impact areas by proposing a complex view on the subject and reasoning the main theoretical impact areas of ICT. The paper aims to develop and propose conceptual ICT impact model, integrating three dimensions – performance, growth and innovation, and empirically validate it in the case of private sector in Lithuania.

A Metaphorical Analysis of Information Technology Implementation

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Organisations are faced with unprecedented pressure to continuously adopt new Information Technology (IT). This is evidenced by the relentless increase in internet-based systems to enhance the overall efficiency of the business. However, achieving successful IT implementation continues to be a major challenge, as witnessed by many IT initiatives failing or ending up being only partially successful. One useful, yet often under-researched, way of making sense of IT implementation is through metaphorical analysis. More specifically, by analysing the words and phrases of 30 in-depth interviews from across departments and levels carried out in a UK educational institution and its futile attempt to adopt a new IT-based system, revealed the use of military metaphors. The paper acknowledges that the use of metaphor can offer a penetrating account of the challenges and subgroup differences at play during the implementation of IT.

Knowledge Management Practices in Large Companies

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Over the centuries, at the very least since Plato, who declared that “knowledge is justified true belief”, has the word “knowledge” evoked many feelings. Throughout history those people able to utilize knowledge the best have survived and succeeded. (Stewart, 1997) This is the case also for many modern organizations. Knowledge is typically the central resource and element for survival and the primary source of competitive advantage (Brooking, 1999; Fleisher and Bensoussan, 2002; Stewart, 1997; Teece, 2000). Globalization is one factor that has made competition between companies fiercer (Brooking, 1999; Fleisher and Bensoussan, 2002; Stewart, 1997; Teece, 2000). There are characteristics of knowledge that distinguish it from other resources of a company. First of all, typically knowledge accumulates over time and use of it does not typically cause additional costs (Leonard-Barton, 1995; Shapiro and Varian, 1999). Use of knowledge does not deteriorate it; instead, through use knowledge evolves, and it is dynamic (Leonard-Barton, 1995; Nonaka et al., 2001; Prahalad and Hamel, 1990). It can also be hard to grasp (Krogh von and Roos, 1995). Therefore, solid knowledge resources of a company can separate it from its competitors in a manner that is hard for competitors to copy. Hence, knowledge can be said to be an essential source of genuine competitive advantage for a company. (Krogh and Roos, 1996) To get the most out of knowledge it should be designed, acquired, developed, and utilized well (Nonaka and Takeuchi, 1995; Nordhaug, 1994). For this, there should be built physical, social, and resource-allocation structures that guarantee extensive utilization of knowledge (Teece, 1998). However, definition, discovery, and use of knowledge are often found to be difficult (Ruohotie, 1996; Stähle and Grönroos, 1999). Knowledge management has been presented as a way to use knowledge effectively throughout a company. Although knowledge management (KM) has already received a great deal of attention among both academics and managers, for example when, Nonaka and Takeuchi (Nonaka and Takeuchi, 1995) provoked discussion about the importance of knowledge creation and both Grant (1996) and Spender (1996) presented the idea of a knowledge based view of the firm, it can still be considered a quite new research field and still in its fairly early development. Especially since the 1990s, knowledge-management research has grown dramatically, and several research disciplines have contributed to the development of it (for example Krogh von and Roos, 1995; Kukko et al., 2003; Lilleoere and Holme Hansen, 2011; Maier, 2002; Nonaka and Takeuchi, 1995; Sandhu et al., 2011; Spender, 1996; Stähle and Grönroos, 1999). For example, management science, information science, organization science, sociology, and psychology have contributed to the development of the field (for example Maier, 2002). This has led to different viewpoints on knowledge management and also to rise of associated disputes. The multidisciplinary approach of the field has also yielded a situation in which knowledge management can be seen as a quite comprehensive and many-sided phenomenon. Hence, much theory-based and empirical research has been done in the

field and many studies have concentrated for example on development of the core concepts in this field (Alavi and Leidner, 2001; Bartol and Srivastava, 2002; Hansen, 1999; Huber, 1991; Maier, 2002; Nonaka and Takeuchi, 1995; Ståhle and Grönroos, 1999; van Burg et al., 2008; Wang and Noe, 2010). Despite all the multidisciplinary research on knowledge management, it can be argued that the field is not yet so well developed and much remains to be studied in the field of knowledge management especially empirically. Empirical knowledge-management studies are needed to develop concepts in the field to respond to the needs of both researchers and management practice and to develop the practices related to it. (Bouthillier and Shearer, 2000; Foss et al., 2010; van Burg et al., 2008; Wang and Noe, 2010) This study meets this requirement as it explores empirically the practices of knowledge management in large companies and reflects how those meet the suggested theory-based concepts and practices. The empirical study is carried out among 50 largest companies in Finland. These companies mostly operate in international markets, even though their headquarters are located in Finland. The study is carried out as a quantitative survey and the empirical data is statistically analysed with SPSS program. The study examines the correlation of knowledge management practices and effectiveness as well as that of knowledge management practices and the objectives of knowledge management.

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The relationship between corporate governance and technological innovation: Evidence from Japanese electronics corporations

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Corporate governance, ownership style, and board composition all impact R&D strategies and spending in corporations. This study examines the influence of ownership and board structures on innovation. Previous studies of corporate governance and strategy have focused mainly on the influence of shareholders on R&D policy, as well as the ownership structure and board's risk attitude on strategic choices. However, the current literature lacks studies into the effect of corporate governance on technological innovation that would be the source of competitive advantage. Drawing from agency theory and the resource-based view of the firm, this study considers the effect of corporate governance on technological innovation. Innovation is categorized into two types: incremental improvements to production processes through process innovation, and radical innovation, which has a potentially destructive impact on the sales of existing products. Organizational architecture, such as an outsourced module model or an enclosed integral system, is also closely related to innovation. This study generates a framework to describe the relationships among ownership style, board structure, innovation types, and organizational architecture, based on both of the perspective from agency theory and resource-based view of the firm. With this framework, I explore the effect of the corporate governance system configuration on creating innovation, the strategic implications of corporate governance, and how this contributes to accumulating distinctive capabilities. The hypotheses are tested with multiple or logistics regression model, using a sample of Japanese corporations for the financial year in 2013. This study finds that there is slightly link between cross-shareholding and process innovation. In addition, it finds that corporate boards with members who have ties to other corporations in the business group positively impact innovation performance.

The methodology to extract the importable factor in Big data analysis

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Ideation is one of the most important and difficult subject for all kind of organization. However, the methodology of ideation is still in the limitation stage such like brain storming, market research, R&D research, etc. With the emerging of the Big data analysis, although there are a lot of approaches for market research and R&D research, they have just focused on the megatrend of the market or R&D. For instance, the importance analysis, that is the one of the representative methodologies using Big data analysis, dedicates to find the most leverage factor using data distribution and relation. Namely, the recent approaches are committed to extract the current prominent factor. In the current study, the methodology is proposed to extract the importable factor that has a little data distribution and relation. Although the importable factor is not well-known or up-and-coming, it can be a candidate factor to have a remarkable effect to market or consuming public. In the proposed methodology, with inserting the time frame into the conventional importance analysis, the analysis measures become distribution, relation and time. Consequently, the importance rating can be calculated by the volume of factor not the area.

Emotional model to support semantic-based search for music content

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Many studies using the semantic search method, and are used for searching for multimedia content. Then, web site and app utilizing this has increased. Recently, when performing a semantic search, emotional model has become more important. In existing research is divided into two areas greatly. First, there are studies (Circumplex model, Plutchik's model, Vector model, Positive activation - negative activation (PANA) model, PAD emotional state model) that is based on Russell's emotion model. These studies were changed to a square type circle form and changed the axis of the existing models. Secondly, there is a Lövheim cube of emotion in terms of the major hormone (dopamine, noradrenaline and serotonin) 3-dimensional graph. This model is a study for utilizing the level of human hormones to represent emotional information. The study is based on Russell's emotional model that recently a lot of research fields. However, existing studies are difficult to apply the model of a common worldwide due to the differences in culture and language. Therefore, in this study, we propose a model of the new sensibility by analyzing the Korean music critic based in Russell's emotion model, can be utilized to search for KPOP. When using this model, an accurate emotional representation capable than model using emotion word that is represented in other languages, and can be detected very accurately KPOP.

Innovative Strategic Modeling E-System for Technology New Ventures

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This work presents the results from a research in the field of strategy modeling for technology new ventures in its final stage – presenting an innovative e-system for strategy modeling for technology new ventures developed by the author. The innovative e-system for strategy modeling for technology new ventures is developed following a developed by the author innovative algorithm for strategy modeling for technological startup companies and number of instruments and process modifications implemented in the system in the strategic modeling process. The algorithm and all included in the system instruments and modifications in the process, have been confirmed by a research, conducted amongst 121 participants (107 from Bulgaria and 14 from other countries). The presented system is aimed towards introducing a unified system for strategic modeling, including a smooth transition between the processes of strategic analysis, strategic formulation and strategic implementation. This is achieved by: (1) introducing an unified instrument for strategic analysis and identification of the key characteristics and competitive advantages for the companies, developed by the author; (2) application of a three-dimensional framework for categorisation of the basic typological strategies for technology new ventures, together with further full development of the typological strategies, based on a modified model and process of balanced scorecard methodology, developed by the author and (3) a process guiding the entrepreneurs from typological strategies characteristics towards concrete strategies characteristics and activities for their technology new ventures, which represents a smooth transition towards the next stage of strategic management – the strategic implementation stage. The presented innovative e-system can be used as a basis for further development of the innovative e-system for strategy modeling towards a full strategic management e-system, specifically designed for technology new ventures, covering all stages of the strategic management process.

The industrial property law and the moral right of publication

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Moral rights are usually seen in the copyright field and less in the industrial property law. This is formally justified by the specificity of the copyright creation that reflects the author's personality and therefore needs to be protected beyond its economic side towards the person of the creator by the moral rights. From this perspective the industrial property creation seems to be more closely bound to the commercial distribution and less affected by the authors personality. But in reality this argument is not valid, because the intellectual creation is more or less impersonal either in copyright law or industrial property law. It is too simple minded to consider that the intellectual creation, as it has an author, could be more personal in the copyright area and less personal in the industrial property domain. It is inconceivable to sustain that the copyright creation is "forged" by the author more for himself and less to the general public as it is impossible to argue that the industrial creation does not reflect its author personality, as if it could be created by a robot. The consequence is that we have moral rights in the industrial property sphere with all the so known consequences over the economic rights that are powerfully influenced by the moral prerogatives and by the protuberant statute of the author. The most important moral right is the right of publication well bound to the economic rights, so closely that some scholars argue that before the exercise of the right of publication we do not have any economic rights. This opinion ignores completely the case of an unconsented publication of the intellectual creation and the exhaustion of the right of publication.

****Physical Layer Security Approaches for Next Generation Wireless Communication**

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Nowadays, wireless communication is being heavily used which leads to the huge researches that aims to enhance the reliability, coverage, and data rate via different techniques such as MIMO and Massive MIMO. However, securing the information for such massive use of wireless communication will be a challenge for the upper layers security approaches. Therefore, physical layer security has been introduced with different techniques to enhance the security of the transmitted data. This paper will talk about the different approaches for physical layer security in addition to illustrating more about the techniques that will be used for Massive MIMO which is the basic of next generation wireless communication such as 5G mobile communication and enhanced Wi-Fi.

****Self-organizing neural network and wavelet analysis: an application to pollen analysis**

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The purpose of this work is to use a self-organizing neural network with wavelet analysis for pollen grains classification. Palynological data are used in wide range application. Therefore, the pattern recognition of pollen grains is very important in the determination of the original floral honey, and the prediction of the allergy, which touches lot of people. In this study, a database of pollen images has been used. Firstly each image has been analyzed by using the wavelets transform and converted into one vector. Subsequently, the Kohonen network has been used for classification of the pollen image. Five classes have been used in this study, The best classification performance is achieved by using an experimental database of pollen grains, the rate of classification is 87%,. Pollen classification is challenging even for human experts and this performance is considered good.

Keywords: Pollen grains, image classification, pattern recognition, self-organizing neural network, wavelets transform.

****General Geological Features of the Southern Konya (Middle-South Turkey)**

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Type or copy and paste your abstract (50-300 words): : Abstract: The study area is located in the southern part of the Great Konya Plain. In the area, there are three mainly tectonic units. These are autochthonous Bolkardağı, allochthonous Bozkır and Neo-autochthonous tectonic units. Shallow and pelagic deposits are found at the basement of the Jurassic-Late Cretaceous autochthonous Bolkardağı tectonic unit from bottom to top. The shallow marine carbonates are known as Lorasdağı Limestone, while the pelagicmarine deposits were described as Midostepe Formation. Bozkır tectonic unit is represented by an ophiolitic melange composed mainly of Senonian basic volcanic rocks and named as Hatip Melange, which has been over thrusts the autochthonous Bolkardağı unit after Maestrihtian. The rock groups in the study area were deformed under the strongcompressional tectonic regime affected during the early Middle Alpine orogenic period. In this period, the autochthonous basement was folded and fractured during the placement of the ophiolitic melange nappe. All of the autochthonous and allochthonousunits are covered by Neo-autochthonous rocks with an angular unconformity. Late Miocene-Early Pliocene alluvial fan sediments known as Silile Formation and lacustrine clayey carbonates described as Ulumuhsine Formation are found at the bottom of the Neo-autochthonous unit. Local closed basins (Konya-Karaman closed basin) controlled by the gravity faults were formed by the tensional tectonic events during the Late Alpine orogeny. Late Pliocene-Pleistocene alluvial fan and talus sediments (Topraklı Formation) cover all of the older rock groups with an angular unconformity. The youngest sediments in the area are also Holocene alluviums.

Key words: Southern of Konya, Bolkardağı Unit, Bozkır Unit, Neo-autochthonous unit.

An automatic system for counting total mesophilic microorganisms using image processing based on embedded computer

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A system for automatic counting of total mesophilic microorganisms in Petri dish culture by image processing is described. The software system detects efficiently grow colonies in culture even those that are overlapped. Operations required to achieve these tasks are implemented successfully in an embedded computer system with limited processing resources and low energy consumption requirement, such as Raspberry Pi. These features makes the advantages of the system that are compact, portable and adaptable to automated production systems. The comparative between the results obtained with image processing system and the manual counting method demonstrates a linear correlation of 0.994, as well as a significant effectiveness over the conventional method. The application of this system in the industry represents benefits in saving man-hours and runtime process.



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Climate change and its impact on the society with particular reference to North Eastern Region of India

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Climate change is a modification in the statistical distribution of weather over a gigantic period of time that range from decades to millions of years. Climate change may be limited to a specific region, or may occur across the whole earth. The North eastern region of India is expected to be a high prone area to climate change because of its geo-ecological fragility, strategic location vis-a-vis the eastern Himalayan landscape, international borders, its transboundary river basin and its inherent socio-economic instabilities. This region experiences heavy rainfall with subtropical type of climate. Due to global climate change, the heavy rainfall areas are also under the grip of drought like situation in the recent years. Change of climate focuses on drought and floods due to deficit and excess rainfall respectively. The whole NER are facing adverse drought like situation, which became highest in the year 2005, 2006 and 2009. Floods are equally devastating in these regions, which lead to the spread of certain water borne diseases manifests certain significant impact on the society. Deforestation, shrinkage of wetlands, loss of agricultural products, drought, and floods collaborate together to change the climate. As a result, people are suffering from many diseases. Due to the lack of proper scientific data of NER and to minimize the climate change, some measures like afforestation, rain water harvesting, proper care of agricultural development, conservation of wetlands, agro forestry should be implemented. Moreover, overall importance of conservation of nature should be spread among all communities of people of North east region of India to mitigate the change of climate and its impact on the society.

Keywords: North east region of India, climate change, geo-ecological fragility, Himalayan Landscape, global climate, drought, deforestation and afforestation.

GLOBAL AUTOMOBILE DESIGN CULTURE: THE PEUGEOT CONCEPTS IN NIGERIA

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The need to properly document the efforts and contributions of the Peugeot automobile of Nigeria has become imperative, apart from acknowledging its roles toward the development of automobile design, there is need to bring to limelight unfamiliar background in the design of cars. This paper therefore offers the basis for an in-depth study of vehicles of this industry with a view of opening new vistas for design as a field of academic in Nigeria and the world at large. The dogged determination and perseverance with which Peugeot Automobile pushed on to improve on design and technology provides for a great deal of competence and determination to succeed. Hence design practice of Peugeot speaks eloquently of her immense contribution to modern cars design scene in Nigeria. This paper also examined some historical facts on the development of Automobile design and the concept of design as it concerns the production of Peugeot cars.

Analysis of Spatial Distribution of Healthy Facilities in Akure, Nigeria

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The World Health Organization (WHO) global strategy for achieving Health for all is fundamentally directed towards achieving greater equity in health between and within populations, and between countries. This implies that all people have an equal opportunity to develop and maintain their health, through fair and just access to resources for health. Health infrastructure must therefore be equitably distributed in order to facilitate fair and just access to resources for health (Taiwo and Adegboyega 2001). Inadequate access to health services is a major issue confronting the low-income group in Nigeria. The distribution of health services requires public policy attention to ensure equitable access in terms of availability, spatial location and affordability. The paper examines the location of health facilities in Akure and their proximity to residential houses in surrounding neighbourhood. Geographical Positioning System (GPS) was used to identify the health institution and obtain the coordinates of the location of each identified health facilities. These were loaded on the imagery of Akure that was digitized from Google Earth using the software of ArcGIS 9.3. Data was also collected using structured questionnaires and analyzed using descriptive statistic with the aid of Statistical Package for Social Scientist (SPSS 20). The results revealed that most people especially the poor are significantly disadvantaged in access to basic health facilities. The study therefore recommends that government should provide basic health facilities and rationalize the location and allocation of health facilities in relation to population.

Keywords: Akure, Spatial Distribution, Health facilities, ArcGIS, SPSS

The influence of lake area on local climate

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Large artificial lakes, which arise due to reclamation of mined open pit mines, evoke the changes of the surface characteristics in the locality. These changes consist primarily in different thermal properties (heat capacity, thermal conductivity), different surface roughness and different albedo compared to the original surface. The aim of our contribution is to quantitatively estimate the impact of these changes on the air temperature, humidity and other meteorological elements in their surroundings. The study is performed for the former coal mine Ležáky – today's lake Most in northern Bohemia. The lake lies at the altitude of 199 m above sea level, its size is 311 ha and its maximum depth is 75 m. The calculations are made by the numerical weather prediction model COSMO with a very high horizontal resolution (333 m). The domain size is 200x159 grids and time step is 3 s. The COSMO model is coupled with the lake model Flake on idealized conditions to model water surface / air interactions. The input data for the model are obtained (i) from the meteorological observatory Kopisty that lies about 1 km far from the lake coast, (ii) from a lake station that measures among others also the water temperature up to the depth of 20 m, (iii) from the analysis of meteorological fields from European Centre for Medium-Range Forecast. The calculations have been made for different sizes of the lake. The simulations were made for warm and cold period of the year. As a result we developed a simple physical model ALAKE, that uses the following relatively easily accessible data: the temperature and relative humidity at 2 m above the surface, the temperature of the mixing layer of the lake, the wind speed and direction at 10 m above the surface and, optionally, the surface skin temperature

Advanced Calculations of S809 Aerodynamic Characteristics based on Potential Theory of Wing Sections

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An accurate prediction of aerodynamic characteristics of wind turbine blade airfoils is considered as the key to achieve satisfactory levels of accuracy of aerodynamic loads evaluation, and therefore, in designing reliable and efficient wind turbines. In this context, the 2-dimensional aerodynamic coefficients calculations were made for the S809 potential-flow, wind-turbine airfoil using the potential theory of arbitrary wing sections, precisely the Theodorsen's model. Comparisons of the computed pressure and aerodynamic coefficients have been made with wind tunnel data from the Delft University $1.8 \text{ m} \times 1.25 \text{ m}$ low turbulence wind tunnel. This paper gives an exact solution of the problem of theoretical flow of a frictionless incompressible fluid past S809 airfoil. A numerical method is presented, aimed at determining the velocity of the 2-dimensional flow for any point at the surface of the S809 airfoil, and for any orientation. From this pattern flow, the pressure distribution around the airfoil is obtained thanks to the Bernoulli's relation. That will allows us to predict the aerodynamic coefficients for any angle of attack and also for any Reynolds number. A complete computer code package for simulation was developed to obtain accurate numerical values in acceptable computational time.

ENERGY EFFICIENCY IN THE RUSSIAN NORTH - Institutional challenges and sustainability.

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In this paper we provide an overview of recent trends and developments in energy efficiency area in building sector in Russian northern territories. The increased building and construction activity in Russia is characterized as particular energy intensive, and the market for energy efficiency technologies has a great potential. We address energy efficiency as both an organizational activity and a component of broader sustainability concept. We focus on institutional determinants influencing the energy efficiency technologies market development in this context. The emerging market meets even more complexities explained by uncertainties of sustainable development idea. The paper seeks to draw connections between key elements of the energy efficiency field and ideas of institutional and sustainability challenges. The paper should support and encourage business practitioners and investors in the High North building sector. Keywords: energy efficiency, building industry, Russia, sustainability, institutional challenges

****MAPPING THE SPATIAL VARIABILITY OF THE FOREST ROAD NETWORK BASED ON MULTI CRITERIA EVALUATION (MCE)**

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Forests constitute vulnerable ecosystems that change at great speed. In most of the occasions the change is downgrading. The right management of natural resources is the unique solution for the achievement of sustainable development. However, sustainable management of forests must be achieved with the respect and protection of nature and landscape. Sustainable management of forest resources can only be achieved through a well-organized road network compatible with the natural environment. This paper describes a proposed method for forest road network planning and environmental impact assessment based on Multi-Criteria Evaluation (MCE) at the Island of Thassos-Greece. Data analysis and its presentation are achieved through decision support system using MCE with the contribution of Geographic Information Systems (GIS). Thematic maps with the classification of land uses, slopes, aspects, elevations will also be presented. The spatial decision support system which is described at this study provides a powerful and easy to use implement, in order to combine cartographic models and other image data and to define

solutions to unstructured, as well as semi-structured, problems. It can also be used in order to minimize and evaluate the environmental impacts of forest road planning.

Keywords: Spatial Variability, Forest road network, environmental impact assessment, Multi-Criteria Evaluation, GIS

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Critical Analysis of the Working of Environmental Institutions in Pakistan

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Healthy and dirt-free environment is very important for all living and non living creatures in this universe. To control the environmental degradation every country has legislated several laws. Special arrangements have been made by all the countries for the effective implementation of these laws. For this purpose many environment institutions were created for the regulation of purified environment in Pakistan. In this century several developments have been made regarding legal frame work of environmental law in Pakistan. Healthy environment is a basic necessity of every human being but it is badly being polluted in multi factors. Hence we desperately need to have advance organisations to conquer all natural issues. All environmental institutions in Pakistan which can play the significant role have been classified into two categories governmental and nongovernmental .The role of these institutions can never be denied for the preservation of clean and healthy environment but there are many flaws in their working like corruption, lack of resource and technical staff, non implementation of laws etc. The aim and goal of this research paper is to analyse the working of environmental institutions under the existing legal frame work for the healthy environment in Pakistan. The efforts will also be made to examine critically the lacunas and performance of institutions responsible for the protection of clean and healthy environment in Pakistan. This paper will also provide the recommendations and suggestions for the effective working of the environmental institutions in Pakistan.

Keyword: Healthy environment, Institutions, Basic rights, Legal Framework



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Bioactivation of Poly(m-anthranilic acid)/Poly(caprolactone) Nanofibers by Covalent Protein Immobilization and Electrochemical Impedance Spectroscopic Characterization

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Bioactivity acquired polymers attract great interest due to their advantages in biomedical applications. Bioactive polymers have been prepared by functionalizing polymers with oligonucleotides, peptides, drugs or proteins [1]. Conjugated polymers (CPs) can be used as suitable matrices for biomolecules [2]. CPs provide enhanced sensitivity, selectivity, signal transduction, durability, biocompatibility, direct electrochemical synthesis, and flexibility for the immobilization of biomolecules [3]. Electrochemical impedance spectroscopy (EIS) is an effective method for detection of the the interfacial properties such as impedance and charge transfer resistance of modified surfaces. These properties of the resulted bioactivate conductive polymer containing nanofibers, have significant importance on many applications in the field of drug delivery, tissue engineering, neuroprosthetic devices, bioactuators and biosensors [4, 5]. In this study, bioactivation of Poly (m-anthranilic acid) (P3ANA) and Poly (caprolactone) (PCL) nanofibers were achieved by covalent immobilization of protein. P3ANA was synthesized by chemical polymerization of 3-aminobenzoic acid with ammonium persulfate [6]. Blends of PCL and P3ANA were obtained and their nanofibers were fabricated by electrospinning technique. Increasing amount of albumin was covalently immobilized onto the nanofibrous PCL/P3ANA mats by an EDC/NHS activation procedure [7]. Surface morphologies of nanofibers were analyzed by SEM. Protein binding process was investigated by FTIR-ATR spectrophotometer and Electrochemical Impedance Spectroscopy (EIS). The amount of immobilized protein on the nanofiber mats was determined by measuring the initial and final concentrations of protein and washings using BCA protein assay. Bioactivation of PCL/P3ANA nanofibers was achieved successfully with high amount of albumin attachment onto nanofibers with covalent binding. These modified nanofibers can be used in biomedical applications.

Biofilms from colombian silk byproducts

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Silk is a natural fiber produced by *Bombyx mori*. This fiber is composed by 70% of fibroin and 30% of sericin. In Colombia, silk is produced in a small scale, in a semi-industrial manner and by vulnerable communities. For the colombian sericultors the development of new value-added products is vital for the productive chain sustainability. This is the case for the utilization of fibrous silk waste (SW) as raw material to obtain silk fibroin (SF), at the same time use sericin (SS) obtained from the waste water of the silk process. Both materials have shown potential to be used in many applications, such as biomedical textiles, food packaging or cosmetic. In the present work an initial characterization of the colombian silk residues is conducted. Subsequently, SW dissolution was done using LiBr, and the SS was obtained, using an autoclave and water. In both cases were obtained translucent biofilms. The raw materials and the obtained films were characterized by means of Scanning Electronic Microscopy (SEM), Differential

Scanning Calorimetry (DSC), Thermogravimetric analysis (TGA) and Fourier Transform Infrared Spectroscopy (FTIR).

Online STEM Education Content Modules: An Ongoing Success Story

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A team comprised of rural West Tennessee master teachers has developed, and continue to develop and disseminate, STEM education high school-level content modules and on-line resources accessible to all teachers in TN via a Web Portal. Required courses for graduation are integrated with STEM content, so as to enhance students' knowledge of STEM content and post-secondary education paths, and aligned with national, state, and Common Core standards. These virtual STEM education components have been designed to meet the needs of rural teachers and students who often lack access to resources of higher level science, technology, engineering and mathematics (STEM) instruction. The online high school content modules are also accessible by teachers and students in urban and suburban districts.

****Investigating Bacterial degradation of Polycyclic Aromatic Hydrocarbons**

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Bioremediation represents a technique used to clean Oil Spill via the deployment of microorganisms which have the potential to mineralize hydrocarbons by transforming them into simpler compounds. In this study, the potential for Bacteria to degrade specific Hydrocarbons and remediate polluted sites is trialed on Laboratory Scale. Model Polycyclic Aromatic Hydrocarbons (PAHs), Naphthalene, Phenanthrene and Anthracene are the foci of this research. The study considered three temperature ranges; 10, 15 and 37 degrees Celsius and pH values; 5, 7 & 9, and Three (3) Bacterial strains previously identified via 16S RNA as; *Rhodococcus qingshengii*, *Burkholderia fungorum* and *Brevibacillus brevis*. Each strain is being trialed individually under the identified temperature ranges and pH. Additionally, the strains are aggregated to form a Bacterial consortium and incubated under similar parameters. Solid Phase Micro Extraction (SPME) with Poly(dimethylsiloxane) (PDMS) coated fibre is employed with Gas Chromatography – Mass Spectrometry (GC/MS) for analysis of residual hydrocarbons as well as metabolites at the end of biodegradation process. The study provides an in-depth insight into Bacterial bioremediation, the metabolic potentials of individual strains and consortium at varying temperatures and pH.

Keywords; Bioremediation, Bacteria, Naphthalene, Phenanthrene, Anthracene

****ECONOMICAL CITRIC ACID PRODUCTION USING COMMON DATES FROM ALGERIA**

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***National Institute of Agronomic research INRA Folds back Morocco.*

The current research concerns the valorization of two varieties of common dates (dried variety *Mech-Degla* and the wild variety) in sight a better citric acid bioconversion. In this context, various media (syrops and suspension at base of the pieces of dates) were developed. These media were Fermented by *Aspergillus Niger* by applying the two modes of culture (submerged and on the surface). Indeed, a comparison between certain parameters of fermentation (growth rate, citric acid yield,..) was given. Then, the choice of the optimal medium to produce critique acid is subjected to statistical treatment (ANOVA) and NEWMAN KEULS test at $P=5\%$. The results show that, *Mech-Degla* variety is more interesting than the wild variety. The media prepared with this variety is found characterized by significant levels of sugar (4%) allows a better production in citric acid ($7,5\pm 0,04\text{g dry weight}/100\text{ml}/14\text{ days}$, $n=3$). According to the variance analysis with two criteria of classification reveals a non significant difference at 99% probability ($F=0$) for the two factors (nature of the medium and type of culture). Therefore, this study would continue using multicriteria optimization the bioconversion of dates in citric acid by *A.niger* in sight a better exploitation of the local resources.

Key words: common dates, *Aspergillus Niger*, bioconversion, citric acid.

****The heterostructure of CdS nanoparticle on Bi₂S₃ nanowire and their photocatalytic property**

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CdS nanoparticle/ Bi₂S₃ nanowire heterostructure has been designed and constructed through an easy chemistry deposite approach at room temperature for 30 minutes. The product is mainly composed of Bi₂S₃ nanowires for more than 20 μm in length and 200 nm in diameter, and CdS nanoparticles with size of 5—10 nm grown on their surfaces. The obtained products were characterized by field emission scanning electron microscopy (FESEM), transmission electron microscopy (TEM), energy dispersive spectroscopy (EDS). The photocatalytic activity of the as-prepared samples was evaluated by the photocatalytic degradation of methylene blue (MB) under UV irradiation. The results indicated that the heterostructure of CdS nanoparticle/ Bi₂S₃ nanowire exhibited a good photocatalytic performance.

****A model to move university research into the commercial domain and obtain a “third income stream” for further development**

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As universities advance their pure and applied scientific research, there is a growing need for the innovation of promising technologies to achieve their commercialisation. To achieve the full socio-economic benefit of the technology it must transition from the laboratory and be deployed in the “real world”, and be useful to an end-user. It is only when this “commercial” end-use of technology is achieved that significant dividends of the research, be it financial or otherwise, can return to the university. All too often there are significant hindrances in this process, choking the innovation and forming the “Innovation Chasm” between the technology research and its successful deployment. Two major contributors to the Innovation Chasm are the cultural and procedural differences between business and academic institutions.

Successful innovation most often requires partnership with an existing business or the spin-out of a new business. In both cases the university needs to shift from conventional “academic freedom” in research to the discipline and urgency of business and profit. Several models for managing this interface have been developed, such as the Triple Helix model, but in the end, it is the culture, skill and habits of the people that will dictate whether the chasm is bridged or not. The purpose of this paper is to identify several elements in a typical university environment that are a hindrance to business engagement and technology innovation. It offers an organisational model that strengthens business engagement and fosters strong collaboration. The authors believe that through the use of a multi-disciplinary team with delegated authority and adequate business representation, many of the cultural and procedural divisions will be overcome so that technology can be innovated at the required pace.

Polyglycidol esters with hyperbranched structure as non-phthalate PVC plasticizers

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Plasticizer is added to plastics, i.e., poly(vinyl chloride) (PVC) for improving flexibility of the final products. Among various kinds of plasticizers, phthalate esters are most widely used. However, phthalates easily migrate out from PVC, and products lose its flexibility. More seriously, phthalates act like environmental hormones in human bodies. Many researches on alternative plasticizers have been conducted. Low molecular weight plasticizers have as high plasticization efficiency as phthalates. However, these plasticizers easily migrated from PVC's surface and lower physical property of PVC. In order to increase migration stability, polymeric plasticizers have been considered. Polymers with high molecular weight have huge molecular size so that they have higher resistance to the external environment than low molecular weight plasticizers. However, polymeric plasticizers have low plasticization because of low molecular mobility result from high molecular weight. Recently, highly branched polymers with many end groups were studied as alternative plasticizers. Polymers with inner branches and terminal chain group like dendrimers have high molecular mobility come from their characteristics of elimination of chain entanglement. Also, their high molecular weight prevents them migrate out. Among hyperbranched polymers, hyperbranched polyglycerol (HPG) has flexible ether backbone and many functional groups at terminal sites. However, the polymer is not miscible with PVC because of its polar structure. Modification of end hydroxyl groups to ester groups makes it miscible with PVC. For estimating the plasticizing performance, PVC films plasticized with hyperbranched polyglycerol esters (HPGEs) were prepared by solution blending and compared with films plasticized with di-(2-ethylhexyl) phthalate (DEHP). From the lowering of glass transition temperature, PVC plasticized with HPGEs had plasticization efficiency as high as that of PVC plasticized with DEHP. In migration test, HBPEs had higher migration resistance against n-hexane than DEHP.

Bio-technological exploration of the traditional knowledge based phyto-pharmaceutical practices of North East India

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Plant sector offers immense potential for economic growth by providing income-generating opportunities to a very large section of the population through the conservation and sustainable use of the natural resources. The ethnobotanical and traditional knowledge prevalent in N E India region is quite huge which has evolved over hundreds of years. However, only a very few plants/ organisms have been explored for their potential as drug or drug intermediates. It needs no mention that malaria is the most prevalent among the insect-borne diseases in the region. Keeping this in mind ethnic medicinal plants were collected and in-vitro anti-malarial activity was tested (collaboration with ICMR (RMRC), Dibrugarh). More than 40 plant sample were collected from N.E India based on rural medical practice and few samples from

Amaryllidaceae, Apocynaceae, Rosaceae, Lauraceae, Scrophulariaceae families showed highly potent anti-malarial activity against both the chloroquine resistant and chloroquine sensitive strains of *Plasmodium falciparum* and envisaged the further possibility of development of antimalarial drug or drug intermediate. Patent filing of the most potent extract was done. Nephroprotective and therapeutic validation of some selected ethnomedicinal plants from North Eastern region of India is going on. Work in progress in animal model system for in- vivo study and a few plants from the families Zingiberaceae, Acoraceae, Cucurbitaceae, Asteraceae showed very promising findings (collaboration with PGMER and NEIGRIHMS). Over the aspect of antidiabetic and hypoglycemic, a few ethno medicinal and commonly used culinary plants such as *Leucas aspera*, *Enhydra fluctuans*, *Dillenia indica*, *citrus aurantium*, *citrus aurantifolia* and *carica papaya* were selected for in vitro evaluation. The results strongly suggest the presence of certain bioactive compounds in these plants that are capable of inhibiting carbohydrate metabolising enzyme. Bioactive potential of selected ethno- medicinal plants of Assam, against *Pneumonia* were evaluated. Petroleum ether extract of three plants viz. *Mucuna pruriens*, *Solanum indicum*, *Clerodendrum viscosum* showed very good activity. Collected plants could be used for further study for development of new antibacterial agents in future.

Keywords: Ethno-botanical, malaria, Chloroquine, Nephroprotective, antidiabetic and hypoglycemic, *Pneumonia*.

STUDY ON EFFECT OF CONTAMINANT REMOVAL BY MFI(MOBIL FIVE) ZEOLITE ON FISH HEALTH

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Water contaminants like ammonia and heavy metals etc. even at relatively low concentration can have negative effects on fish tissues and also on physiological factors such as growth rate, oxygen consumption and disease resistance. Water pollution, therefore, can restrict yields in intensive fish culture. Removal of heavy metals and ammonia from contaminated water using MFI zeolite materials has been accomplished in the present work. For the purpose, MFI material was synthesized with silicon to aluminium molar ratio of 100 by hydrothermal procedure. The material was characterized by XRD, FTIR, N₂ adsorption, SEM, TGA etc. Preliminary analysis of fishery water was done to ascertain the extent of contamination. On the basis of field works simulated samples of heavy metal ions of lead, copper, chromium, iron etc and ammonia were prepared. Synthesized sample (MFI) was used to remove these metals and ammonia from the simulated solutions to check the efficacy of MFI for removal of heavy metals and ammonia. Removal of heavy metals was above 90% whereas for ammonia it was 100%. MFI was then used to remove contaminants from fishery water. Fish was reared in this treated water also in direct fishery water (we called it controlled water) separately in aquarium for acclimatization. Biochemical tests were done before and after rearing for one and two months in terms of G6PDH, glycogen and LDH determination. Fish analyzed from treated water were found to show better health. Zeolite is cheaper than activated carbon and does not need conditioning before use. This will make use of zeolite in fish culture facilities a better option for reducing ammonia and heavy metal concentration.

Key words: MFI, Heavy metals, Ammonia, Fishery water

Characterization of Endoglucanase and Xylanase from *Bacillus subtilis* Isolated from Cow's Rumen

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Cellulase and xylanase producing bacteria were isolated from cow's rumen fluid. One of those isolates, strain B4 showed the highest activity of both cellulase and xylanase when tested on carboxymethyl cellulose (CMC) and birchwood xylan. 16S rDNA sequence of the strain B4 revealed high homology to *Bacillus subtilis* (>99%). Then endoglucanase gene (BglC) and xylanase gene (XynA) of the *Bacillus subtilis* B4 were analyzed. Open reading frame (ORF) of the genes were 1,499 and 642 nucleotides, respectively, consequently were subcloned into the pETDuet-1 at corresponding sites. The recombinant plasmid (pETbglC- XynA) was introduced into *Escherichia coli* strains BL21 (DE3) for expression and characterization. Specific activity of the recombinant endoglucanase and xylanase in extracellular fraction were 4.26 and 11.24 U/mg, respectively. The optimal activity for endoglucanase exhibited at 60 °C and pH 6.0, while the xylanase was at 55 °C and pH 6.0. Fe²⁺ and Fe³⁺ ions were cofactor for higher activity of both enzymes. In comparison to hydrolysis activity to agricultural wastes (corn stover, rice straw, paragrass and napier grass) the activities of recombinant endoglucanase and xylanase were significantly higher than wild type. Therefore, this recombinant enzymes could be a potential candidate for many applications.

Key Words: Endoglucanase, Xylanase, Characterization, Cow's rumen bacteria