

The **7** One Day Conference on strings of stress;

A meeting to elaborate stress blues & biological
mechanism affecting human health

20th

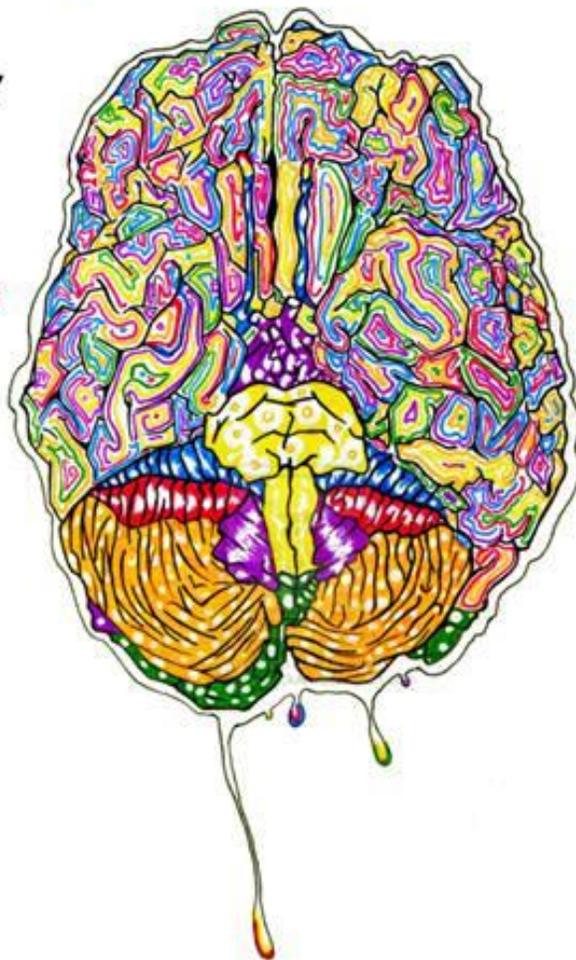
December 2014,
A.Q.Khan Centre
129 SUPARCO Road, Off
University Road., Karachi
9:00 am - 4:00 pm

The Main Themes of the 7
STRINGS of Stress

- PHYSICAL STRESS
- NUTRITIONAL STRESS
- TRAUMATIC STRESS
- PSYCHOSOCIAL STRESS
- MENTAL STRESS
- EMOTIONAL STRESS
- CHEMICAL STRESS

ABSTRACTS related to following concerns
of stress are welcome.

- Health behavior, and coping with illness
- Eustress & distress
- Acute & chronic stress
- Stress & somatic diseases
- Neuropsychology of stress
- Methodologies of assessing stress & research
- Stress management & sense of well being
- biological and societal effects of Stress
- Fear, anxiety and depression due to stress
- Neurogenetics of stress
- Neurochemistry and neurophysiology of stress
- Stress, memory and learning
- Psychophysiology and neuropsychology
- Psychoneuroimmunology
- General psychiatry, Gene x environment interactions
- Biomarkers of stress
- Sleep, trauma and stress



FOR TOTAL HEALTH CARE

Conference Secretariat

Advance Educational Institute & Research Center.

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BIOMEDICAL ELECTRONIC STIMULATION TECHNIQUES USED TO TREAT PHYSIOLOGICAL STRESS

Engr. Dr. Zia Mohy Ud Din

Biomedical Engineering Department, Sir Syed University of Engineering & Technology

Brain is a vital organ of the human body which is used to control all internal organs of the body. It also responds the stressor or any other external stimulus applied to the body. The response of the body to encounters external stimulus is called stress. Stress basically defines a positive or negative condition which can affect the physical or mental health of a person. A prolonged stress may lead to the some sever illness like depression, apathy, restlessness. The scientists have tried different ways to treat physiological stress such as stress reducing strategies, drugs and electrical stimulation process etc. The stress reducing strategies sometime are not helpful because the stressed person cannot concentrate on these strategic processes. Use of drugs such as citalopram has side effects of the human body like fast heart rate, overactive reflexes, nausea, vomiting. Transcranial magnetic stimulation is a noninvasive method to treat depression in which the neuron as depolarized due the applied magnetic field. Some other biomedical Techniques are also used to treat stress related disorders are Cranial electrotherapy stimulation, Electroconvulsive therapy, Transcutaneous electrical nerve stimulation, and Migraine Therapy.

SEVEN STRINGS OF STRESS

Shamoon Noushad & Sadaf Ahmed

Psychophysiology Research Division, Advance Educational Institute & Research Centre

A tool has been developed for evaluation of stress by observing major signs & symptoms, and classification of these symptoms in seven different classes. The tool comprised of 114 items that differentiates physical, mental, traumatic, psychosocial, nutritional, emotional & chemical stress. It will help the researchers with a tool for evaluation of cause as it is first of its kind & will help the health professionals for assessment of stressed. Preliminary data was collected from Pakistan and analyses showed that the tool has both high reliability and validity. The Cronbach reliability test was carried out and the α value obtained was between 0.954-0.916. In this study the Spearman-Brown Coefficient analysis has been used to obtain.

ROLE OF NEUROCHEMISTRY IN STRESS

Prof. Dr. Saida Haider

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Stress is a part of our life, but as much as we all live with it many of us misunderstand some of the basics about stress and its role in our life. Stress is defined as the situation which alters the homeostasis in the body. It is the combination of psychosocial, physiological and behavioral reactions that occur in response to life threatening or challenging events. Commonly the word stress refers to distress but scientifically it is a general term which describes distress (bad stress) or eustress (good stress). Initial response to sudden stress is activation of HPA-axis which releases hormones to activate sympathetic nervous system and causes an increase in the release of various neurotransmitters implicated in various physiological functions. This initial reaction to stress known as "fight or flight" response is evolved as a survival mechanism that enables to react quickly to life threatening situations. Once the 'threat' is over the parasympathetic control brings back the body in to balanced state. However when the stress becomes chronic then over time repeated activation of stress response takes a toll on the body and may contribute to physiological and psychological problems such as anxiety, depression and aggression. Stress management is therefore necessary to counter the stress response in order to cope with the daily life stressors.

ABSTRACT FOR ORAL PRESENTATION

COMBATING THE NEGATIVE AND ILLUMINATING THE POSITIVE ASPECTS OF STRESS

Zehra Batoool & Saida Haider

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In an episode of acute stress an organism experiences a shock or perceives a threat during which induces an immediate release of hormones that help it to survive. In humans, as in other animals, these hormones help to run faster and fight harder. These hormones focus our attention on the threat and help in memorizing the stressful event. This significantly improves our ability to survive life-threatening events. However this situation induces an excitable, anxious and irritable state which reduces the efficiency to work effectively and the intensity of focus on survival interferes with the ability to make fine judgments. Stress management includes number of ways to decrease the serious impact of stress on general well-being one of which is the use of nutraceuticals in daily life. Purpose of study: Experiments on animal models of stress have enabled us to explore such nutraceuticals. Considering the nootropic, anxiolytic and antidepressant-like properties of curcumin in various experimental approaches, we appraised the beneficial effects of this herb on acute immobilization stress-induced behavioral and neurochemical alterations. Methodology: Rats in test group were administrated with curcumin (200 mg/kg/ml) dissolved in neutral oil for one week. To induce stress rats were subjected to immobilization stress for 2 hr. Results: Immobilization stress induced anxiety and hyperactivity accompanied by increased brain lipid peroxidation and altered antioxidant enzymes and acetylcholinesterase activities. Pre-administration of curcumin prevented the stress-induced behavioral deficits,

restored the activities of enzymes and decreased lipid peroxidation. Highest memory performance was observed in stressed rats pre-treated with curcumin in Morris water maze. Conclusion: Besides reinforcing the antioxidant potential of curcumin, our results support the notion that curcumin plays a role in the management and treatment of acute stress induced deficits present study at the same time also highlights the fact that acute stress induced in close association of learning task facilitates consolidation of the event which may be further illuminated with the supplementation of curcumin.

EFFECT OF POWER ENHANCING DRUGS ON MIND AND PERSONALITY OF MALE USERS

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Psychophysiology Research Division, Advance Educational Institute & Research Centre²

Exercising in a gym, largely aimed at getting a better-shaped body, is a long and tiring process. So many people opt for power enhancing drugs, boosting their athletic performance. These include steroids, erythropoietin, creatine, protein and zinc supplements among others. Together with increasing the muscle bulk, they exert highly undesirable effects on normal physiology. The subjects were asked to fill in a detailed proforma, which aimed at evaluating the effects of PEDs and exercise on aggression, frustration, irritation, anger, mood changes, behavioral changes etc. The results were compared against a control group that comprised of individuals who were working out without using PED. The results suggested that through an unknown mechanism PED usage has affected various psychological parameters of the users.

INCREASING PREVALENCE OF EMOTIONAL STRESS AMONG YOUTH OF KARACHI PAKISTAN

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Psychophysiology Research Division, Advance Educational Institute & Research Centre¹
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Youth has been considered almost by every definition is a period of heightened stress due to the many changes experienced concurrently including physical maturation, drive for independence, increased salience of social and peer interactions and brain development. The objective of this study was to highlight the major symptoms in youth those was more prevalent towards emotional, mental & traumatic stress. A cross-sectional survey was conducted among young adults of Karachi. Stress levels were assessed by using Sadaf Stress Scale (SSS). Data analysis was done using SPSS 17. The results showed that higher prevalence in emotional stress. When compared to mental & traumatic stress scores however the most reported symptoms of emotional stress were forgetfulness, moodiness, sense of loneliness or isolation & constant worrying while in traumatic stress to avoid discussion of that event, bad memories, & no expression. In mental stress were obsessive thoughts, repetitive thinking, constant worrying & relaxation respectively. According to over results it assume that the stressors like criminal victimization, terrorism changes in work, financial problems & studies load are affecting youth more & leading towards disturb behavioral characteristic that can be relived with significant changes in attitude & perception of young mind.

THE PRENATAL PHYSICAL STRESS: A MYTH OR FACT

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Introduction: The developmental processes during gestation include physiological and anatomical adaptations, and altered the health associated grades that are directly or indirectly linked with prenatal stress conditions. Purpose: The purpose of this study is to identify and evaluate the presence of prenatal physical stress in relevance of its physiological manifestations and psychological perception. Methodology: A cross-sectional study was conducted on 209 participants having intrauterine pregnancies with age range of 17-39 years from August to November 2014. The study participants filled a detailed pre-questionnaire along with administered Sadaf Stress Scale (SSS) for the evaluation of Physical Stress and associated symptoms. Results: Among 209 study participants most subjects were in there 1st trimester of pregnancy while next to that were women in their 3rd trimester who visited OPDs. According to the self-perceived scoring by study participants 82% reported mild to severe level of stress while on comparison of these self-perceived ratings with SSS the results were more or less similar and 68% subjects scored for some level of physical stress. On comparison of both scales the difference found to be non-significant (p<0.5). However, the severity of physical stress was reported more in females in third trimester on the other hand due to multiple variations in physiologically reported conditions. Conclusion: we can conclude that the self-perception of feeling physically exhausts and stressed is not a myth but a result of physiological adaptations. Moreover the association of persistence stress with all three trimester of pregnancy can lead to lowered health conditions, coupled with emotional and psychological alterations pave a way to prenatal physical stress.

EMPATHY LEVELS AMONG MEDICAL STUDENTS: A PSYCHO-SOCIAL ANALYSIS

Sadia Shah, Saif Ali Shaikh & Muhammad Muneeb

LUMHS Research Forum

Background: Empathy is an important component in a doctor-patient relationship. It is an objective and relatively a stable constitutional trait. The apprehension among educationalists that clinical training may have an adversative effect on medical trainees and student empathy levels, holds truth as indicated by the existing literature. Long work/study hours and sleep deprivation may be the potential reasons believed to contribute to empathy decline. Objective: The aim of the study was to determine the changes in the empathy levels among the students, during their medical school years. The opinions and observations of medical students were recorded and interpreted hoping to determine the main reasons behind the changing empathy levels (if present). Methodology: A psycho-social cross-sectional analysis of medical students' empathy levels was conducted at Liaquat University of Medical and Health Sciences Jamshoro. A 20 item JSPE-S (Jefferson Scale of Physician Empathy-Student Version) self-administered structured questionnaire including 7- point Likert scale was used to evaluate empathy levels among students. Convenient sampling procedure was used. A total of 300 students were approached during their class timings at lecture halls. A prior verbal informed consent was taken and those who agreed were included in the study. The duration of study was from May, 2014 to August, 2014. Data analysis was done via SPSS 16.0. Results: 41% (n=123) out of 300 participants were male while 59% (n=177) were females. The mean empathy value of first year students (91.29) was greater than that of final year students (84.53). E.S value i.e. effect size value comes out to be 0.5, which is moderately significant. Conclusion: Study concluded that the students at LUMHS have the least empathy score in comparison to the standard values. This decline in the empathy levels explains the change of social behavior of the students across their medical school years. It is related to the hectic and difficult time period of their studies, their personal experience.

EXERCISE INDUCED PHYSICAL STRESS: A STUDY ON CARDIOVASCULAR PARAMETERS AND SERUM CORTISOL

Muzna,² Sadaf Ahmed,^{1&2} Shamooun Noushad,¹ Saima Khan¹ & Amara Farooq²

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The purpose of this study was to evaluate the association between Sadaf stress scores with cortisol level. The effect of exercise on serum cortisol levels was examined in 27 young, healthy male and female volunteers who performed submaximal cycle exercise for fifteen minutes. Data was collected from university going students. Demographic and physical stress questionnaire were filled by the subjects. They were asked to perform exercise and sample was taken after exercise. Data was then analyzed through SPSS. The mean cortisol levels depending on severity of physical stress were also calculated. Results shows significant increase in systolic blood pressure and a decrease in diastolic blood pressure were found, and serum cortisol levels were significantly elevated after exercise. The finding of the study suggests physical stress is directly proportional to increased cortisol levels and thus supports strong correlation of degree of physical stress with serum cortisol levels.

ASSESSMENT OF PREVAILING STRESSES IN YOUTH; A STUDY USING SADAF STRESS SCALE

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Stress is a feeling of strain and pressure that can be external, related to the environment but may also be created by internal perceptions causing an individual to have anxiety or other negative emotions. Younger people do tend to be more stressed than older people do as they may be in a phase of life in which they are more willing to admit to it and they don't know where they are going in life. The objective of this study was to gain a more comprehensive understanding of stress along with the severity of symptoms in young generation. Data was collected from students of different universities of Karachi with the age group 17-26 years. They were asked to fill demographic questionnaire and Sadaf stress scale. The data was then analyzed through SPSS. Results shows that young generation have high prevalence of emotional, traumatic and mental stresses. As they are psychologically unstable at that stage of life, so they show high level of severity of psychological symptoms as compare to physiological symptoms. According to findings, this study suggests that individuals with the studied age group are more prone to be stressed and are more inclined to be focused. There is a high need of providing psychological support that have a beneficial or buffering effect on mental and physical health in order to reduce the impact, intensity and duration of the symptoms in youth.

THE CAFFEINE ON VERBAL AND NON-VERBAL REASONING, PROBLEM SOLVING ABILITY AND ATTENTION ON HUMAN SUBJECTS

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Statistically, tea is the most widely consumed beverage around the globe. Its consumer-base includes all types of people, irrespective of age and gender. Starting off with bed tea, people have an average of 2 cups per day. For some, the need for tea is to experience mental freshness whereas others opt for it because tea is portrayed as a healthy drink. The latter is supposedly unaware of the stimulants in this drink. Among different varieties available, black tea is the most commonly used and contains L-theanine, theobromine, theophylline and highest amount of caffeine. The aim of this study was to evaluate the effect of caffeine with combination of other stimulants in tea on verbal and nonverbal reasoning, problem

solving ability and attention. A total of 300 subjects in age group 18-32 were included in the study, all of whom were residents of Karachi. Subjects were asked to solve a questionnaire that aimed at analyzing the above mentioned parameters. Control group solved it without tea consumption, and the other group consumed tea and was asked to solve the same after 20 minutes. Our results lead us to conclude that, most widely used stimulant i.e. caffeine enhances verbal and non-verbal reasoning, problem solving ability and attention in both genders.

OBESITY AS A NOTICEABLE CAUSE OF PHYSICAL STRESS; A STUDY ON RELATIONSHIP OF PHYSICAL EXERTION AND CARDIOVASCULAR PARAMETERS

Amara Farooq², Sadaf Ahmed^{1&2}, Shamoan Noshad¹, Saima Khan¹ & Muzna Patel²

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Physical tension is a response to environmental pressures, needs or demands or any vigorous bodily activity leading in altering physiological responses, is counted as physical stress such as aerobics, work outs, injury or aches. It may also count on physical traumas as cuts, burns, sprains, broken bones, surgery etc. In other words physical stress is bodily response to substantial pressures such as exertion, noise, illness or exercises. Obesity is also a physical stressor. An obese cannot resist physical stress. The increase amount of fat in their body does not allow them to do sufficient physical activity and body ultimately faces stress responses, this stress response is a physical stress. The purpose of this study is to check severity of physical stress in individuals with BMI greater than 30 by asking them to do some physical activity and a comparison of Blood pressure before and after exercise. It was an observational study in which we collect the data from individuals of both genders. Their BMI was calculated. They were asked to do some exercise and blood pressure and pulse were measured before and after exercise. The data was then analyzed using SPSS. Physical stress symptoms were calculated through Sadaf stress scale (SSS). Results shows that physical stress increases with increased BMI while it also shows significant difference in obese individuals presystolic and prediastolic with postsystolic and postdiastolic pressures. The p-value was found to be 0.04. From this study we conclude that BMI is directly proportional to physical stress which can result in increased body demand of basic nutrients required for better quality of life. So maintenance of normal body weight is the utmost requirement for healthier life.

STIMULATION BASED DETERMINATION OF OPTIMUM ELECTRODE SIZE TO TREAT TOOTH PAIN USING ELECTRICAL NERVE STIMULATION

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The aim of this research is to determine the optimum size of Electrode used to treat the odontalgia by Electrical nerve stimulation. Introduction: Tooth Pain is common problem mostly associated with tooth decay. The drugs used to treat toothache have plenty of side effects such as hypertension, stomach pain and nausea. The physiological factors produce great influence due to pain. The pain causes physiological and mental stress on patient and effect the daily life, became interference for chewing and talking properly. Methodology: Tooth cavity or enamel loss causes extreme tooth pain. Treatment of the toothache depends on the condition of tooth decay; normally it can be cured by filling cavities root canal and applying oral ointments. Different treatments are used to treat tooth ache the drawback of these treatment is its prolonged treatment time. Transcutaneous electrical nerve stimulation is used to stimulate the nerve for therapeutic purpose. In this study the Comsol Multi-physics is used to design a 2-d model of micro electrodes envelope inside tooth cap which is place on the teeth. The electrodes placed on effected tooth to treat pain by electrical stimulation. Result: The stimulation results show that 0.4 mm electrode size is optimum to produce 1.0 A/m² current density at tooth nerve. It leads to produce the electrical impulses at the nerve which reduce pain. Conclusion: Electrically nerve stimulation process is used for therapeutic purpose for cure pain. The result presented in this paper and simulation results which would be further verified after the implemented system.

HIGHLIGHTING CAUSES AND DESTRUCTIVE IMPACT OF STIGMATIZATION ON HEALTH STATUS OF MENTALLY CHALLENGED CLIENTS IN DEVELOPING COUNTRIES

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Background: Mental illness is a major obstacle of health care system throughout the world. The solutions and knowledge about mental health issues have increased many folds over the time. However, in many parts of the world the stigma is still attached with the mental illness. It is felt that it will bring bad name to the family if any of the family members is mentally unstable. Purpose: This paper aims to highlight major causes, probable consequences and suggest recommendations to demark stigmatized mentally ill patients in developing world. Method: A systemic review of 10 literature from recent scholar articles (2009- 2014) was conducted to study the impact of stigmatization on mentally ill patients. Result: The findings suggest that the most significant causes of stigma in socio-cultural domain are society's pre-conceived ideas, lack of knowledge and the myths which authenticates stigma towards the mental illness. Moreover, the vicious cycle of stigma on patients' lives and the attitude of health care providers are also among the very important aspects highlighted in some studies. The impact manifested was even more devastating including under

or over diagnosed mental illness, delay in health seeking behavior and poor prognosis in community as well as hospital setting. Recommendation: It is essential to address these issues and arrange awareness sessions in order to improve the quality life.

A PILOT PROJECT TO ANALYZE THE APPLICATION OF NIGHTINGALE’S THEORY IN DECLINING DEPRESSION IN ELDERS

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Aga Khan University Hospital¹

Baqai Medical University, College of Nursing²

Introduction: It is anticipated that humans are increasing their life expectancy many fold that would result in amplified population of old age people. However, it is observed that elderly population living in nursing homes is experiencing several physical and psychological problems among which depression is significant. **Purpose:** The purpose of this study was to determine the effectiveness of implementing Nightingale’s theory into practice in order to decrease depression rate among elderly population at nursing homes. **Design and Method:** A pilot project was designed that included sample of twelve elderly male clients’ age lying between 60 to 80 and were resident of a senior citizen home, Karachi. The data was collected via pre and post intervention direct observations, individualized interview with feedbacks and completion of geriatric depression scale. The data was interpreted by applying t test for two dependent samples (alpha=0.05). **Result:** The findings revealed that practical implementation of Nightingale’s theory aides in preventing and declining depression rates among old age people. **Conclusion and recommendations:** It is recommended that proper training related to Geriatric health needs should be provided to the nursing home’s staffs. Furthermore, interventions based on Nightingale’s principle should be planned and initiated in order to prevent and reduce depression cases and promote healthy aging among elderly population.

PREVALENCE OF MALIGNANCIES IN RELATION WITH STRESS IN THE POPULATION OF JAMSHORO, SINDH (PAKISTAN)

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Objective: To study the role of stress in cancers and its prevalence in the population of Jamshoro, Sindh, Pakistan. **Study design and period:** This observational study employed a questionnaire based interview. The survey was conducted from August 2013 to February 2014. **Study area and population:** The survey was conducted at Jamshoro Sindh, Pakistan from where cancer patients of two centers namely NIMRA (Nuclear institute of Medical Radiotherapy) and LUH (Liaquat University Hospital) were assessed. The data collection was permitted by the authority of NIMRA. The out-door patients were approached and informed consent was taken. **Methodology:** This study employed a Questionnaire-based interview of 90 cancer patients. They were asked of any severe distressing event that took place in past 2 years. Holmes-Rahe inventory was used to calculate stress and data was analyzed by SPSS version 16. **Result:** 33% percent patients reported no significant stressful event in their past 2 years i.e. 2012-13 but 67% patients had faced stressful events. 40% patients had stress scores between 150-300 showing that they might develop some major illness in forthcoming years and 50% patients having scores between 0-150 indicating that they have a low susceptibility to stress-induced health breakdown. The commonest cancers found in the population of Sindh are the breast cancer (28%), buccal cancer (11%), ovarian cancer (7%), neck cancer (6%) and colon cancer (4%). The stressful events found were financial crash (37%), death of family member (23%) and behavior-change of family member (20%). **Conclusion:** Stress indirectly contributes to the development of cancer.

PHYSICAL STRESS DURING MENSTRUAL CYCLE; A STUDY ON PAIN, DISCOMFORT AND EXHAUSTION

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Premenstrual Syndrome (PMS) is a set of physical, emotional and behavioral symptom that start during the week preceding menstruation and are alleviated when the menstrual flow begins. The Purpose of This Study Was To Evaluate Symptoms of PMS In Relation To Intensity of pain and physical stress by using Sadaf stress scale (SSS). PMS affects menstruating women globally and causes extensive personal and public health problems with high degree of absenteeism. It is the most common gynecological problem that has been reported to affect the ability of women to carry out daily activities. Data was collected from women aged 17-35 years having premenstrual pain. The prevalence was determined by questionnaire includes issues about exercise, Intensity of pain, severity and flow of blood during reproductive cycle. Results shows 15% mild, 14% moderate and 5% severe symptoms of physical stress with only 4% women are interested in doing exercise. Premenstrual pain was one of the most common complain among these females of reproductive age with severe to moderate discomfort during menstruation along with the concerns of heavy or moderate bleeding. It is recommended that Inquiries about pelvic pain and menstrual discomfort should be made compulsory in health care centers, so that this major problem could be overcome causing hindrances in routine life with women.

SIMULATION OF FAT REDUCTION BY OPTIMIZATION OF PELTIER DEVICE TEMPERATURE TO CONTROL OBESITY

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Biomedical Engineering Department, Sir Syed University of Engineering & Technology¹
 School of Electrical Engineering and Computer Science, Kyungpook National University²

The aim of this study is to reduce the excess fat layers deposited on adipose tissue to reduce obesity by using in-vitro peltier device. Introduction: Obesity is a clinical condition in which excess body fat has accumulated to the degree of extent and may produce negative effects on health. Medical Authorities view it as one of the most serious public health problems of the 21st century. A permutation of medical disorders which includes: high blood pressure, high blood cholesterol, diabetes mellitus type 2, and high triglyceride levels. Methodology conventionally, the obesity has been treated by diet and exercise which is quit time taken and it does not produce any significant results and lead the person towards liposuction or surgery to reduce obesity. Martyn hall et al proposed the electrotherapy for weight loss in which the electrodes are drilled in the tissue. The drawback of this technique is that it involves an invasive procedure. Therefore, A 2-D simulation model of skin, fats, muscles and peltier are designed in COMSOL multi-physic to optimize the thermal effect on fat layer. Peltier device is place over skin; it liquefies the fat layers beneath the skin by Thermal stimulation. Result: It has been reported that 316 k (43 OC) is clinically sufficient to liquefy fat layer without any harm to skin. 316 K for at least an hour can induce fat-cell apoptosis of the underlying subcutaneous fat without damaging the skin. The simulated results presented in this research illustrates that 318 K is the optimum temperature for peltier to attain the 316 K on targeted fat layer. Conclusion: The Proposed method using peltier device is non-invasive and non-medicinal procedure to reduce fat.

EMOTION REGULATION STRATEGIES AND TASK SWITCHING DEFICITS IN PATIENTS WITH PSYCHOGENIC NONEPILEPTIC SEIZURES

Amara Gul

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Introduction: Psychogenic nonepileptic seizures (PNES) are characterized by involuntary behaviors that arise due to psychological and emotional abnormalities. Patients with PNES suffer from cognitive deficits. It is unclear whether patients with PNES have task switching difficulties. Objectives: The present study examined the relationship between switching deficits and emotion regulation abilities in patients with PNES and healthy individuals. Methodology: Patients with PNES and healthy gender, age, education and social status matched individuals, performed facial categorization switching task and completed emotion regulation questionnaire. Results demonstrated task switching impairment in patients with PNES. In contrast, healthy control subjects had intact switching abilities. Patients with PNES used maladaptive emotion regulation strategies as compared to healthy control subjects. Switching deficits were correlated with inferior emotion regulation abilities. Conclusion: Emotion regulation abilities are significant marker of task switching deficits.

NUTRITIONAL DISTRESS; A PSYCHO-PHYSIOLOGICAL HEALTH CONCERN

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Inadequate intake of food and unhealthy lifestyle causes under/over nutrition and may cause stress in body. It is not easy for everyone to maintain a healthy lifestyle with appropriate physical activity and balanced diet. It is assumed that females are more susceptible to nutritional stress than male counter parts. The purpose of the study was to find out the prevalence of nutritional stress in females and to highlight the indicators of being nutritionally distressed. A cross-sectional study was carried out to compare the scores of nutritional stress and its symptoms in two groups (married and unmarried) of females (n=100) of middle class with the help of self-designed questionnaire and Sadaf stress scale. Our results showed that according to scores both groups lie in normal range while unmarried group is more prone to high levels of stress as compare to married group. However the symptoms reported were more on to the physical stress as indicated by fatigue, bad temper and blood pressure. These symptoms are a clear indication of distress in these females that can be a reflection of unbalanced lifestyles in relation with nutritional and physical factors of health. It is recommended that this study can be further widened on the prospects of biochemical findings based on these psychophysiological findings.

ABSTRACT FOR POSTRER PRESENTATION

CAFFEINE INDUCED EFFECTS ON SHORT TERM MEMORY AND SPATIAL MEMORY IN A HEALTHY MALE AND FEMALE SUBJECTS; A COMPARATIVE STUDY

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Tea consumption is traditionally associated with relaxation, alertness and refreshment. For someone who is looking for an efficient energy boost, this would be a great choice. The active components in tea are caffeine and L-theanine that may modulate aspects of brain functioning in humans. Caffeine increases alertness and concentration and in combination with L-theanine improves both speed and accuracy of performance. The present study evaluated the effects of caffeine consumption on short term memory and spatial memory of healthy subjects. A total of 300 subjects in age

group 18-32 were included in the study, all of whom were residing in Karachi. Subjects were asked to solve a questionnaire, and perform a task that aimed at analyzing the said parameters. Control group solved it without tea consumption, and the other group consumed tea and was asked to solve the same after 20min. The results indicated that there is no effect of caffeine on short term memory in either gender, but it affects spatial memory in males. It can be concluded that physiologically, males have a better spatial memory while females have a better short term memory.

COMPARATIVE ASSESSMENT OF SLEEPING BEHAVIOR AMONG UNDERGRADUATE MEDICAL AND ENGINEERING STUDENTS

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Omair Sana Foundation¹

Department of Statistics, University of Karachi²

Karachi Medical and Dental College³

Undergraduate students, particularly medical and engineering students, experienced high level of sleeping stress in their university life due to their full time university schedule and demand of high academic performance. This sleeping stress not only affects overall quality of life of the student but their academic performance as well. Purpose of this Study to compare the various sleeping habits problems among medical and engineering undergraduates: Methodology: A cross sectional survey was conducted at Karachi Medical and Dental College (KMDC) and Usman Institute of Engineering and Technology (UIT) from 2nd October 2014 till 31st October 2014. Structured questionnaire with an attached consent form were randomly distributed among the students for the collection of data. Results: Total 60 students completed survey, with majority from UIT 44 (73.3%). Mean age was 21.11±1.50 years. Male preponderance was found to be higher 42 (70%). Comparison of satisfaction level with university undergraduates shows that satisfaction level for current sleeping pattern was high (70%) in engineering students as compared to medical (30%) (P-value 0.746). Conclusion: Statistically insignificant difference was observed among undergraduate medical and engineering student. However, satisfaction rate was high among engineering as compared to medical students.

MALADAPTIVE EMOTION REGULATION STRATEGIES CORRELATE WITH BIPOLAR EUTHYMIC STATES

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Title: Maladaptive emotion regulation strategies correlate with bipolar euthymic states

Introduction: Bipolar disorder is characterized by cycles of irregular mood states either manic, euthymic or depressed. Among these mood states, euthymia is defined as reasonable positive mood that is associated with cognitive impairments. Objectives: The present study examined executive function and its' relationship with emotion regulation in patients with euthymic mood states. Methods: Patients with current euthymia and healthy individuals performed computerized switching task and completed emotion regulation questionnaire. Results: In contrast to healthy control subjects, patients with euthymia showed weaker executive function. Such deficits in executive function were associated with inferior emotion regulation. Conclusion: Emotion regulation abilities are significant predictor of bipolar euthymic states.

STRESS MANAGEMENT

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The purpose of study is to define stress and examine stress management techniques. Introduction: This paper highlights the concept of stress and its management. It will discuss several methods of stress management including autogenic training, cognitive behavioral therapy, meditation, artistic expression, conflict resolution and deep breathing. Further, it will evaluate effectiveness of each stress management technique. Methodology: Research journals from 2012-2013 were chosen and considered to discover reliable and divergent analysis. Stress, stress management, autogenic training and culture values are the topics that were preferred to read. These topics will come across throughout this literature review. Findings: Literature recommended that deep breathing, meditation and artistic expression are the stress management techniques that a person can himself initiate to manage stress. Apart from this, cognitive behavioral therapy, autogenic training and conflict resolution techniques may need any healthcare worker or psychologist to get started. Literature supports that for acute stress, deep breathing, conflict resolution and meditation may work out more. On the other hand, for chronic stress conditions, psychologist should offer cognitive behavioral therapy and autogenic training. Conclusion: Concisely, stress management refers to the extensive range of practices and psychotherapies intended to manage an individual's levels of stress for enhancing daily performance. Furthermore, above mentioned stress management techniques can help in stress reduction and may promote living conditions.

COMPARISON OF PHYSICAL STRESS AMONG MYOCARDIAL INFARCTION AND HYPERTENSIVE PATIENTS IN LYARI GENERAL HOSPITAL, KARACHI

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Physical stress is a pressure – force and strain a state of physical mental tension. So it is assumed that negative outcomes due to physical stress may lead to serious and complicated situation like different kind of cardiovascular diseases i.e. hypertension and Myocardial infarction. Heart is life giving wonderful pump, a simple machine with sacred mission it is also attached to mind with different chores of feeling and emotions as a result any physical stress on mind and body have its effects on the functioning of heart. The incidence of CVD have been shown to increase significantly following a physical stress like hypertension and Myocardial Infarction. This study was designed to determine and compare the intensity of physical stress and its occurrence among the hypertensive and MI patients. Data was collected from Lyari general hospital Karachi, over all 80 patients were recruited for pilot study with the help of inclusion & exclusion criteria, physical stress scale component of sadaf stress scale (SSS) was used to determine physical stress, demographic data & medical history was also obtained from the subjects. Our results showed that Physical stress was found to be 32.05 in hypertensive and 28.14 among MI patients. Similarly, systole and diastole B.P was greater in hypertensive patients as compared to MI. So there was no significant difference found among MI and hypertensive patients when compared for physical stress though physical stress scores were higher in hypertensive than MI patients including systolic and diastolic values difference were seen in these patients. It is also indicated by results that the mild physical stress was reported in these patients is a consequence of treatment and management strategies opted. However, more effective investigation is needed to unravel other potential factors that may underlie the increasing physical stress among both groups of patients as this is the known cause of developing physical exhaustion in cardiovascular patients.

MENSTRUATION; A CAUSE OF RECURRENT EMOTIONAL STRESS IN YOUNG FEMALES

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The events in the early and late proliferative period of the menstrual cycle can be experienced as physical, psychological, physiological and emotional indicators, sometimes it is also well observed as premenstrual syndrome among reproductive-aged women, specifically characterized by emotional and physical symptoms that consistently occur during the luteal phase of the menstrual cycle. The purpose of our study was to determine the frequency and severity of occurrence of these characteristics symptoms as well as to compare these with Premenstrual Syndrome (PMS) in young girls. We also investigated about the impact of these conditions on the quality of life. Women aged 17-35 years with pre-menstrual pain were recruited in the study. PMS-related data was collected on record of severity of pain while emotional stress score were calculated by using Sadaf Stress Scale (SSS). According to our results 48% of these women reported sharp pain with 39% having pain in abdomen back and thigh region. According to Sadaf Stress Scale 26% lies in moderate emotional stress, 30% in mild and 11% in severe emotional stress. Those women having severe intensity of pain reported 80% moodiness, 60% irritability and 40% abnormal laughter. The present results showed consistent and strong relationship between PMS symptoms and level of interference in all domain of woman's quality of life. We can conclude that PMS is the most common problem in women that distresses their educational performance and emotional well-being. There should be modified strategies for the detection and management of PMS in women for better quality of life.

MALADAPTIVE COPING, A WAY TO RESOLVE MENTAL STRESS

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This paper discussed about definition of maladaptive coping and its causes including lack of adaptive coping knowledge, low self-esteem, poor psychological functioning and others. Additionally, it also talks about beneficial and realistic interventions which encompasses individual and community approach, positive thinking, adopting dispositional optimism, psychological resilience and mindfulness meditation. Introduction: Knowing about maladaptive coping and its relationship with mental health is essential. Health care provider's role is significant in this regard and they can make a positive change in patient's life, by encouraging and motivating towards adaptive coping to be called as mentally healthy. Methodology: 25 Research journals from 2006-2012 were studied then reliable and authentic information were gathered. Coping mechanisms including adaptive and maladaptive coping, mental health and illness and psycho therapies were the topics that were considered. Result: Maladaptive coping is the most common problem observed in psychiatric patients which deteriorates health or is a cause for being Psychiatric patient. This chief issue in health settings influences individual's way of living due to the advancement of their diseases. Both eastern and western literature has showed evidence for presence of this issue. In Pakistani culture, maladaptive coping is becoming a trend in every individuals either young or old due to wide range of reasons including poor interpersonal relationship, poor psychological functioning, and traumatic life events etc. Conclusion: Use of coping strategy i.e. adaptive or maladaptive is a personal choice. Maladaptive coping can place an individual at unhealthy behavior having many physical, psychological and mental health problems. It also affirm individual in the approaches which lead them towards negative way of coping.

PSYCHOSOCIAL BOUNDARIES LEADING TOWARDS LOW WOMEN ECONOMIC PARTICIPATION

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It has been observed that females are less in numbers when it comes to professional life, females are far behind in economic independence; male gender is the one which is ruling in labor market. The ratio of working women is very low as compare to men; especially in developing nations like Pakistan this ratio is very depressed due to many social constraints. Women are surrounded by religious, societal, cultural and traditional pressures and gateways which they need to pass through. All hindrances make it difficult for women to get their piece of cake without any snag. The religious rigidness and cultural values and practices do not encourage women economic independency much. To confirm these facts we interviewed 20 middle class women (10 working and 10 non working) aged 20 to 50. We used SADAF STRESS SCALE to evaluate the level Emotional and Mental stress in both groups. Respondents were selected using purposive sampling. Majority women in both groups expressed marriage and children's up bringing as a main hurdle in their professionalism; but they also expressed that being working is better for women but not for family, majority also believed that it is not women's responsibility to earn and majority working unmarried girls are ready to quit job if they will not have financial need. Women who are motivated towards professionalism and economic independency have parents those have educated social circle. The ratio of women with high level stress is found in women of non working group who thinks that being working is good for self but not for family life and level of stress is low in women those religious level is very high and they are against women empowerment. Rigid and orthodox interpretation of religious values and society's cultural value play important role. Education alone is not enough in bringing such move towards economic independence for women.

PSYCHOSOCIAL BOUNDARIES LEADING TOWARDS LOW WOMEN ECONOMIC PARTICIPATION

Sadaf Mumtaz

Youth Apprenticeship Program

Purpose of study: To study the psychobiological behavior of the biomarker of stress. **Introduction:** Salivary cortisol is frequently used as a biomarker of psychosomatic stress. However, psychobiological mechanisms that elicit the hypothalamus-pituitary-adrenal axis (HPAA) can only indirectly be assessed by salivary cortisol measures. The particular modulators, receptors and the binding proteins that manage the reactivity of HPAA have also a significant effect on salivary cortisol measures. However, it is not possible to found a linear correlation with the measures of cortisol in blood and urine. This condition is only applicable in case of response circumstances. **Methods and Materials:** The blood sample is collected in the stress condition that leads to false positive results. An additional defect reflects that cortisol taken and measured from serum or plasma is representing total cortisol, not the free, the one that is biologically active. The cortisol response lags behind ACTH by 5-20 minutes, and the peak blood levels is achieved in 10-30 min. Within 2-3 minutes, the cortisol is transferred from blood to saliva rather quickly. **Results:** In order to determine psychobiological behavior of biomarkers, blood cortisol levels are usually measured and the outcome of cortisol is made through specific receptors located in the cytoplasm of the target cells. **Conclusions:** Even though, the studies based on correlation between saliva cortisol concentrations and its free levels in blood samples are missing, salivary cortisol propose a novel approach following a line of exploration of stress biomarkers with the ease of collection and potentially considerable extent for application.

PSYCHOPHYSIOLOGICAL HEALTH ANALYSIS, A STUDY ON TYPE-1 AND TYPE-2 DIABETIC PATIENTS

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There are many diseases which are the results of interfaces of a number of genes and ecological factors. Even though these exchanges are complex, nearly every patient at present has access to a free of cost, well-recognized, modified genomic tool that explores many of these interactions and can be served as a base for individualized disease anticipation. This valuable tool is one's own family history. It has been shown to help predict the risk of many varied health concerns like type 2 diabetes. As diabetes especially type 2 diabetes is a multifarious condition that involves combination of genetic and environmental elements, DNA testing for susceptible gene is not yet justified. However, because family history reveals genetic susceptibility in addition to many other factors, it may be a suitable public health tool for disease prevention. But until now many patients are unaware of the medical histories of their blood relatives. The goals of this study is to increase the awareness of the medical significance of the family history amongst both health providers and the public, evaluating level of depression in diabetes patients. In this study we had also assessed chemical and nutritional stress levels of diabetic patients using Sadaf Stress Scale (SSS); Pakistan's first stress evaluating tool. Results showed that prevalence of diabetes is more in males (72%) than in females (28%) with (54%) patients having positive family history. Likewise Type 2 diabetes (66%) is more common. Whereas in assessment of nutritional and chemical stress, severity of nutritional stress was found in 16% of patients while chemical stress was 28%. Here we conclude that patients initiated-behaviors like exercise, medication adherence or proper diet should be maintained in order to decrease the level of depression. Also for improvement in effectiveness and use of the family history in clinical care, there is a need to increase the awareness level of both health professionals and patients about the value of the family history and stress management through educational programs or awareness campaign.