

# International Conference on Endorsing Health Science Research (ICEHSR – 15)

## Prologue

AEIRC believes that satisfactory development in Health care and research in our Country is need of time. For the reason AEIRC launched its 3rd International conference to address barriers, such as the traditional silos between basic and clinical researchers in biomedical research, which can hinder progress toward finding new therapeutics/solutions for patients in need. It is expected that this conference will help research teams seeking to translate basic scientific findings into therapeutic interventions for patients and to increase understanding of important disease processes. This is to set a platform for the exchange of ideas to promote and educate researchers in an interactive way so that whole society gains benefits of resources, and can pursue innovative research with investigators that will help to alleviate the burden of sufferings. Though it is a Karachi based conference but both internationally and nationally renowned clinical and basic researchers will share their latest findings about issues and solutions. The Conference Theme this year is **FROM BENCH to BEDSIDE!** With Conference Track of Issues and Proposed Solutions with respect to Medicine, Environmental health, Bioengineering, Psycho-Social health, Molecular and biological Sciences, patient and health care systems and pharmaceutical Sciences. The occurrence and general impression diseases on our society both socially and physiologically there is an imperative requisite to develop innovative management options that will improve core social discrepancies. Recently we are not only dependent on some non-reliable pharmacological treatments as introduced by pharmaceutical industry, prevention or cure. Development of novel biological interventions will depend upon the successful translation of basic into safe and effective treatments. This year **ICEHSR** has been designed to outlines steps to not only bring research from 'the bench' to treatment at 'bedside', from phenotyping the disorder to animal models to patient treatment. Although these steps appear simplistic, this is a daunting challenge because of the inherent complexity of the human physiological mechanisms, our lack of understanding of disease underlying various complications, and the incredible heterogeneity of the disorders. Perhaps progress will depend on integrative multidisciplinary approaches between basic scientists from varying disciplines and clinicians to make 'bench to bedside' treatment a reality.

## International Conference on Endorsing Health Science Research (ICEHSR – 15)

### Abstract (Keynote Address)

#### Health Science Research and Dimensions from Bench to Bedside

*Sadaf Ahmed & Shamoon Noushad*

*Advance Educational Institute & Research Centre*

Close incorporation through varied areas of health research and health-care tasks enables researchers, clinicians and scientists to identify how evolving scientific visions can be applied to patient care while carefully assessing new methodologies to preventing, identifying and handling disease through clinical research. A health professional know more about the human body today than we did yesterday, and tomorrow we'll know even more—a lot more. In the last three decades, advances in human, molecular and genetic areas have sparked a research revolution that reveals ever more detailed and precise information about how human bodies work. Every day brings new discoveries, many of which may hold the potential to improve human health in meaningful ways but the pace at which those discoveries lead to improved health has been disappointingly sluggish. It cannot be denied that new drugs, protocols and therapies do reach patients, and when they do, they often make a tremendous transformation. However, in comparison to the number of research projects conducted, papers published, and trials run, it is clear that new health care advances have lagged behind the vast amounts of data generated by the explosion in biomedical discovery that is unable to facilitate a common man. Pakistan is playing an emerging role among academic medical societies working to change that. On multiple fronts, and in collaboration with world, within the country and nationwide, the researchers and clinicians are exploring ways to increase the haste and efficiency with which research discoveries are rendered into improvements in patient care. Same is the case of drug development, the failure rate is much more with enormous resources and finances expenditure that at the end don't work for any healthcare concerns. Recommended steps include researchers and consultants should engross the public, including sponsors, as equivalent associates in the commencement of community-based interferences. Scientific proofs and communal data should be incorporated into interference planning. Publications should allow a focus on application that deal accounts of interventions including adverse findings that need cautious assessment to determine whether the research was successful to find a consequence as a result of program design, execution or assessment. Institutions must make it a precedence that the future researchers and clinicians to gain real understanding in communal plans. Current medical practitioner must update with worthy training opportunities for services advancement and to elevate their aptitude in application of research based scientific evidence at every stage of practice

## International Conference on Endorsing Health Science Research (ICEHSR - 15) Abstract (Oral Presentation)

### 1. Impact of Vaccine and Vaccination in Karachi citizens in a survey

*Nimra Zafar Siddiqui<sup>1</sup> & Atya Bano<sup>2</sup>*

<sup>1</sup> Department of Microbiology, University of Karachi,

A survey was conducted regarding proper vaccination strategy that has to be focused and followed by people in the city of Karachi, Pakistan. Since vaccination has been one of the major problems in many parts of Karachi. Vaccination not only provides us immunity but also protect us from many serious illnesses and harmful diseases. This survey was accomplished by distributing a questionnaire among people of different age groups and geographical areas, which has to be filled in with appropriate answers. The questionnaire consists of a set of questions that are open and closed. It was kept simple and easy for the respondent to complete the survey. Total of 1000 questionnaires were distributed among people and the data obtained from them were recorded in the form of tables and represented in graphs. Among 1000 questionnaires, 500 was filled for children of age group 0 to 18 years of age and 500 was filled for adults of age group 19 to 70 years of age. The map of Karachi was used to highlight the geographical locations of people under our study. The survey covered about 54.28% of the total areas of Karachi, Pakistan. The analysis of the questionnaire had a great impact on evaluating the status of public health in Karachi both clinically and as well as for health purpose objectives.

### 2. Prevalence of Toxigenic Escherichia coli in Stool Samples of Diarrheal Patients by Polymerase Chain Reaction (PCR)'

*Beenish Nawaz*

*Jinnah University for Women*

Escherichia coli (E. coli) are normal flora of the intestines of most animals, including humans. Most strains are harmless and beneficial to host by preventing the establishment of pathogenic bacteria within the intestine. However, some E. coli strains can cause a wide variety of intestinal and extra-intestinal diseases, such as diarrhea, urinary tract infections, septicemia, neonatal meningitis and renal complications. Several virulence factors including toxins, adhesions, serine proteases, etc. have been reported in these highly adapted clones. The present study was designed to enumerate toxin genotype through PCR assay in local clinical isolates of E. coli. A total of 37 E. coli strains were collected from different clinical laboratories of Karachi and examined for the presence of shiga toxin 1 (stx1) and shiga toxin 2 (stx2) genes of Enterohemorrhagic E. Coli (EHEC) and heat stable (st) and heat labile (lt) toxin genes of enterotoxigenic E. Coli (ETEC). It was observed that 16 strains out of 37 carried one or more type of toxin genes. The presence of stx1 gene was significantly higher as it was positive in 10 isolates compared to others toxins. Two in above stx1 positive strains were also carrying for stx2 gene. Six out of 37 isolates were positive for lt gene, and none of the strains are carrying st gene. Although, the study was carried out with fewer isolates, yet it demonstrated the trend of dispersion of toxin genes and findings can be used to correlate the gastro-intestinal infections and their complications in Pakistan.

### 3. A Retrospective Study of Women's Reproductive Health Related Calls in Aman Foundation Tele-Health Call Centre in Karachi, Pakistan

*Neelam Saleem Punjani*

*Aga Khan University*

The study aimed to determine the reproductive health related concerns among the female population availing the services of one of the call centers in Karachi, Pakistan. This study also intended to determine the, frequency of calls, self versus surrogate callers (husband or mothers in law calling on behalf of patient), the age of the callers, the level of care provided and the shift timings of the calls. Moreover, this study also aimed to identify the recommendations, advice, and triaging given to the callers. A descriptive, retrospective study was conducted to analyze women's reproductive health related calls received in two years from January 01 2012 to December 31 2013 at Aman Foundation telehealth call center Karachi, Pakistan. The collected data of calls received at Aman foundation call center were used by the researcher. Call records of the patients were reviewed; and women reproductive health related symptoms were then extracted from the list and the received data were analyzed using descriptive statistics. The analysis of data revealed that 303 calls were related to women's reproductive health symptoms, out of which majority of the calls were surrogate calls (60.1%). Moreover, most of the calls were received in the morning shift (46.2%) and the mean call duration was 12.25 minutes. This study also revealed that the highest frequency of calls were related to pregnancy (26.1%), followed by urinary incontinence (10.6%) and urinary tract infection (7.9%). The findings indicated that most of the calls were effectively answered by qualified nurses (73.6%) with the use of algorithms and disease summaries. The study findings showed that majority of the callers (73.9%) were provided self-care instructions or health information from the algorithms for women's reproductive health concerns. The findings of the study revealed the common reproductive health issues amongst the female population availing the services of one of the call centers in Karachi, Pakistan. It is well established from the study that pregnancy-related issues are predominant among the female population of Karachi. The health care providers particularly call center agents, health educators, policy makers, and researchers need to acknowledge that in the South Asian region, women's reproductive health concerns are highly prevalent and patients' access to call centers is increasing day by day. The study also suggests that call centers are experiencing an increasing demand for advice about women's reproductive health concerns. An in-depth knowledge of socio-demographic trends and women's reproductive health symptoms can help call centers to work on software development, staffing and training to meet the increasing demand for telephone advice.

#### 4. Augmented genotoxic response triggered by Carvedilol and Celecoxib combinations.

Ali Attiq<sup>1</sup>, Muhammad Ashraf<sup>2</sup>, Sohail Ejaz<sup>3</sup>, Aqeel Javeed<sup>1</sup>, Aftab Ahmad Anjum<sup>2</sup>, Asad ullah<sup>1</sup> and Muhammad Umair<sup>1</sup>

<sup>1</sup>Department of Pharmacology and Toxicology,

<sup>2</sup>Department of Microbiology, University of Veterinary and Animal Sciences, Lahore,

<sup>3</sup>Department of Clinical Neuroscience, Addenbrookes Hospital, University of Cambridge, UK

Carvedilol is relatively newer beta-blockers and due to its superior efficacy it is anticipated as armamentarium. Celecoxib; on the other hand, is a selective Cox-2 inhibitor and exhibits mark analgesic and anti-inflammatory activities. Since these drugs are prescribed to patients, as preventive/ therapeutic measures, suffering from hypertension along with inflammation and other painful conditions, it is vital to spotlight toxic potential of these drugs. Hence, cytotoxic, mutagenic and genotoxic potential of these drugs (alone and in combinations) was investigated by adopted well established Ames test, MTT assay and Comet assay. The results indicated that Carvedilol alone showed cytotoxicity (IC<sub>50</sub>) at 20µg/ml and Celecoxib at 84µg/ml, while their combinations showed increased pattern of cytotoxicity with a combine IC<sub>50</sub> of 13:47µg/ml. Carvedilol and Celecoxib were non mutagenic when they were tested individually against TA 100 and TA 98 with and without S9. Whereas the combinations of both drugs was non mutagenic at low concentration but on aggrandizing the concentrations, increased mutagenic potential was observed at concentration <12.5:37.5µg/plate Identical data was revealed for their genotoxic potential when they were used in combinations. Thus based on the data provided in this investigation, it can be inferred that combinations of Carvedilol and Celecoxib, if administered at high doses for over a prolong period of time, would be cytotoxic, mutagenic and genotoxic.

#### 5. Isolation and identification of Bacteriocin producing *Lactobacillus* from yogurt

Ghazia Rafique

Department of Biochemistry, Jinnah University for Women, Karachi, Pakistan

The aim of this work was the isolation and identification of bacteriocin producing *Lactobacillus* from yogurt. Bacteriocin not only used as preservatives in the food industry but also used as bioactive packaging (a process that can protect food from external contaminants), it is also used as probiotics for the treatment of target pathogen. Nisin is currently the only bacteriocin widely used as food preservatives. *Lactobacillus* was isolated from yogurt and its morphological characteristics were studied. The agar diffusion bioassay was used for screening of bacteriocin production using two indicator organisms including *Escherichia coli* and *Pseudomonas aeruginosa*. *E.coli* was isolated from sewage water and *P.aeruginosa* was previously isolated in our lab. Maximum bacteriocin production from *Lactobacillus* was observed at 37 °C after 48 hours incubation. *Lactobacillus* shown 0.4 mm and 0.3 mm zone of inhibition against *E.coli* and *P.aeruginosa* respectively. The results demonstrate that *E.coli* shown highest inhibitory activity as compared to *P.aeruginosa* specie from bacteriocin producing *Lactobacillus*.

#### 6. A Survey to study the misuse of antibiotics by clinicians and patients in Karachi, Pakistan

Waleed Yousuf, Saeed Khan, Sehrish Mohsin, Asana shaikh, Atiq ullah

University of Karachi

Emergence of drug resistant microbes is one of the most serious problem recognized worldwide as a major threat to public health particularly in developing countries like Pakistan. In Pakistan clinicians prescribe multiple antibiotics without the reference of antimicrobial sensitivity test for empiric therapy. The lack of patient's awareness and a perception that drug resistance only a theoretical concept is also a reason of misuse of antibiotics. A questionnaire based survey to study the misuse of antibiotics by both patients and clinicians. A survey based study in which 100 patients and physician were asked questions in form of structured questionnaire, two questionnaires were design for clinicians and patients respectively. We enquired that the doctors about knowledge regarding the right mechanism, route of administration, dosage, duration and if they are prescribing antibiotics based on lab culture and sensitivity reports or just emphatically. We also asked questions from patients regarding their knowledge about the use of antibiotics, self-medication and sharing of left-over antibiotics. According to this study 95% clinicians prefer oral route of administration for antibiotics, 52% prescribe antibiotics without reference of any lab test and 23% clinicians are enforced or encouraged by pharmaceutical companies to prescribe their antibiotics. 61.5% patients prefer the clinics because they thought that doctors at clinics treat well at low cost. 48% patients get variety of antibiotics along with injectable as primary treatment prescription and 46% patients quit antibiotic course when they felt better without completing the course. 58% patients go for self-medication and about 38% patients use antibiotics according to their family experiences. Pharmaceutical companies through financial benefits and other attractions to the physicians try to convince the doctors to prescribe their products and sometime the doctors specially the quakes prescribe more than one antibiotics without having knowledge about mechanisms. Patient's knowledge about the use of antibiotics, self-medication and their side effects is also important for proper use of antibiotics to prevent the development of drug resistance due to the miss use of these drugs.

#### 7. National Demographic Situation And The Consequences It Holds For Dermatology In Hyderabad, Pakistan.

Qurat ul ain Bachani<sup>1</sup>, Umair Chang<sup>2</sup> and Aatir H. Rajput<sup>3</sup>

LUMHS Research Forum

This study evaluates how the current demographic situation affects the scope of dermatology as a specialist field and hopes to derive inferences from the current demographic data & predict the scope of dermatology. This observational cross-sectional city wide survey conducted in Hyderabad included secondary data derived from different clinic and hospital records about patient inflow & their age classification along with other demographic variables. Primary data was also collected from June to August 2014 using structured self administered questionnaires at Civil Hospital and Isra university. Demographic data was obtained from PDHS 2012-13 and Mundi Index Demographic profile for Pakistan, 2014. The population of Pakistan was 32.5 million in 1951 and has since increased approximately 6-fold, reaching 196 million (July, 2014) giving dermatologists a wider patient base. The percentage of population under 24 years is a combined 54.8 percent (median: 22.6) and 44.7 percent of the total patient sample visiting dermatologists, was under 20 years of age. The gender ratio was equal down to 1 decimal point (below 60 years of age) but the ratio of male patients to female patients was heavily tilted towards the feminine side. The results obtained are synonymous with our hypothesis. The demographic statistics are favorable for dermatologists and this field of medicine would continue to flourish, unless any, seemingly unlikely, major change in the demographic profile of Pakistan takes place.

### 8. Effects of energy drink consumption on ALT, ALP and AST, in healthy male and female subjects

Nadia Javed, Azra Rasheed & Faizan Mirza

Department of Physiology University of Karachi,

Liver, a vital organ of human body and performs many vital functions that supports life. This study was carried out to determine the comparative effect of regular tea and energy drink in healthy male and female subjects on liver enzymes: ALT, ALP and AST. We categorized our subjects into two group, group A subjects lies in between age of 18-25 years while group B subjects lies in between age of 26-35 years. 5ml blood was drawn 30 minutes and 45 minutes after the complete absorption of tea and energy drink into blood, respectively. All the results were compared against control group. The influence of energy drink on enzymes was profound. These results suggest that consumption of energy drink on regular basis influences liver enzymes.

### 9. Effects of energy drink consumption on Prothrombin Time, Activated Partial Thromboplastin Time and International Normalized Ratio in healthy male and female subjects

Azra Rasheed, Nadia Javed & Faizan Mirza

Department of Physiology University of Karachi,

Energy Drinks are commonly used in urban centers for their stimulatory effects. We aimed to investigate whether energy drink consumption have any effect on blood coagulation assay i.e; prothrombin time, activated partial thromboplastin time and International Normalized Ratio. There is a great variation in the clotting time of male and female subjects. It has been reported that females have high clotting time than males. One hundred and ninety nine healthy subjects were recruited for this study. Subjects were given 250ml energy drink and 45min. blood samples were collected for blood coagulation assay. Measurements showed depression in PT, APTT and INR in energy drink consumers, which is attributed to the synergistic effects of caffeine and taurine which are an important ingredient of energy drinks. All the changes were more pronounced in female subjects

### 10. Treatment of Trigeminal Neuralgia via Aural Electrode

Anum Waseem<sup>1</sup>, Ariba Jamal<sup>1</sup>, Mustafa Jamal<sup>1</sup>, Urju Fatima<sup>1</sup>, Zoha Sheikh<sup>1</sup>, Jin Ho Cho<sup>2</sup>, Zia Mohy-Ud-Din<sup>1</sup>

<sup>1</sup>Biomedical Engineering Department, Sir Syed University of Engineering & Technology;

<sup>2</sup>School of Electrical Engineering and Computer Science, Kyungpook National University

Trigeminal neuralgia is a nerve disorder that cause severe pain in the trigeminal nerve, which is responsible for the transmission of sensation from the face and brain. The pain caused by trigeminal neuralgia is extremely agonizing; hence it has been named 'the suicide disease'. There are approximately over 5 million cases worldwide; however this figure could be as high as 8 million. In Pakistan males are more affected than females with a ratio of 3:2. The treatment of trigeminal neuralgia is very limited since medication becomes resistant overtime and surgery has adverse side effects such as hearing loss, balance problems, leaking of the cerebrospinal fluid etc. As it occurs mostly in patients over the age of 60 years the operative risks are two to four fold higher than in younger patients. Thus, treatment of trigeminal neuralgia (TN) via aural electrode is a study to design such an aural electrode that can non-invasively treat TN. It has no long term side effects and is a risk free treatment. A model of trigeminal nerve developed on COMSOL Multiphysics shows that the nerves can be stimulated at 1.5 A/m<sup>2</sup>. From this research we deduced that an electrode of diameter 2.4 mm, height 2 mm and inter-distance of 5mm at 6 volts can successfully stimulate the mandibular nerve without causing damage to the surrounding areas i.e. the middle ear and facial nerve, and began an evolution in the treatment of TN.

### 11. Simulation Based Material Optimization for Cantilever through Piezoelectric Transducer

Sana Adeel<sup>1</sup>, Hassan Ali<sup>1</sup>, Muddasir Hassain<sup>1</sup>, Jin Ho Cho<sup>2</sup>, Zia Mohy-Ud-Din<sup>1</sup>

<sup>1</sup>Biomedical Engineering Department, Sir Syed University of Engineering & Technology;

<sup>2</sup>School of Electrical Engineering and Computer Science, Kyungpook National University

Cantilever is distinct as a bending, anchor at only one end. Bending distinguish the behavior of a structural component subjected to an exterior load applied perpendicularly to longitudinal axis of the material. Cantilevers are widely used in microelectromechanical systems (MEMS) whilst MEMS cantilevers are also involve in radio frequency filters and resonators. Novel methods are attempted to expand cantilever as biosensors for medical diagnostic applications. Previous studies illustrate the significance of cantilever in many engineering applications but do not reveal about the structural integrity of the material with respect of its deformation. Therefore, in this paper, a 2D model of cantilever is designed on COMSOL MultiPhysics to study the material deformation under electrical field. In order to accomplish the deformation, a diversity of materials including aluminium, gold, tungsten, copper, silver and platinum have been experiential through piezoelectric transducer. Simulated results illustrate that the deformation increases with applied voltage and decreases with increase of height of the materials. Furthermore, Aluminium shows the utmost deformation and Tungsten showed the least deformation compare to the other materials.

### 12. Responsibility, Prevalence and major factors of infertility. A cross-sectional study in Karachi.

Ayesha K<sup>2</sup>, Neelam B<sup>1</sup>, Sidra A<sup>1</sup> & Shehla<sup>3</sup>

<sup>1</sup>Al-Hafeez Fertility And Medical Centre,

<sup>2</sup>Civil Hospital Karachi & DUHS

<sup>3</sup>Civil Hospital Karachi

A cross-sectional study conducted to target the infertile couples visiting to private and government hospitals in Karachi from 2012 to 2014. The aim of study to know the higher prevalence of infertility among the married couples and to determine the major factors causing infertility. Detailed evaluation has been made to assess each cause. Likewise, in females; menstrual history, parity, past surgical history, family history and body weight, years of marriage, complete hormonal profile and ultrasonic measurements. On the other hand, in males; complete analysis of semen, coital frequency, addiction to any substance and medical history. We study 475 infertile couples in which we include 175 pairs, who full fills all the inclusion criteria and exclude the remaining with incomplete reports in females or in males who deny semen evaluation. The included couples divided into four groups in order to determine the responsibility of childlessness between the two, a) female, b) male, c) both and d) unexplained infertility. Our study conclude that in Karachi majority of females are responsible for unproductiveness up to 41.1% rather than male up to 25%, whereas 16.5% both the couples involved in it and 17% of unexplained screened problems. Moreover, our study further explores the occurrence of primary infertility which is twice i.e. 71.1% than secondary infertility i.e. 22.8% in Karachi city. However, the major female factor is PCOS which observed in more than

half of females in both primary and secondary incidents. While, the low sperm count, inefficient sperm motility and higher rate of abnormal sperm are the key male factors.

### 13. Morphological characterization of Hendra virus infection by different imaging techniques

*Sadaf Mumtaz*

*YAP*

This study is conducted to evaluate the morphological characterization of Hendra virus infection having different cell types by means of super-resolution and conventional imaging. Hendra virus (HeV) is a pleomorphic virus that belongs to the *Paramyxovirus* family. Our long-term aim is to recognize the process of assembly of HeV virions. As a first step, it is required to determine the most suitable cell culture system with which to study this procedure, and then to use this model to describe the morphology of the virus and identify the site of assembly by the way of imaging key virus encoded proteins in infected cells. A wide range of primary cells and immortalized cell lines were infected with HeV, predetermined at various time points post-infection, labeled for HeV proteins and illustrated by confocal, super-resolution and transmission electron microscopy. Significant differences were noted in viral protein distribution depending on the type of infected cell. At 8 hpi HeV G protein was detected in the endoplasmic reticulum and M protein was seen predominantly in the nucleus in all cells tested. At 18 hpi, HeV-infected Vero cells illustrate M and G proteins throughout the cell and in transmission electron microscope (TEM) sections, in pleomorphic virus-like structures. These HeV M and G positive structures were proved as round HeV virions by TEM and super-resolution (SR) microscopy. These findings provide in-depth knowledge of the structure of HeV and demonstrate that for HeV imaging studies experimental results may be effected by the choice of tissue culture cells. The results also signify that HeV should be considered a predominantly round virus with a mean diameter of approximately 280 nm by TEM and 310 nm as identified by SR imaging.

### 14. A Cross-Sectional Analysis Of Types & Frequency Of Presenting Complaints Brought Before Dermatologists In Hyderabad, Pakistan

*Umair Chang<sup>1</sup>, Qurat ul ain bachani<sup>2</sup> and Muhammad Muneeb<sup>3</sup>*

*LUMHS Research Forum*

No matter how well trained a clinician; the work burden often undermines the capacity to work effectively. However, the epidemiology of patient visits to the dermatologists, the reasons and types of problems, if known, can help make good predictions of the future patient influx & help the clinicians prepare beforehand & be able to deal with the workload effectively. This observational cross-sectional city wide survey was conducted in Hyderabad. Secondary data was derived from clinic records about patient inflow & their disease classification and frequency along with demographic variables. Primary data was also collected from June to August 2014 using structured self administered questionnaires at Civil Hospital and Isra university opd. The most common complaint that patients were presented with was itching (56.7%), followed by complaint of cosmetic worry (29.3%) and pain (14%). The disease classification was diverse but the top 3 diagnosed problems were Pyoderma (19%), Fungal Infection (15.3%) and Acne (12%). The most troubling anatomical area for the patients was the face that brought in 19.3% of the patients. 15.3% of the patients interviewed expressed dissatisfaction towards the healthcare provided mainly due to the long queues and waiting hours at the clinics. Although satisfactorily manageable (84.7%) at present, the ever increasing patient base of dermatology clinics can get out of hand in the near future. Steps need to be taken to ensure timely healthcare to the population which include training clinicians to deal with the impending workload effectively.

### 15. Prevalence, Factors And Outcomes Of Medication Non-Adherence Among Post Myocardial Infarction Patients at Hyderabad

*QiratModi Shaikh<sup>1</sup>, Hiba Younus<sup>2</sup> and Muhammad Muneeb<sup>3</sup>*

*LUMHS Research Forum*

This study examines prevalence, factors and outcomes of medication non-adherence among patients of post myocardial infarction, at Hyderabad. An observational cross-sectional study was conducted at Hyderabad from Dec 2014 to Feb 2015. A total of 200 patients of Hyderabad, chosen by purposive sampling, were included after taking verbal informed consent. A structured interview based questionnaire (translated in English, Urdu & Sindhi) was used to get intel about bio data, socioeconomic and educational status, age of onset of MI, no. of MIs, type of medication used, compliance, associated problems and attributed difficulties to the medications. Data obtained was analyzed in SPSS v. 19.0. 56% of the sample comprised of males while 44% were females within an age bracket of 30 to 65 years. Mean age of the sample was recorded as 48 years while mean age of onset of first MI was recorded as 41 years. A large proportion (67%) of the sample had underwent more than one heart attacks and nearly 5 years had passed since the onset of first heart attack in 71% of the sample. The mean period since last heart attack was 7.63 years. Non adherence to medications is common and it corresponds with adverse outcomes. The increasing number of heart attacks reduces the propensity to take medication. The time elapsed since heart attack also dilutes the psychological fear of heart attack and leads to treatment non-adherence. However, non-adherence is not exclusively a patient problem and is influenced by both care providers and the healthcare system. Furthermore, getting patients to take their medication as prescribed is a worthy goal in order for patients to derive the maximal benefit of prescribed therapies.

### 16. A High dose of short term exogenous D-galactose administration in young male rats produces symptoms simulating the natural aging process.

*Laraib Liaquat, Saida Haider, Sidrah Shahzad, Sadia Sadir, Syeda Madiha, Zehra Batoool, Saiqa Tabassum, Sadia Saleem, Fizza Naqvi, Tahira Perveen*

*University of Karachi*

Neurochemistry and Biochemical Neuropharmacology Research Unit, Department of Biochemistry, University of Karachi.

D-galactose (D-gal) induced accelerated senescence has been used to develop an aging model. Over exposure of D-gal induces cognitive dysfunction and neuropathological changes in rat brain. Previously, long term administration of a wide range of doses has been used for this purpose. In the present study we investigate whether short term administration of a high dose of D-gal in rats induces significant signs and symptoms similar to natural aging. Young rats were injected intraperitoneally with D-gal at a dose of 300mg/ml/kg for one week. Behavioral analysis for depression and anxiety like symptoms were monitored by forced swim test (FST) and light/dark transition (LDT) test. Assessment of memory was done using the Morris water maze (MWM), passive avoidance test (PAT) and elevated plus maze test (EPM) test. Biochemical analysis was done for estimation of antioxidant enzymes and acetylcholinesterase. Determination of

brain biogenic amines was performed by HPLC-EC. Short term administration of D-gal significantly altered behavioral, biochemical and neurochemical responses in rats. D-gal injected rats exhibited depressogenic and anxiogenic behaviors while memory was also significantly impaired in these rats. Brain lipid peroxidation and superoxide dismutase activity were significantly increased while catalase and glutathione peroxidase decreased. Increased activity of acetylcholinesterase was also exhibited by D-gal injected rats while brain biogenic amines were significantly decreased. Food intake and growth rate were however comparable in both groups. Together the behavioral, biochemical and neurochemical impairments following the high dose of D-gal suggest that symptoms similar to natural aging may be developed in rats in as early as in one week.

#### **17. Synergistic effect of antibiotics against bacterial pathogens causing diarrhea, isolated from children <5 years of age.**

*Rabiya Khurram*

*PMRC*

Child mortality has become a progressively more frightening issue around the world, especially in under developing countries. Pakistan is also included in one of those countries that face child mortality. Literature suggests that infant mortality rate in Pakistan is 74.43%<sup>01</sup> and 45% of deaths are attributed to diarrhea.<sup>02</sup> In recent years the alarming increase in antimicrobial resistance of bacterial pathogens causing diarrhea has made the treatment more complicated. This research was designed to study the resistance pattern of bacterial pathogens causing diarrhea against commonly prescribed antibiotics and to study the in vitro synergistic (combined) effect of different antibiotics against these pathogens in order to determine whether the combined antibiotic therapy may be used to treat diarrhea. To study the antibiotic resistance pattern of bacterial pathogens causing diarrhea isolated from children <5 years. To study the synergistic effect of antibiotics against bacterial pathogens causing diarrhea. Bacterial pathogens including *Salmonella*, *Shigella*, *Vibrio*, *E. coli* and *Aeromonas* causing diarrhea were collected. Their sensitivity and resistance pattern was performed by disk diffusion method. And combined effect of existing antibiotics including Ampicillin (AMP), Cefotaxime (CTX), Cefixime (CFM), Co-trimoxazole (SXT) and Ofloxacin (OFX) was performed by checkerboard method. Most of the combinations show indifferent and Antagonistic activity against bacterial pathogens causing diarrhea. But only AMP-SXT and CFM-OFX yielded synergistic activity against *Vibrio* and *Aeromonas* respectively. AMP-CFM and AMP-OFX exhibit synergistic effect against *E.coli*. While no combination of antibiotics proved as synergistic for *Salmonella* and *Shigella*. Little synergistic activity of different antibiotic combinations was observed against diarrheal isolates. And most of the combinations exhibited indifferent and antagonistic activity. Hence we may conclude that single antibiotics are effective than combination.

#### **18. A Systemic Review on Epidemiology of HIV-AIDS In Pakistan**

*Atif Mahmood & Abira Aftab*

*Bhittai Dental & Medical College*

To assess the overall situation of HIV in terms of prevalence, causative factors and knowledge in Pakistan through published researches. Human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) is one of the most serious crises the human race is facing on a social and economic grounds. Its epidemics are growing rapidly since its first case was identified. The disease is impending with higher proportion in developing countries. According to recent report, 90% victims of AIDS were found from these countries. A report from World Health Organization (WHO), the prevalence of HIV in a traditional risk group is exceeding 5% IN PAKISTAN, indicating that its epidemics are well established in Pakistan. We used Medline, Science Direct, Google Scholar and PakMedinet electronic database for systematic review. The keywords used for search were 'HIV', 'AIDS', 'Pakistan', 'Prevalence', 'Knowledge', 'Practices' and 'Causative factors'. Information extracted in datasheet were study theme, year of study, place of study, sample size, study design, type of participants, gender, prevalence, causative factor, knowledge, attitude and practice. A total of 101 studies reviewed, out of which, 30 were excluded, as they didn't match the inclusion criteria. Most of the studies were cross sectional. Three high risk population were identified, which includes, injecting drug users, sex workers, and blood donors, out of which IDUS were found to be the group having most seropositive individuals, and plus they were most studied group as well followed by sex workers. The causative factor for each group was slightly different, but poverty, child abuse, illiteracy and lack of awareness were common amongst all. While, injecting in groups, needle sharing, aversion from condoms, and unsafe sex practices are factors for IDUS and sex workers respectively

#### **19. An Association of Lifestyle Habits and Technology with Sleep Patterns of university students.**

*Fahad Khan Tayyab, Raza Faraz, Husna Haroon, Hafsa Murtaza & Erum Anwar*

*Dow Medical College, Karachi- Pakistan*

To assess the sleep quality of undergraduate university students of Karachi, and to evaluate the extent to which technology use, caffeine consumption, cigarette smoking and academics are associated with their sleeping habits. Adolescence marks a transition to nocturnal sleeping patterns. On the onset of puberty, adolescents begin to experience a sleep phase delay in their biological clock. Many factors disturb sleep in university students. Late night technology use imparts negative effects on sleep patterns. Yet other factors that interfere with normal sleep/wake patterns include substances such as caffeine, nicotine, alcohol and drugs. This study aims to add to this topic in order to increase awareness among people of factors affecting sleep so that their quality of life can be improved. A cross sectional study was conducted between November and December 2014 among undergraduate university students aged 18-23, in 3 public and 2 private universities of Karachi. Convenience sampling procedure was used to enroll 643 participants into the study. Data was collected anonymously using 32-item self reported questionnaire after having explained the purpose of the study. Data was entered and analyzed through SPSS version 17. Out of 643 participants, majority were females (59.7%). According to the PSQI score, 60.5% reported poor sleep quality. Approximately 37.0% reported sleeping 6 hours or less. Heavy smokers (who smoked >6 per day) were 1.22 times more likely to be poor sleepers than non-smokers. Tea was found to be the most frequently consumed beverage. Those who consumed tea once a week to everyday were 1.06 times more likely to have poor sleep quality compared to those who did not have any tea. Mobile phones were by far the most frequently used device in the hour before bedtime with 61.6% of participants having poor sleep quality. The analysis revealed that poor sleep quality is prevalent among university students of Karachi. The technology use, beverages consumption, cigarette smoking and academics are strongly associated with sleeping habits. Educational and counseling programs must be undertaken to enhance the awareness of healthy sleep hygiene among students.

## 20. Child Abuse: Hidden Angles

Maryam Lakhdir, Masood Kadir, Yasmin Parpio, Uzma Khan, Iqbal Azam & Junaid Razzak  
Aga Khan University Hospital

The dynamics of child abuse have been recognized as a global emerging social issue which is highly associated with child humiliation. It has become a universal health priority due to the perilous impact on the development of a child. The objective is to review the relevant literature from peer reviewed journals on the physical, psychological abuse and neglect on children and adolescents and associated factors of child abuse published during the past 10 years. Literature published between 1994 and 2014 was revised following a systematic search on Pubmed, Medline, PsychInfo, and Science Direct. Key words used as search engine were child, abuse, maltreatment, punishment, violence. This is the sub part of the cross sectional study which is still in progress. The sample population is children with either gender, aged 11 to 17 years old living at home with at least one biological parents of selected areas of Karachi, Pakistan. The sampling technique used in this study is multi stage cluster sampling technique with sample size of 800 household. Literature suggested that child maltreatment and abuse is a result of some "Push factors" which are aggravating child abuse at societal level. Some of the push factors were poverty, domestic violence, large family size, male dominancy, inadequate parental guidance, parental history of abuse, paternal unemployment, use of substance abuse by parents, young parents and low parental education. In addition, most of the studies were explorative studies. However, follow-up, prevention and intervention research studies were relatively rare. Child abuse research in the next decade needs to focus on more understanding the associated factors which vary from culture to culture. There is extreme need to understand those factors which can trigger child abuse at community level and to increase the understanding regarding importance of child abuse awareness and prevention at societal level.

## 21. NSAIDs attenuate memory deficits on repeated exposure to stress in rats

Shaista Emad, Sana Sadaf and Tahira Perveen

Neurochemistry and Biochemical Neuropharmacology Research Unit, Department of Biochemistry, University of Karachi.

Repeated stress could generate devastating alterations on cognitive processes controlled by prefrontal cortex. Psychological and certain physical stressor could lead to neuroinflammation. Inflammatory process may occur by release of mediators such as IL-1 $\beta$ , tumor necrosis factor alpha (TNF $\alpha$ ), and nitric oxide. These mediators stimulate the production of prostaglandins through cyclooxygenase (COX), the rate-limiting enzyme of prostaglandin biosynthesis pathway. Treatment with COX inhibitors, which restrain prostaglandin production, has enhanced memory in a number of neuroinflammatory states, showing a potential function for raised prostaglandins in these memory shortfalls. In the present study therapeutic potential of NSAIDs, Indomethacin and Diclofenac sodium on memory in both unrestrained and restrained rats were observed. Two components, long term memory (LTM) and short term memory (STM) was examined by Morris water maze and Elevated plus maze respectively. Results of Morris water maze showed significant effect of drugs in both unrestrained and restrained rats as time to reach hidden platform was decreased in restrained rats as compared to control. However, this reduction in time is more by Indomethacin than Diclofenac sodium. Transfer latency which is an index to measure short term memory was decreased in both unrestrained and restrained rats. Although the reduction in transfer latency was more in Indomethacin than Diclofenac sodium treated rats when compared to control. These results suggest that Indomethacin and Diclofenac sodium exhibits enhancement in memory and attenuates stress induced memory deficits in restrained rats when compared with unrestrained rats. However, this enhancement of memory is more significant in Indomethacin as compared to Diclofenac sodium.

## 22. Estimation of Minimum Inlet Velocity Required to Trigger Urinary Incontinence

Hassan Ali<sup>1</sup>, Muddasir Hassain<sup>1</sup>, Adeel Siddiqui<sup>1</sup>, Jin Ho Cho<sup>2</sup>, Zia Mohy-Ud-Din<sup>1</sup>

<sup>1</sup>Biomedical Engineering Department, Sir Syed University of Engineering & Technology;

<sup>2</sup>School of Electrical Engineering and Computer Science, Kyungpook National University

Incontinence is a common problem that occurs in people of all ages and gender. It is the loss of voluntary bladder control, caused by coughing, sneezing or laughing which result in uninhibited contractions of the bladder muscles. It is usually caused by an underlying treatable medical condition. The strength of bladder muscles is tested by stress tests, cystoscopy and urodynamics. The sphincter muscle keeps the urine stored in bladder, and when urinating, these muscles relax. However if the pressure exerted on these muscles exceeds 4000 Pa, involuntary urination occurs. In this paper, a model of the bladder is designed to study the effect of changing the inlet velocity on a full bladder and the pressure the velocity generates at the sphincter muscles keeping the urine from flowing. The simulated results show that at inlet velocities of 0.4 m/s and greater, the sphincter muscles of the bladder experience pressure exceeding the threshold pressure value.

## 23. Modeling and Simulation of Cerebral Aneurysm Rupturing Point with Respect of Change in Blood Velocity

Muddasir Hassain<sup>1</sup>, Hassan Ali<sup>1</sup>, Sana Adeel<sup>1</sup>, Jin Ho Cho<sup>2</sup>, Zia Mohy-Ud-Din<sup>1</sup>

<sup>1</sup>Biomedical Engineering Department, Sir Syed University of Engineering & Technology;

<sup>2</sup>School of Electrical Engineering and Computer Science, Kyungpook National University

Cerebral Aneurysm is a vascular infirmity differentiates by local dilatation of the arterial walls. It is mainly caused by hypertension, congenital predisposition, trauma and few types of blood infections. These causes mainly affect the hemodynamic parameters which lead the aneurysm to rupture that result to intracranial hemorrhage, which is allied with high mortality and morbidity [1, 2]. Among several hemodynamic factors such as blood pressure, blood velocity and wall Shear stress (WSS) alleged to play a significant role in the development, intensification and rupture of an aneurysm [3, 4]. In WSS blood flow enforces a pressure on the arterial wall which distresses the structural integrity of endothelium that results in rupturing of aneurysm. Previous studies confirm about the progression analysis of aneurysm on arterial shear rate but do not exhibit about the effect of blood flow rate on aneurysm. Facts regarding WSS due to blood flow facilitate Physicians with a sophisticated perceptive of aneurysm progression and rupture, as well as the efficacy of endovascular treatment. Therefore, in this paper, Blood velocity was estimated with respect to the shear rate at which the aneurysm ruptures. The ruptured shear rate of aneurysm was formulated by the ratio of shear stress and blood viscosity. In order to attain the blood velocity at which the aneurysm ruptures, the model of aneurysmal artery was being imported from angiographic image. Model was being simulated on different blood velocities from 0.33 m/s to 0.4 m/s on COMSOL MultiPhysics software. Simulated results deliberate that the aneurysm ruptures at 0.4m/s of blood velocity with a shear rate of 697000.67(1/s).

#### **24. Gestational Physical Stress: A Comparative and Correlational Analysis between Stress Scores and Serum Cortisol Levels**

*Hina Hazrat, Sadaf Hmed & Shamoon Noushad*  
Advance Educational Institute & Research Centre

Gestation is a period of various physiologic modifications which trigger maternal natural adaptive mechanisms, affecting major organ systems, attributable to physical alterations that are secondary to fetal size or hormonal responses, that may lead toward lowered-health functioning and subsequent stress, further affecting HPA axis regulation and stimulating increase cortisol level, indicative of physiological challenge. A comparative and correlational analysis between physical stress and serum cortisol level was conducted on a sample size of 98 subjects in first, second and third trimester of gestation. A detailed questionnaire, Sadaf Stress Scale and Pearson Correlation were used in the study. According to the results, participants having SSS Scores of Normal Level had a mean serum cortisol level of 15.85 µg/dl, while those with SSS scores of Mild Stress Level had a mean serum cortisol level of 19.35 µg/dl. Participants with SSS scores of Moderate Stress Level had a mean serum cortisol level of 19.49 µg/dl, and those with SSS scores of Severe Stress Level had a mean serum cortisol level of 23.60 µg/dl. Moreover, the utilization of Pearson Correlation exhibited significant correlation at the 0.01 level between serum cortisol level and SSS scores. The results reported an increase in mean serum cortisol level among study participants with perceived stress and mean Sadaf Stress Scale scores of severe stress level, and suggested that gestation comprise myriad of physiological changes, where increase in cortisol is indicative of physiological challenge.

#### **25. NSAIDs; Safety and risk assessment in CVS events, comparison and facts.**

*Hina Hasnain<sup>1</sup>, Anum Tariq<sup>2</sup>, Huma Ali<sup>3</sup>, Muhammad Saquib Qureshi<sup>4</sup>*  
Ziauddin University

Non-steroidal anti-inflammatory drugs (NSAIDs) are widely used for their multipurpose actions i.e. analgesic anti pyretic and anti-inflammatory effect. Cardiovascular toxicities associated with NSAIDs are mainly associated with non-selective NSAIDs. Their toxic effect on CVS depend on their dose time and duration. Variability in therapeutic response and susceptibility to toxicity is well recognized and can be manageable if considerable precautions implement. To assess the risk and safety linked with use of NSAIDs. The study is a retrospective study (literature review), data was collected from Primary as well as Secondary Literature. The anti-natriuretic and vasoconstrictive properties of NSAIDs can destabilize BP control; mitigate the effectiveness of antihypertensive agents; and exacerbate heart failure (HF). The decision about which NSAID to use will vary among patients, and COX selectivity is one of the determining factors. So it can be concluded that Coxibs should be avoided in patients at an elevated risk of cardiovascular disease (CVD) and in patients with established CVD, based upon the evidence that these drugs increase the risk of ischemic cardiovascular disease, heart failure, increased blood pressure, and cardiac arrhythmia.

#### **26. Design and Implementation of Software Based External Defibrillator**

*Ghulam Mustafa<sup>1</sup>, Tehreem Hamid<sup>1</sup>, Tahir Qadri<sup>2</sup>, Jin Ho Cho<sup>2</sup>, Zia Mohy-Ud-Din<sup>1</sup>*

<sup>1</sup>Biomedical Engineering Department, Sir Syed University of Engineering & Technology;

<sup>2</sup>School of Electrical Engineering and Computer Science, Kyungpook National University;

<sup>3</sup>Electronic Engineering Department, Sir Syed University of Engineering & Technology;

<sup>4</sup>PCSIR Laboratories Complex, Karachi

Defibrillator is a critical care device that treats heart fibrillation by applying high electric shocks to the chest wall across the heart. This fibrillation is generally called as ventricular fibrillation which rapidly the heart beat that prevents the blood going to the brain and other organs thus can be life threatening, therefore it has to be stopped as quickly as possible. In order to make immediate defibrillation an automatic defibrillator is designed, consist of three parts an ECG amplification circuit, LabVIEW software and Defibrillator. An ECG amplification circuit is used to amplify the heart rhythm and interfaced with LabVIEW software in which threshold is preset that triggers the defibrillator charging mechanism on detecting ventricular fibrillation and thus electric shocks can be discharge to the patient by pushing a button when needed. On testing the LabVIEW based automatic external defibrillator, appropriate results are achieved that delivers 214.6J of energy with Vpk 3486V and Ipk 70.1A, that can effectively treats a patient with ventricular fibrillation, requires minimum operating training and also cost effective in the developing countries.

**International Conference on Endorsing  
Health Science Research (ICEHSR - 15)**

**Abstract (Poster Presentation)**

#### **27. It Shouldn't Hurt To Be a Child: A Case Report**

*Maryam Lakhdir, Masood Kadir, Iqbal Azam, Yasmin Parpio, Uzma Khan & Junaid Razzak*  
Aga Khan University Hospital

The term "child abuse" brings to mind extreme physical harm, often bring an extreme image and usually hide the other side of it. It is often result in underrate of those conducts which is coming underneath the definition of child abuse but flouted due to no apparent hasty harm. The objective is to review the case with relevant literature on the physical, psychological abuse and neglect on children and adolescents. Case report review. This is the sub part of the cross sectional study which is still in progress. It is based on representative population of Karachi. The sample population is children with either gender, aged 11 to 17 years old living at home with at least one biological parents of selected areas of Karachi, Pakistan. The sampling technique is multi stage cluster sampling technique with sample size of 800 household (800 parents and 800 children). In the present case report, a 15-year-old girl was physically and psychologically abused by her parents and her brother who caused actual bodily and emotional trauma to the girl in the name of disciplinary strategy. She was thrown into water tank by her father, kicked by her brother, got hit from hard objects, get burned hot spoon inside mouth, restrained from rope by her parents as a disciplinary strategy adopted by family. After adequately dealing the emotional effects of child via additional counseling on proper parenting techniques, the child was feeling better. In addition, parent and child were referred to Abbasi shaheed hospital for psychological counseling. Moreover, Toll-free number was given to child for contacting SAHIL Ngo for



counseling. Parent should adopt positive parenting style. There should be an awareness raising program for adopting a positive parenting style rather than using corporal and extreme punishment as a disciplinary strategy.

### **28. BMI comparison among regular exercising male individuals**

**Faizan Mirza & Sadaf Ahmed**

*Department of Physiology University of Karachi, University of Karachi  
Advance Educational Institute & Research Centre*

Body mass index has been used since mid 19th century as an index of obesity. It is used to determine body fat percentage as a function of body mass and height. BMI phenotype is genetically controlled but is greatly influenced by the environmental factors. It is used to understand and estimate the health risks that an individual might be predisposed to. The aim of the study was to analyze and compare BMI of male gym going individuals. A total of 135 individuals were included in the study, which included users and non users of ergogenic aids as well as a non-exercising control group. The results showed that ergogenic aids users were found to be in the category of overweight and obese class I, while those who were not using these aids were in normal range. It can be concluded that being in the said ranges in this age is making ergogenic aids users prone to developing diseases such as osteoarthritis, cardiovascular disorders in future.

### **29. Anxiety, Anger and Depression: Handling Difficult Emotions in Nursing Practice**

**Azada Hussan**

*Aga Khan University Hospital*

This paper highlights the difficult emotions in nursing practice and its management. Additionally, this will also discuss about the multiple factors such as personal, environmental, stressors, uncertain situations, and interpersonal conflicts etc. which are the causes of these emotions. Client with these emotions have symptoms like numbness, fearful, and feeling powerless etc. lastly, it talks about beneficial and realistic interventions which are client centered. Knowing about these emotions and their effect on patient's health status along with patient-health professional relationship is essential. And it's the responsibility of every health care provider's to handle these emotions carefully to have a positive health outcome. 20 Research journals from 2005-2012 were studied then relevant information were gathered. The main topics were: different emotions in nursing practice, findings in patient that shows these emotions, different approaches to handle this and role of health professionals etc. Anger, anxiety and depression are the most common and difficult emotions that nurses and other health professionals has to cater. And if these emotions are not handled properly, it will have a mark influence on individual's way of adopting his/her disease process and their prognosis as well. After eastern and western literature analysis, it is clear that it has great impact on health of an individuals. In Pakistani culture, anger, anxiety and depression are common because of other aggravating factors as well. Concluding that, anxiety, anger and depression are emotions that nurses encounter in different situations. It can lead an individual to suffer physiologically and psychologically. As nurses are accountable to identify anxiety, anger and depression in people and aid them accordingly so I suggest that, nurses should be taught how to deal with difficult patients along with other courses.

### **30. Effects of energy drink and tea consumption on problem solving ability and attention span.**

**Kiran Zafar, Arfa Naeem & Faizan Mirza**

*Department of Physiology University of Karachi,*

Tea is the most widely consumed beverage after water around the globe with consumer-base of both young and old, while energy drinks are very popular primarily among young adults. Among the different varieties available black tea is the most commonly used and contains L-Theanine, theobromine, theophylline and the highest amount of caffeine. Energy drinks on the other hand contains taurine, herbs, B vitamins and stimulant drugs chiefly caffeine. The purpose of the study conducted was to evaluate the effect of regular tea and energy drinks on problem solving ability and attention. A survey was done by questionnaire that was designed for the above mentioned parameters and time taken to solve each was accurately noted. Results of the energy drink group and the tea group were compared to the control group. Gender based differences were also analyzed. Our results lead us to conclude that the most widely taken beverages augment problem solving and attention with men outperforming women in one and women surpassing men in the other.

### **31. Comparative effects of energy drink consumption on short term memory and spatial memory in healthy male and female individuals**

**Arfa Naeem, Kiran Zafar & Faizan Mirza**

*Department of Physiology University of Karachi,*

Energy drinks are advertised as beverages that enhance physical and mental performance, thus consumption has become extensive among active young people. Manufacturers claim this drink can boost energy levels as well as physical strength, improve attentiveness and reaction speed. The objective of this research is to explore the effects of energy drink on short term memory and spatial memory in healthy male and female individuals. Data was collected from 300 healthy subjects in age group between 18-32 years, the subjects were divided into control group and energy drink consumer group. A series of questionnaire was given to each subject that included reading test and visual test for testing short term memory and object arrangement task and 3D shape rotation test for analyzing spatial memory task. The results showed that males performed better than females without consumption of energy drink and female performed better after the consumption of energy drink.

### **32. A literature review to highlight the Impact of breast cancer treatment on women's sexuality.**

**Ashraf Altaf Karani & Salima Altaf Karani**

*Baqai Medical University- College of Nursing,*

*Aga Khan University Hospital*

One in every nine women is diagnosed with breast cancer each day in Pakistan undergoing ruthless treatment of chemotherapy, radiation and sequel of surgeries. The survivors of breast cancer despite of their extreme physical sufferings have a huge psychological storm awaited during and after the treatment. Among all other stressors in their life, sexuality is the one most affected and neglected in cancer treatment. The intent of the paper is to identify the impact of breast cancer on women sexuality in Pakistan during and after treatment. A systemic review of 12 recent literature from authentic databases (2009- 2014) was conducted to study the impact of breast cancer on women's sexual health. The findings suggest that psychological distress of women due to societal repudiate response, body image disturbance and lack of familial support are the major obstacles that destroys a women sexual health. Moreover, in most literature it is

highlighted that women perceive to be less attractive and develop sense of unfeminine due to side effects of chemotherapy or loss of body part due to surgery. Several research articles confirmed that women with encouraging family background cope well and report less signs of depression. It is essential to address these issues concerning how to manage sexual life for breast cancer patients. Therefore, it is recommended that health care providers should be trained to provide care pertaining to sexuality and give teachings on how to resume it during and after the treatment.

### **33. Emotional and Physical Discomforts; A Source Of Chronic Stress In Females During Menstruation**

*Afshan Tabassum, Sadaf Ahmed & Shamoan Noushad*

*Department of Physiology University of Karachi & Advance Educational Institute & Research Centre*

Throughout the menstruation cycle physiological changes including multiple hormonal fluctuations take place, jointly these modifications can potentially build enough hindrances in the body homeostasis consequencing many menstrual distressing conditions like globally most prevalent, PMS and dysmenorrhea. Either chronic or acute their periodic encounters and interrupting homeostasis can develop stresses like physical and emotional stress symptoms. The Purpose of this study was to evaluate physical and emotional stress symptoms induced by PMS and dysmenorrhea in order to determine and compare the intensity and frequency of characteristics symptoms occurrence of physical and emotional stress by using Sadaf stress scale (SSS). Women aged 17-35 years with PMS and dysmenorrhea was recruited in the study. The basic data collected with a pre-questionnaire while for stress evaluation, frequency, intensity determination stress score were calculated by using SSS. According to SSS our results showed 15% mild, 14% moderate whereas 5% evaluated with severe physical stress. While 26% moderate, 31% mild and 10% females evaluated with severe emotional stress. PMS and dysmenorrhea the most commonly reported menstrual discomforts. Physical and emotional stress symptoms were also significantly reported by females. We observed the high prevalence of stresses as more than 50% participants reported all characterizing symptoms of physical stress at varying intensities. Whereas emotional stress symptoms were also profoundly reported as more than 80% females reported four characterizing emotional stress symptoms and more than 50% females experienced at least 10 emotional stress symptoms. We can conclude that the prevalence of both stresses is high but every female contain a different set and severity of symptoms and it recommended that the stress detection and management strategies should be modified in order to prevent the stress getting root into body and mind that can severely affect the quality of life.

### **34. Disclosure of end stage cancer diagnosis: Promotes peaceful death or deteriorates illness**

*Salima Karani<sup>1</sup> & Ashraf Karani<sup>2</sup>*

*<sup>1</sup>Department of Nursing Service, Aga Khan University, Karachi,*

*<sup>2</sup>Department of College of Nursing, Baqai Medical University, Karachi.*

Autonomy and veracity are considered as essential ethical principles while caring for patients with terminal illness. These principles are violated when health care providers find it challenging to reveal end stage cancer diagnosis to the patient. Moreover, family members of the client also resist explaining the disease process if the prognosis is poor. Consequently, individuals being the victim of this lethal illness find it difficult to cope with the deteriorating condition and are unable to move towards peaceful end of life. The aim of the paper is to identify the significance of appropriate disclosure of cancer diagnosis to terminally ill clients in order to promote comfort during palliative care. A systemic review of 12 recent literature from authentic databases (2009- 2014) was conducted to study the significances of disclosure of cancer diagnosis to clients with terminal illness. The findings suggest that most of the physicians and nurses delays in revealing the truth to the patients to prevent them from further deterioration from emotional and psychological distress. Another reason identified was that health care providers are not comfortable enough to communicate the disease process in appropriate situation. However, it is reported in several literature that telling the true diagnoses in appropriate manner to the patients help them to successfully move towards peaceful end of life and die with dignity and comfort. It is essential to involve patient in every step of their treatment process. Therefore, it is recommended that health care providers should be trained with proper communication techniques to disclose patient diagnosis that would enhance patient's comforts and allow them to die in peace.

### **35. Obesity as a Physical Stressor; Relationship of BMI, Physical Stress, & Serum Cortisol**

*Amara, Sadaf Ahmed & Shamoan Noushad*

*Advance Educational Institute & Research Centre*

Physical stress is a force applied to a given area of biological tissue or is the response to environmental pressures and demands. In other words, any exerted force that is characterized by vigorous bodily activity can lead to altered 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. Obesity is also a physical stress. An obese individual does not resist physical stress because 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 having BMI greater than 26. BMI of all the subjects were calculated. The subjects were grouped into overweight & obese where as individuals having BMI less than 25 were considered as control. This was observational study in which we collected data from both genders between the ages of 20-30 years. Demographic data taken through pre-questionnaire. These subjects were allowed to do some exercise till they exhausted. Blood were also taken from these subjects after exercise for Biochemical test of blood. Cortisol because presence of this hormone in blood is a clear indication of stressed condition. The data were analyzed on SPSS. Results showed that physical stress increases with increase in BMI having significant level of value 0.01; this indicates direct relation between BMI and physical stress. The cortisol tests were positive for most of the exercised obese individual. From this study we conclude that BMI is directly proportional to physical stress and cortisol with reference to any type of vigorous bodily activity. For this reason, maintenance of normal body weight is the utmost requirement for healthier life.

### **36. A literature review to highlight causes and complications of lack of antenatal care delivery in Pakistan.**

*Salima Altaf Karani & Ashraf Altaf Karani*

*Aga Khan University Hospital,*

*Baqai Medical University, College of Nursing*

Pregnancy associated complication is not a novice but lethal issue in developing countries. Literature says eclampsia being one of the major complications of pregnancy has increased its incidence to about 120 cases among 10,000 deliveries in Pakistan. Therefore, it is essential to improve antenatal care delivery in Pakistan to decrease maternal mortality due to eclampsia and other pregnancy associated complications. The aim of this paper is to figure out root causes of poor antenatal care that can lead to fatal pregnancy complications

like eclampsia. A systemic review of 12 recent articles (2009-2014) from authentic databases had been performed to identify major causes of lack of effective antenatal care delivery in our country. The findings suggest that in cooperation of the "three delays model" helps us to sum up all the causes of inappropriate antenatal care and intervening to reduce these delays many aid in enhancing maternal and child health in our society. (a)The first delay occurs when a woman fails to identify the need to seek medical advice. (b)The second delay occurs in recognizing and reaching to the medical facility in time and (c) the third delay occurs in receiving proper treatment. Literature illustrates that all three delays occur in our society with equal frequency. Breaking the chain of the three delay model is extremely important to promote antenatal care to every woman. This can be achieved by encouraging LHV's to visit remote areas where health care facilities are not in easy reach in order to ensure the safe motherhood. We can also provide trainings to the traditional birth attendants to decrease the risk of maternal and child mortality.

### **37. Physical stress induced by Physical activity: A study on Blood pressure, heart rate and stress scores.**

*Muzna, Sadaf Ahmed & Shamooun Noushad*

*Advance Educational Institute & Research Centre*

The purpose of this study was to determine the Sadaf stress scores and alterations in blood pressure and heart rate before and after exercise triggered by stressful condition. This effect was observed in young, healthy male and female volunteers who performed sub maximal cycle exercise for fifteen minutes. Demographic and physical stress questionnaire were filled by the subjects. They were asked to perform exercise. Pre and post blood pressure was monitored along with pulse rate. Evaluation of Sadaf stress scores was also done after the performance. Data was then analyzed by using SPSS. The findings of the study highlighted increased systolic blood pressure and a decrease in diastolic blood pressure. The Sadaf stress scale scored 40 % severity, 38 % - 33 % scored moderate to mildly stress during physical activity and only 24 % scored as normal.

### **38. Prevalence of Self Medication among residents of Karachi, Pakistan.**

*Muhammad Saquib Qureshi<sup>1</sup>, Mehak Tahir<sup>2</sup>, Maria Mustafa<sup>3</sup> & Rosemeen Muzaffar<sup>4</sup>*

*Ziauddin University*

*Dow University of Health Sciences*

Self medication is a curse in the society; many of the individuals are prone to self medication that doesn't have basic knowledge to Medicine. To determine the prevalence of self medication among the general public. This is a cross sectional study. The initial sample size was of 150 individuals. Out of those 50 refused to co-operate, so the final cohort was of 100 Volunteers. The study was conducted during December, 2014 to January, 2015. Before interviewing a verbal consent was taken and assured them the confidentiality of the data. The data were analyzed using SPSS 20.0. Amongst those 100 respondents, 59 individuals are prone to self medication while 41 avoid self medication. Only 26 % individuals know the difference between Generic and Brand Names of the medicines. A vast majority of individual (73 %) use medicines according to Physical appearance (i.e. color). 41 % of the individuals usually use medicine other than the prescribed medicine by the doctor (Different Brand Names). The overall knowledge of consumer regarding the drugs is not good, even though the retail pharmacist doesn't provide the details to the consumers. This leads to self medication and use of medicine on the basis of Physical Appearance (colors). Conferences and seminars to be conducted in order to resolve the issue, else, the drug of a company having strong marketing unit, will be sold.

### **39. Psychophysiological Impact of Mothers on Daughters' Career**

*Huzaiifa Sarfraz<sup>1,2</sup>, Munazza Madani<sup>2</sup> & Shamooun Noushad<sup>1</sup>*

*Advance Educational Institute and Research Centre*

*University of Karachi*

There is positive relationship found between daughter's identification with her mother. Daughter has mother as their early care givers, guide and their source of identification. Daughters recognize themselves as their mothers. To confirm the strong relationship between daughter's identification through mother and effect of this bond on woman career choice, data was collected through in-depth interviews from twenty women who were professional degree holders but 10 were working and 10 non-working. Sample was selected via purposive sampling. Sadaf Stress Scale was used for evaluation of mental stress in women. Results demonstrated that mothers have significant influence on daughter's career choice; even the way daughter frame her vision and plans depend on her mother's approach, but this has been noted in the study that mother's choice for daughter's economic independence effect more than the mother's education, the level of mother's motivational level is related to the desire of economic independence and past experience of mother. Females with mental stress were found more in non-working group due to social pressures. This makes it clear that it is not necessary that education alone can awake prospect for economic independence for women; role of mother is very pivotal in this phase.

### **40. Early Marriages And Reproductive Health Concerns**

*Sadaf Ahmed<sup>1&2</sup>, Amna Khan<sup>1</sup>, Shamooun Noushad<sup>1</sup>, Nighat Shah<sup>3</sup>, Samina Saleem<sup>4</sup> & Shershah Syed<sup>1</sup>*

*Advance Educational Institute & Research Centre.*

*University of Karachi, Physiology*

Objective: The focus of this study is to be acquainted with the level of trust and reliance regarding reproductive health concerns among early married females. Introduction: Many females around the globe are subjected to early marriage with immature minds and bodies, and they are forced to shoulder heavy duties, early pregnancies, harsh family behaviors, family disputes, behavioral problems and understanding problems. Early pregnancies and other health problems have a great impact on their self-esteem, confidence level and their trust on elders to share their problems with. When females are married at early age, they are not only deprived of their education but they are also not aware of the health consequences and their solutions. Methods: A cross-sectional observational study was conducted in Karachi and data was collected through detailed interview among 100 subjects (married and unmarried females). Results: 41.98% of the unmarried girls relied on lady doctors for their reproductive health problems whereas 37.50% of married girls approached mothers and few talked to lady doctors while most of them were not sharing their obstacles with anyone. Conclusion: It is concluded that females in their teens before marriage had normal self-esteem and courage to share their problems, on the other hand early marriages were found to cause a decline in their levels of self-esteem due to domestic pressures, less social buck up, fears of in-laws and husbands.

#### **41. Physiological Manifestation of Physical Stress during Gestation**

**Hina Hazrat, Sadaf Ahmed & Shamoon Noushad**

*Department of Physiology University of Karachi,*

The developmental processes during gestation include physiological and anatomical adaptations, and substantial changes in the health status. The functioning associated with lowered health status and other circumstances resulting from physiological, anatomical and psychological alterations during gestation paves way to stress conditions. The purpose of this study was to identify and evaluate physiological manifestations of physical stress during gestation. A cross-sectional study was conducted on participants in the age group of 17-39 years. The study participants filled a detailed questionnaire designed for this study. Moreover, Sadaf Stress Scale (SSS) was used to evaluate Physical Stress among study participants. Among 133 study participants (39.85% primigravidae, 0.75% bigravida, 27.07% primiparae, 30.83% multiparae and 1.50% grand multiparae) 11.27% were in first trimester, 26.33% in second trimester and 62.40% in third trimester; having BMI results of underweight (3%), normal weight (39.85%), overweight (36.09%), and obese (21.05%). Physical stress symptoms (breathlessness, churning stomach, diarrhea/constipation, dizziness, dry mouth, excess sweating, fatigue, headaches, increased cold/flu, increased heart rate, indigestion, nausea feeling, feeling of palpitations, feeling of heart beat, rapid and shallow breathing, sleeping problems, tingling in hands/legs, tremor in hands/legs, weight loss/gain) were evaluated and results of physical stress, normal (45%), mild (23%), moderate (16%) and severe (16%) were evaluated by using SSS. 71% of study participants with severe physical stress values were in third trimester, and 67% of the participants reported to have perceived severe stress. According to the results of study, the physiological adaptations and functions associated with lowered health conditions, coupled with emotional and psychological alterations pave a way to gestational physical stress.

#### **42. Parenting panaches a source of Social anxiety among youth; a study on inhabitants of Karachi.**

**Junaid Ahmed, Huzaifa Sarfaraz, Sadaf Ahmed, Shamoon Noushad & Amna Khan**

*Advance Educational Institute & Research Centre*

Socially and psychologically it is assumed that Parenting styles play major role in developing social anxiety particularly reported by adolescents. However, the significant effect of each parenting style i.e. authoritative, permissive and authoritarian on developing variety social concerns that can be indicative characteristics of individual personalities of these young adults. A survey based comparative cross-sectional pilot study was done on individuals with the age range of 18 to 25 years. The parenting styles were assessed by using Parental Authority Questionnaire (PAQ) while social anxiety was rated by using Social Interaction Anxiety Scale (SIAS). The results showed that in study populace most of the parents hold authoritative parenting style. It is also found that those adolescents who experienced authoritative parenting style in childhood are more under influence of social anxiety, whereas this ratio is slightly low in adolescents with authoritarian parents. This study proved that social anxiety is strongly related to parenting style because children of permissive parents are found normal. We are interested in finding out the frequency of each parenting style with respect to the occurrence of social anxiety in youth, moreover it is also hypothesized that education, social background, and financial status of parents are expected to have influence on psychological development of these individuals.