ABSTRACT BOOK

AEIRC
ADVANCE EDUCATIONAL INSTITUTE AND RESEARCH CENTRE

ICEHSR

7th International Conference on Endorsing Health Science Research

DOW UNIVERSITY OF HEALTH SCIENCES D.U.H.S

Canada Pakistan Research & Development Council CPRDC

World Health Organization

SAAP SOUTH ASIAN ASSOCIATION OF PHYSIOLOGISTS

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AEIRC 19 ICEHSR

HEALTH FOR ALL BY ALL

a call for solidarity and action

PREFACE

International Conference for Endorsing Health Science Research has been a platform since 6 years for researchers from all over the world to exchange their thoughts on research and future developments in health sciences. ICEHSR with its previous impactful scientific history, has now become a brand enhancing the knowledge and information through numerous scientific activities throughout the session including keynote talks, workshops, panel sessions, scientific oral and poster presentations and publications. For the year 2019, team AEIRC is now back with its 7th International Conference for Endorsing Health Science Research (ICEHSR'19) in collaboration with World Health Organization (WHO) with the theme entitled: "Health for All; Everyone Everywhere" at Dow University of Health Sciences, Ojha Campus.

AEIRC has been involved in arranging this mega event each year to encourage younger researchers in the field of health sciences by promoting the tradition of research through investigation, questioning and reaching out to appropriate answers. This year ICEHSR has been programmed to bring in the views from different health sectors. The main aim is to indulge the scientists and researchers from biomedical, environmental, psychological, pharmaceutical and all other health domains to identify the social issues and rather than just discussion the focus is break through the barriers and reach out to all possible solutions for it. This abstract book encloses an extracted form of all the sessions/talks delivered by our honorable speakers as well as 161 abstracts those were selected in the conference, presented by one of the author as poster and oral presentations. All the sessions were attended by respective experts of the field. Keeping up the previous trend, this year ICEHSR showed up with 3 pre-conference workshops of ICEHSR'19 with diverse institutes of Karachi and Hyderabad on different issues related to health science research. The major collaborating institutes for these pre-conference workshops were Dadabhoy Institute of Higher Education, Liaquat University of Medical & Health Sciences, Sir Cowasjee Jehangir Institute of Psychiatry, Hyderabad and Federal Urdu University of Arts, Science & Technology (FUUAST).

We are grateful for the support of World Health Organization (WHO), Dow University of Health Sciences (DUHS) & Canada Pakistan Research & Development Council (CPRDC) in supporting us to take this objective forward. We are obliged to have all of our invited experts who shared their perspectives in scientific talks and panel discussion. Special thanks to Prof. Dr. Atta-Ur-Rahman and Prof. Dr. Saeed Qureshi for their support, encouragement and inspiration for steering us so constructively and effectively. The conference team is privileged to welcome you all at this informative and healthful event and expects good outcomes of the session.

MESSAGE FROM WHO ON THE OCCASION OF WORLD HEALTH DAY

DR AHMED AL-MANDHARI
Regional Director
WHO Eastern Mediterranean Region

Happy World Health Day! This year's theme is primary health care (PHC), the path towards universal health coverage (UHC).

Primary health care is the first level of contact with the health system, where individuals, families and communities receive most of their health care – from promotion and prevention to treatment, rehabilitation and palliative care – in places closest to where they live and work.

Last year, on the 40th anniversary of the landmark Declaration of Alma-Ata on "Health for All", a global conference in Astana, Kazakhstan, reaffirmed that primary health care is the most cost-effective and equitable way of delivering health services and helping countries make progress towards universal health coverage. It is important to note that between 80% and 90% of essential health services can be delivered at PHC level – including in emergencies, which unfortunately are a defining characteristic of our Region. The WHO Regional Office and our Member States are promoting family practice-based primary health care as the best way to provide integrated health services at the PHC level.

World Health Day 2019 puts a special emphasis on equity and solidarity – on raising the bar for health for everyone, everywhere by addressing gaps in services and leaving no one behind. These are key principles in our new Vision 2023 for public health in the Region, which calls for solidarity and action to achieve "Health for All by All".

On World Health Day, I would like to call upon governments, partners, civil society and individuals to come together and work together to ensure the attainment of health by all people in the Eastern Mediterranean Region and beyond.

Address of Chief Guest

SOME EXCITING ADVANCES IN HEALTH SCIENCE RESEARCH

PROF DR ATTA-UR-RAHMAN
(FRS, N.I., H.I., S.I., T.I)

We live in a world where truth has become far stranger than fiction. Each day brings thousands of new discoveries, many of which are transforming our lives in a multitude of ways. Disruptive innovations are transforming our lives in serendipitous ways. The blind can, amazingly, today see using their tongue. Anti-ageing compounds have been discovered and when given to old mice, it made them younger! Stem cells promise to cure damaged organs and may change the manner in which medicine will be practiced tomorrow.

Genes have been transferred from deep sea jelly fishes to orchids ---- the result are luminescent flowers that glow in the dark. Super-fast gene sequencing under development should allow the entire human genome to be sequenced in minutes! Graphene, a wonder material 200 ties stronger than steel, is being employed to shuttle anti-cancer drugs. Polio virus has been re-engineered to cure glioblastoma.

Neuroscience is an intensive area of research and objects can be moved and cars driven through crowded streets by thought control. Our own work in the field has led to the discovery of exciting new substances active against epilepsy. New approaches to impart knowledge are also being developed. Some of these fascinating developments will be presented.

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Conference Introduction	**Dr. Sadaf Ahmed**	AEIRC
Welcome Address	**Prof. Dr. Saeed Qureshi**	DUHS
Address of Chief Guest	**Prof. Dr. Atta-ur-Rehman**	HEJ- UoK
Thematic Talk	**Dr. Faizan-ul-haq**	WHO
Panel Session	**Health for All; Everyone Everywhere**	

Keynote lectures

Current burden of Infectious diseases in Pakistan: barriers to prevention
Prof. Dr. Shahana Urooj Kazmi

Needs of Medical Education; advance tools and Challenges
Prof. Dr. Syed Imran Mehmood

Taking Care of Health from Home will Improves the Efficacy of Conventional Medicines
Prof. Dr. Shamim Qureshi

Mental health; the undefined and hidden burden
Prof. Dr. Farah Iqbal

Clinical research improves healthcare outcomes; myths & facts
Dr. Obaid Ali

Free Papers Session I.

BASIC SCIENCES & HEALTH RESEARCH
Moderator: Syed Mustafa Jamal
Chair: Prof. Dr. Zeba Haque
Co-Chair: Prof. Dr. Tanveer Abbass

Free Papers Session II.

HEALTH CARE & MEDICAL EDUCATION
Moderator: Dr. Muhammad Muneeb
Chair: Prof. Dr. Imran
Co-Chair: Dr. Asma Makhani

Free Papers Session III.

NUTRITION & LIFESTYLE
Moderator: Faizan Mirza
Chair: Dr. Mirza Ali Azher
Co-Chair: Dr. Shaista Emad

Free Papers Session IV.

MENTAL HEALTH & WELLBEING
Moderator: Dr. Aatir Rajput
Chair: Prof. Dr. Farhat Batool
Co-Chair: Dr. Sonia Siddiqui

Free Papers Session V.

EPIDEMIOLOGY & PUBLIC HEALTH
Moderator: Soha J. Iqbal
Chair: Prof. Dr. Syed Shakeel
Co-Chair: Dr. Syeda Sadaf Akbar

PRE-CONFERENCE WORKSHOPS

ESSENTIALS OF COGNITIVE BEHAVIORAL THERAPY

Muhammad Muneeb & Aatir Rajput
Dept. of Medical Education, Indus Medical College, U.M.S, T.M.K.

Since the advent of Cognitive Behavioral Therapy (CBT) by Sir Aaron Beck in 1960s, the effectiveness of CBT has long been the topic of interest for the neuroscientists. With over 50 years of research, CBT has become the most widely accepted evidence-based therapy among the vast variety of psychotherapies and it comes at par in terms of efficacy with the objectively defined pharmacotherapy for various psychological disorders. CBT leads to long-term, measurable changes in emotion, cognition, behavior, and physical symptoms across a range of psychological disorders. As the CBT has been founded on 2 different models of psychology i.e. Cognitive & Behavioral, It's important to remember that the case conceptualization in CBT is quite different. Cognitive behavioral therapists use a different formulation for each psychiatric disorder. The formulation in conceptualizing the individual patient, is an essential component to developing a sound therapeutic relationship, setting goals, planning treatment, and selecting interventions. The one-day workshop is aimed to teach the students about fundamentals of Cognitive Behavioral Therapy. This workshop will provide the foundations that postgraduate students/ psychologists to hone their non-pharmacological therapeutic skills. It will focus on understanding the underlying principles of Cognitive Behavioral Therapy and Case Conceptualization and Case Formulation according to the Cognitive Model."

WATER & FOOD BORNE INFECTIOUS DISEASES

Shahana Urooj Kazmi[1], Rakhshanda Baqai[1], Zulfiqar Ali Mirani[2], Sobia Naz Shoukat[1] & Syeda Sadaf Akber[1]
[1]Department of Clinical Microbiology & Immunology, Dadabhoy Institute of Higher Education
[2]Pakistan Council of Scientific and Industrial Research

Food- and water-borne illnesses are common and preventable public health issues and this is having afflicted mankind since the earliest days of human development and preceded the emergence of civilization. Knowledge on the contribution of different food sources and water for disease is essential to prioritize food safety interventions and implement

appropriate control measures. A food-borne illness, often called food poisoning, occurs when a person consumes contaminated food, while a water-borne illness is caused by contaminated water. In both cases, contaminants are usually microorganisms such as bacteria (e.g. Salmonella or Campylobacter), parasites (e.g. Cryptosporidium) or viruses (e.g. noroviruses) but may also be some kind of chemicals. Food and water borne illnesses are becoming a greater challenge because of new and emerging microorganisms and toxins, the growth of antibiotic resistance, increasing food contamination caused by new environments and methods of food production, and an increase in multistate outbreaks. Many cases of food poisoning happen when someone eats food that has harmful bacteria in it. Most common harmful microorganisms are Salmonella species, Shigella dysentriae, Escherichia coli O157:H7 (E. coli), Vibrio cholera, Cryptosporidium parvum. Food- or water-borne illnesses are not spread from casual contact with another person However; these microorganisms might be utilized deliberately to contaminate public or hospital water or food supplies at large events in order to cause public health emergency. Standard treatment of public water supplies most likely kills majority of microorganisms before its consumption by general public. Most common infections related to food- and water-borne bacteria can cause diarrhea, nausea, vomiting, fever and stomach cramps

CLINICAL TRIALS AND RESEARCH

Sadia Khalil
Microbiology Department, FUUAST

Clinical Trials are research studies performed in people that are aimed at evaluating a medical, surgical, or behavioral intervention. They are the primary way that researchers find out if a new treatment, like a new drug or diet or medical device is safe and effective in people. Often clinical trials is used to learn if a new treatment is more effective and/or has less harmful side effects than the standard treatment. Clinical trial is designed very carefully to provide the greatest amount of information at the lowest possible risk, and to achieve this, a protocol, or an action plan, is prepared. This plan describes what is to be done in the study, how it will be done, which information would be gathered, and why the different parts of the investigation are necessary. The eligibility criteria for participating in a clinical trial are also listed in the protocol. Some studies require participants with a particular illness. Whereas some studies seek healthy volunteers or people with specific characteristics regarding gender, age,

weight, lifestyle/habits, or others. Clinical trials are of two types: Interventional and Observational studies. In case of interventional studies, the participants are treated in accordance with a research plan created by study investigators and the results are usually compared with the data obtained for subjects who receive either no treatment or a treatment that is already available. However, in this case the investigator has no direct control over the experiment and makes no attempt to affect the outcome of the study. Observational studies are advantageous as they involve patient populations that are closer to clinical practice, they are cheaper and are used to investigate rare outcomes, detecting unusual side-effects.

STEM CELL THERAPEUTICS

M Uzair Rehman[1], Maria Fatima Ali[2], Rubina Ghani[3] & S. Sadaf Akhbar[2]
[1]*Deparment of Physiology, United Medical & Dental College*
[2]*Dadabhoy Institute of Higher Education, Karachi*
[3]*Department of Biochemistry, Jinnah Medical & Dental College*

In the last few decades, thousands of patients have benefited from platelet rich plasma (PRP) therapies, emerging as a safe alternative in many different medical fields. The use of Platelet- Rich Plasma (PRP) in medicine has become increasingly more widespread during the last decade. Most studies on the subject are carried out in areas such as orthopedics, sports medicine, and odontology. Recently Platelet-Rich Plasma (PRP) has be used is an orthobiologic that has recently gained popularity as an adjuvant treatment for musculoskeletal injuries. Platelet-rich plasma (PRP) is a volume of fractionated plasma from the patient & own blood that contains platelet concentrate. The platelets contain alpha granules that are rich in several growth factors, such as platelet-derived growth factor, transforming growth factor-Î², insulin-like growth factor, vascular endothelial growth factor and epidermal growth factor, which play key roles in tissue repair mechanisms. PRP has found application in diverse surgical fields to enhance bone and soft-tissue healing by placing supra-physiological concentrations of autologous platelets at the site of tissue damage. The use of platelets was particularly fortuitous given that the main initial interest was to take advantage of the adhesive and haemostatic properties of the homologous fibrin during bone surgery. A realization of the clinical potential of PRP-therapies has also followed the positive clinical observations, such as enhanced bone formation and anti-inflammatory functions, during oral and maxillofacial applications. PRP seems to have a role to play in the treatment of extra- articular symptoms.

KEYNOTE LECTURES

CURRENT BURDEN OF MAJOR VIRAL DISEASES IN PAKISTAN: BARRIERS TO PREVENTION

Shahana Urooj Kazmi and Ghulam Fatima
Dadabhoy Institute of Higher Education
Central Lab. Civil Hospital, Karachi –Pakistan

Infectious diseases caused by viruses in general especially zoonotic diseases transmitted from animals to humans are a great cause of public health concern worldwide and a cause of increasing morbidity and mortality in the developing countries including Pakistan. Our country is facing a very high burden of both communicable and non-communicable diseases; measles, pneumonia, MDR tuberculosis, diarrhea, dysentery, typhoid, malaria, dengue, CCHF, viral hepatitis and acquired immune deficiency syndrome (HIV-AIDS) constitute about 40% communicable infectious diseases. Viral infections activate human immune system, resulting in long lasting immunity and the protection can also be acquired by vaccination, unfortunately vaccines are not available for all viral infectious agents like hepatitis C and dengue virus. Worldwide, the fatality rate of vaccine preventable viral infections has been significantly reduced by successful vaccination campaigns but the situation is very different in Pakistan, where epidemic of measles and sporadic cases of polio are still reported.

Viral hepatitis which results in the inflammation of liver is another major viral infection in Pakistan which remains a serious threat to public health, because the acute infection may progress to cirrhosis and liver cancer. Among the five hepatitis causing viruses, A to E, hepatitis B and C are a major problem in our country. Currently no vaccine or specific treatment is available and substantial vector control efforts have not stopped its rapid emergence and global spread. Awareness campaigns, proper diagnosis, preventive interventions, improving the provision and efficacy of vaccines may help in controlling the alarming morbidity and mortality due to measles, Hepatitis B and C in children and our younger population between the age of 21-40 years. Dengue needs attention Improving sanitation and vector control measures and year-round surveillance may help in reducing the burden of Dengue virus infections and related complications.

HEALTH FOR ALL: TAKING CARE OF HEALTH FROM HOME WILL IMPROVES THE EFFICACY OF CONVENTIONAL MEDICINES

Shamim A. Qureshi
Department of Biochemistry, University of Karachi

In this technologically advanced age, discovery, availability of medicines and increasing rate of diseases go side by side. Like type 2 diabetes becomes the member of every two homes out of ten and acute liver problem could be the result of few medicines, environmental toxicants and workplace chemicals. That's why taking care of health from home is an initial step and food is an essential element of life. Now-a-days food / cooking ingredients having health promoting effects can serve as complementary medicines that play a vital role in delaying the onset of different diseases or help to improve the efficacy of conventional medicines of diseases. In this regard, seeds of Centratherum anthelminticum (kala zeera; bitter cumin) surprisingly proved effective in reducing the experimentally induced liver toxicity and type 2 diabetes. Bitter cumin is widely distributed in Pakistan and its neighboring countries. These seeds are popular for their culinary use and various medicinal purposes. Its chief constituents are polyphenols which are strong antioxidants and help to uplift antioxidant system of body. Therefore, sometimes negligible cooking ingredients at your kitchen cabinet will boost your body to combat diseases or help the conventional medicines to work more efficiently.

MENTAL HEALTH; THE UNDEFINED AND HIDDEN BURDEN

Farah Iqbal
University of Karachi

Substance Abuse and Mental Health Services Administration (SAMHSA) reports suggested that anxiety, depression, and mood disorders together have the biggest effect on the mental health of an individual. These mental illnesses have a negative impact on the lifespan and productivity of the average person. The Centers for Disease Control and Prevention (CDC) recognize depression as a critical public health issue, as this mental illness is a leading cause of both injury and disease for people around the world. By 2020, the CDC estimates that depression will be the second most common cause of disability in the world, following only heart disease. Depression has secondary effects on family members, friends, and

colleagues, thus impacting communities as well. It also has a negative effect on a person's productivity and earning power, which can cause absenteeism, unemployment, and lower income. These mental illnesses can lead to increased suicidal tendencies, especially in high-income countries. With approximately 800,000 deaths from suicide each year and countless more attempts, this is a growing problem. According to the WHO, suicide is the second most common cause of death in teenagers and young adults age 15 to 29. Mental health is often discussed in the context of adult health care, but it remains a substantial problem for children and adolescents, too. As the WHO reports, up to 20 percent of children and teenagers around the globe experience mental illnesses, and neuropsychiatric conditions are the most common cause of disability in adolescents. World Health Organization's (WHO's) in commemoration of World Health Days started a campaign, which was designed to prompt action and advocacy around an important public health topic. With its tagline, "Depression: let's talk," the WHO aims to remove the stigma from depression and encourage people to look for and find help.

DRUG DEVELOPMENT AND SUSTAINABLE PATHWAY TO ENHANCE SAFETY

Obaid Ali
Civil Service Officer, Drug Regulatory Authority of Pakistan

Clinical trials and their reasonably favorable outcome are the foundation for the drug product. Data on which foundation blocks are arranged requires to be of integrity and meaningful. Neither the approval nor the observations cycle ends for any drug. Compilation of data and meta-analysis enhance knowledge and drive towards sustainable safety and efficacy. Off label use and vigilance activity helps science to flourish and bring new benefits for the humanity. With the advancement in science and technology, concerns on safety have grown more sharply than ever before. Designing and development of tools to capture signal or a marker for producing unwanted harm before it reaches to the sensitizing harmful level, is the beauty of parallel emerging regulatory sciences of next generation. Knowledge aided matrix systems contribute a lot to make process smart and progressive, whereas, application of innovative tools on old drugs have brought atypical challenges.

ORAL PRESENTATIONS

DIAGNOSES OF PSYCHOLOGICAL ANOMALIES OF THE LEAD ACETATE EXPOSURE ON ALBINO RATS: A TOXICOLOGICAL INSPECTION

Hamna Rafiq, Hira Rafi & Muhammad Farhan
Department of Biochemistry University of Karachi

Heavy metals are natural components of biosphere, some are environmental pollutants and elicits toxicological effects at low concentration in biological metabolism of plants and animals. Lead is a most abundant element that is widely used in modern industries from where it form aerosol by heating and disperse in air. This indiscriminate use of lead has increases its hazardous that can immensely effect the metabolic activities. It expose in biological system mainly by respiratory and digestive process, transported and accumulates in organs thereby causes many anomalies. One of the most concerned effect of these anomalies are neurotoxic effects which is associated with catecholaminergic and cholinergic system that mainly regulates the psychological and cognitive effects i.e. anxiety, depression and memory loss. Therefore, the present study is designed to observe the neuropathological effects of Lead at primary level where the symptoms of toxicity emerges. The study consisted on 24 male rats divided in to two groups as control and test. Control receive water whereas test group received lead acetate (100mg/kg). Food intake, Body weight, locomotor activity, Anxiogenic Activity (Open Field and Light Dark box) and Cognitive activity (Novel Object Recognition and Morris Water Maze) were monitored within the duration of experiment. The results are presented as significant neuropathological effects associated with psychological and cognitive deficits. It has been concluded that the lead neurotoxicity can be a contributing factors of adverse outcomes. Further studies are required to observe the mechanism underlying the metabolic anomalies of lead toxicity.

Keywords: *Lead (Pb), Lead Acetate Toxicity, psychological deficits, cognitive deficits.*

ADIPOSE-DERIVED STEM CELLS AND PLATELET-RICH PLASMA: INPUTS FOR REGENERATIVE MEDICINE IN CLINCAL TRIALS

Rubina Ghani
Department of Biochemistry, Jinnah medical & Dental College & Musavvir Stem cell Clinic

Regenerative medicine and tissue engineering have the aim of restoring function due to tissue damage or organ failure. This goal can be achieved either by stimulating endogenous stem cells or by providing exogenous stem cells along with growth factors. Among the different sources and types of stem cells, particular attention has been given to adipose tissue-derived mesenchymal stromal cells (ADSCs). The use of ADSCs as source of adult stem cells offers numerous advantages: the collection technique is easier and less invasive than with bone marrow; these stem cells show a high proliferative rate in vitro and are endowed with multi-differentiative capability and tissue repair properties. On the other hand, therapies implying the use of growth factors for tissue regeneration are widely based on platelets, these are nucleated cells, rich source of growth factors and are physiologically involved in hemostasis, wound healing and tissue repair. Platelet-rich plasma (PRP) is an autologous platelet concentrate with antibacterial and anti-inflammatory properties and a vehicle and source of growth factors. Due to these properties, PRP is increasingly used for regenerative medicine purposes, especially in the field of wound healing and osteoarthritis.
Keywords: *Adipose Tissue, Platelet Rich Plasma, Stem Cell, Regenerative Medicine, Mesenchymal Stromal Cells.*

PREVALENCE OF MUSCULOSKELETAL DISORDERS AMONG PROFESSIONAL TRUCK DRIVERS OF PAKISTAN

Khair-Ullah, Dr. Kiran Khan, Ashraf Ali, Nasir Khan, Shah Raheem, Anwar Hussain, Ishaq Khan & Roomana Sehar.
Hamdard College of Medicine and Dentistry, Hamdard University.

Musculoskeletal Disorders (MSDs) are common problems in countries around the world. It has been reported that MSD is responsible for more number of injuries and illnesses in drivers while driving trucks as compared to the other people's disorders. People working in transportation, heavy and light driving of vehicles are facing high-risk

factors of developing work-related MSDs. The aim of our study was to find out frequency, major symptoms and causes of job related musculoskeletal disorders among professional truck drivers of Pakistan. 547 truck drivers were interviewed from different truck terminals in major cities of Pakistan i.e. Karachi, Quetta, Lahore and Peshawar by simple random sampling technique through a Standardized Nordic Musculoskeletal Questionnaire translated in Urdu. Inch tape and portable weighing scale were used to measure drivers BMI. Data was analyzed using IBM SPSS. It was Cross sectional observation which was completed in eight months from January 2018 till August 2018. In the study, results show that most truck drivers are aged between 45 to 55 years, educated enough. 83% of truck drivers feel pain in different body regions. The prevalence of low back pain is 55%, upper back is 39%, while neck is 35%. Results demonstrate that vibrations associated with discomfort between neck and shoulders is significant ($p<0.005$) whereas it was not significant between neck and lower back ($p=0.277$). Study concludes that MSDs are common in professional truck drivers of Pakistan. The main causes are exposure to whole body vibrations, seat structure and material, age, height and weight, working hours and working conditions of the drivers.

Keywords: *Truck drivers, musculoskeletal disorders, low back pain.*

IN VIVO ANTI-DIABETIC EFFECTS OF ETHANOLIC FRUIT EXTRACTS OF GREWIA ASIATICA IN STREPTOZOTOCIN INDUCED DIABETIC ALBINO RATS

Zuneera Akram[1], Rehana Perveen[1], Muzammil Hussain[1], Aisha Noreen[2]

[1]Department of pharmacology, Baqai Institute of Pharmaceutical sciences, Baqai Medical University, Karachi

[2]Department of pharmaceutical chemistry, Baqai Institute of Pharmaceutical sciences, Baqai Medical University, Karachi

Diabetes mellitus is an endocrinological and/or metabolic disorder with an increasing global prevalence and incidence. Conventional drug therapy though effective in the management of diabetes mellitus is expensive and has toxic side effects. Herbal medicine would thus provide alternative therapy if effective and less toxic. This study has been designed to investigate the role of Grewia asiatica extract in controlling of diabetes in Streptozotocin (STZ) induced type 2 diabetes male albino (Wistar) rats. An experimental study was conducted from March 2018- Sep 2018. Ethanolic fruit extract of Grewia asiatica (200mg/kg) was administered to

STZ induced rat. Glibenclamide (GLB) was used as standard drug. The approach of the study was to observe the effect of Grewia asiatica on blood glucose levels. Rats were divided in four groups i-e control, STZ treated, STZ + GLB treated and STZ +extract treated group. Grewia asiatica significantly improve the level of blood glucose levels as compared to the standard drug GLB in STZ induced group. It was concluded that Grewia asiatica shrub is useful to cure the diabetes.
Keywords: *Streptozotocin, Diabetes mellitus, Glibenclamide, Grewia asiatica*

XENOBIOTIC METABOLISM AND TOBACCO-ASSOCIATED CANCERS MODELING A NOVEL GENE SIGNATURE

Nasir A Afsar[1], HR Ahmad[2] & Ingolf Cascorbi[3]
[1]*Department of Pharmacology, Jinnah Medical and Dental College,*
[2]*Department of Biological and Biomedical Sciences, AKUH,*
[3]*Institute of Experimental and Clinical Pharmacology, Christian Albrechts University Kiel, Hospitalstr. 4, Kiel-24105, Germany*.

To estimate the prevalence pattern of SNVs of CYP1A1, GSTM1 and ALDH3A1 in Pakistani population and evaluate its role as a genetic signature predisposing to the increased incidence of tobacco-associated cancers. Tobacco smoke contains numerous pro-inflammatory and carcinogenic substances, such as polycyclic aromatic hydrocarbons (PAHs) which are activated by CYP1A1 and detoxified by GSTM1 and ALDH3A1 within respiratory tract, from lips to lungs. Genetic polymorphism of these enzymes may influence development of conditions like chronic obstructive pulmonary disease as well as oropharyngeal and lung cancer. Indeed, Pakistan has one of the highest incidences of such cancers in the world. Although the role of CYP1A1 and GSTM1 is known with varying severity, new evidence regarding ALDH3A1 has renewed the interest in this regard in global perspective. In this study, 155 healthy adults (99 females) were included from all districts of Karachi. DNA was extracted from saliva and genotyped for SNVs either through PCR (GSTM1), RFLP (CYP1A1) or pyrosequencing (ALDH3A1). About 64% of the participants were born to parents who were unrelated to each other. There was generally a higher prevalence ($p<0.05$) of variant alleles of CYP1A1*2B, ALDH3A1, and GSTM1 in this study cohort than in other ethnicities reported in the HapMap database (Table 1). When viewed as a gene signature (Figure 1), 68% population had high risk to develop tobacco related COPD and cancers. Karachiites have a significantly

different prevalence of xenobiotic metabolizing gene signature, which could have putative clinical consequences on gene-environment interaction and carcinogenesis.

Keywords: *Lung cancer, Oro-pharyngeal cancer, PAH, Tobacco, Environmental toxicity*

RECEPTOR- BASED DRUG DISCOVERY OF ELONGATION FACTOR- TU THE PATHOGENIC FACTOR INVOLVED IN PROTEIN BIOSYNTHESIS OF NEISSERIA MENINGITIDES

Sana Aurangzeb, Mehwish Hamid & Yasmeen Rashid
Department of Biochemistry, University of Karachi, Pakistan.

Active anti-bacterial drugs target most importantly the ribosome to kill the pathogen by interrupting with the essential pathway protein biosynthesis, although the second most important target is EF-Tu. Regarding the pathway of protein synthesis in N. meningitidis, we aimed to determine three dimensional structure of EF-Tu of N. meningitidis using homology modeling as its solved crystal structure was not available in Protein Data Bank and docking studies of this important drug target used to discover the receptor-based drugs. N. meningitidis is a Gram-negative strictly human pathogen, responsible for causing meningitis and septicemia all over the world, so in order to cure the infection more potent and globally effective drugs are required. Homology modeling of this important drug target was carried out with better template by MODELLER software and evaluated by Prosa and Procheck standalone softwares while docking was performed by AutodocVina. The docking scores and considerable interactions among significant residues of EF-Tu of N. menigitidis active binding pocket revealed that Biscoumarin, Indole and Triazole derivatives interacted in a same way like GE2270 analogue with EF-Tu. Based on these findings we assumed that these lead compounds inhibit adequately EF-Tu of N. menigitidis and stop the protein biosynthesis essential process of this pathogen which will make the cell dysfunctional.

Keywords: *Neisseria meningitides, Homology modeling, Pathogenic factors, Drug Targets, Receptor-based drug designing.*

IDENTIFICATION OF NOVEL INHIBITORS AND PREDICTION OF STRUCTURE-FUNCTION DYNAMICS OF POLYRIBONUCLEOTIDE NUCLEOTIDYL PHOSPHORYLASE PNPASE TRANSCRIPTIONAL FACTORS INVOLVED IN NEISSERIA MENINGITIDIS PATHOGENESIS

Mehwish Hamid, Sana Aurangzeb & Yasmeen Rashid
Department of Biochemistry, University of Karachi, Pakistan.

Neisseria meningtidis is a virulent pathogen causing meningitis as well as life-threatening septicaemia throughout the world. Unfortunately, any vaccine or drug has not yet been developed against N.meningtidis serogroup B. Functional genomics strategies have been adapted to study the growth and pathogenesis of N. meningtidis in which 73 genes were identified in N.meningtidis genome responsible for causing disease. The three-dimensional structures of proteins involved in pathogenesis are still unknown. Nowadays, structural determination is necessary for drug discovery. Polyribonucleotide Nucleotidyl Phosphorylase PNPase is a phosphorolytic exoribonuclease found in a wide variety of species, imparts a key role in the decay of prokaryotic RNA as well as in pathogenesis.We hope that this study will grease the wheels for drug designing against fatal meningococcal diseases.To predict the 3-D structure of PNPase, the protein involved in Neisseria meningitidis pathogenesis and to identify novel inhibitors against it. We selected the Polyribonucleotide nucleotidyl-transferase PNPase protein (gene product) involved in transcription for detailed structural analyses. Different bioinformatics strategies were applied, and the homology model was built using protein structure-modelling program MODELLER and the model was evaluated using PROSA and PROCHECK software, as well as active sites were also predicted. The built homology model was found to be valid. The active site was also appraised. Molecular docking was performed to identify inhibitors against the key pathogenic factor PNPase and novel compounds were identified, acting as antimicrobial agents. The structural investigation of key pathogenic factor and identification of its inhibitors is a breakthrough in treatment of lethal meningitis and septicaemia.

Keywords: *Antimeningococcal drug discovery, Bioinformatics, PnPase*

VASOVAGAL SYNCOPE MIMIC EPILEPTIC SEIZURE

Saima Khan
University Brunei Darussalam

Syncope and/or medically refectory seizure is not the common sign or symptom for hypothyroidism. Fainting spell has some relation with hypothyroidism although it is not clear whether hypothyroidism is the cause or it is related with syncope/seizure. Hypothyroidism complaints with fainting spell needs to investigate further for coexisting medical conditions such as involvement of hematological, neurological and cardiological reference. It is also important to under control ones hypothyroidism dietary supplements such as use of magnesium in daily life, which may help both heart issues and other symptoms of hypothyroidism. There have been many cases reported which are misdiagnosed with vasovagal syncope with seizure. There is differentiation between syncope and seizure, although it is sometimes problematic. In some case syncope may mimics epileptic seizure in many ways. This report shows that thyroid hormone disturbance has a significant role in the development of cardiovascular sign and symptom in the thyroid patients. And those Cardiac conduction disturbances, namely atrial fibrillation and atrioventricular block, have a role with cardiogenic syncope in non-epileptic patient. We report a patient with hypothyroidism diagnosed with atrioventricular block who developed syncope during sleep.

Keywords: *Vasovagal Syncope, Hypothyroidism, Epileptic Seizure*

EFFECTS OF AGMATINE ON ALCL3 AND CHRONIC FORCE SWIM STRESS INDUCED MEMORY AND COGNITIVE DEFICITS

Hira Rafi & Muhammad Farhan
Department of Biochemistry, University of Karachi, Pakistan.

Memory disorders are induced due to various neurological disorders including neurodegenerative diseases, anxiety or depression. Aluminum is a well-known neurotoxicant producing several functional impairment related to memory and learning while chronic forced swim stress (FSS) affects learning abilities and impaired a number of cognitive functions. Agmatine has a significant role in learning and memory process as a neurotransmitter. Various studies described the physiological role of agmatine in learning and memory of multiple cognitive tasks during

learning process in rats. 36 male Albino wistar rats were divided into water (p.o.) control, AlCl3 (100 mg/kg/bodyweight) (i.p.) and FSS (20 oC, 10 minutes) test groups for 14 days. Animals were further divided into three groups that received the following treatments: a. water treated control group b. Agmatine (100 mg/Kg p.o.) and c. Choline (100 mg/Kg p.o.) daily for the next 14 days. Animals treated with AlCl3 and FSS demonstrated decreased numbers of square crossed in open field while impaired learning abilities in Morris water maze, T maze test and in NOR. Whereas for the next 2 weeks, agmatine treatment improved locomotion in open field test while enhanced memory and cognitive functions in Morris water maze, T maze test and in NOR when compared with choline. Present study determines that AlCl3 and FSS treatment could induce memory and cognitive impairment that lead to behavioral deficits and various psychopathologies where as agmatine administration could attenuate memory and learning deficits when compared with choline.
Keywords: *Memory & Cognitive Impairment, AlCl3, Chronic Forced Swim Stress, Agmatine, Choline, Learning and memory.*

DETAILED ATOMISTIC MOLECULAR DYNAMICS SIMULATIONS OF ARGINASE AND ITS COMPLEX

Zobia Naz & Syed Tarique Moin
H.E.J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi, Pakistan.

Arginase is a trimeric binuclear metalloenzyme responsible for the hydrolysis of essential amino acid, L-arginine to L-ornithine and urea, which are formed in the last step of urea cycle in the mammalian liver. Arginase plays a major role in the ornithine cycle, where L-ornithine is involved in the biosynthesis of polyamines including spermine, spermidine, proline and glutamate. Overproduction of L-ornithine may cause vascular structural damage, neural toxicity and also promotes higher concentration of polyamines which are involved in tumor cells growth and proliferation. The apoptosis of carcinoma cell is carried out by the suppression of excessive formation of L-ornithine and disrupts supply of L-ornithine for polyamines biosynthesis by the inhibition of arginase activity. Force field based molecular dynamics simulations were performed to the ligand-free and ligand bound arginase complexed with nor-NOHA inhibitor. The simulation results showed the influence of ligand binding to the arginase enzyme. Conformational changes occurred due to ligand binding to the binuclear Mn(II) arginase active site. The

variation in the bond lengths and angles involving the coordination site was studied in detail and compared with experimental data, and a good correlation was found between simulation and experimental data. The data obtained from the simulation studies is expected to utilize for the structure-based drug discovery process which includes pharmacophore based virtual screening and ligand binding affinity computations via molecular dynamics simulation protocols applied to arginase and its complex with nor-NOHA inhibitor.

Keywords: *Molecular dynamics simulation, metalloenzyme, binuclear, nor-NOHA, inhibitor, bidentate, ligand binding affinity, pharmacophore*

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ASSOCIATION OF ZINC IN HAIR AND SERUM SAMPLES OF CHRONIC TELOGEN EFFLUVIUM PATIENTS

Shayan Zufishan, Mehtab Alam, Sadaf Ahmed, Tasneem Kazi, Ayema Haque & Zeba Haque

Dow University of Health Sciences

Chronic Telogen Effluvium (CTE) is distressing, alarmingly extensive dermatological disorder which affects both males and females. Abnormalities of trace elements are involved in its etio-pathogenesis. Trace elements can be both beneficial as well as harmful. It is hypothesized that patients with CTE have altered value of Zn levels. The role of trace- metal between healthy and patients with CTE were investigated and its link with the diagnosis was explored. Fifty patients with CTE aged between 18-35 years were recruited from the dermatology outpatient department of Dow University Hospital. CTE patient from both genders, who consented for this study were included. All those who were on regular medications for other systemic disorder, had undergone scalp surgery, on Zn treatment or having any hormonal abnormality were excluded. Detailed history along with systemic and dermatological examination was carried out. Diagnosis of CTE was made by clinical examination by performing hair pull test. Control includes fifty healthy faculty member and students of DUHS, Karachi. Hair and Venous blood samples were collected. Zn levels were measured in both of the samples using atomic absorption spectrophotometer. The results were analyzed by T-test Pearson Coefficient Correlation and linear regression. The results were expressed as micro gram per gram and microgram per liter. In comparison to healthy control patients with CTE showed significant decreases in the levels of Zn and Fe ($P>0.05$) in both serum and hair. Present study reports a significant role of Zn in the pathogenesis of CTE.

It is strongly advocated that trace elements in hair along with serum should be evaluated for the diagnosis and management of CTE. Women are affected more than male.

Keywords: *Chronic Telogen Effluvium, Zinc, Trace Metals.*

NAVIGATING BACHELOR (GENERIC) GRADUATE NURSES VIEWS ABOUT ONE-YEAR INTERNSHIP PROGRAM: A QUALITATIVE DESCRIPTIVE STUDY RELATED TO ROLE TRANSITION

Pir Bux Jokhio[1], Ghulam Abbas Panhwar[2], Shazia Sultan[3] & Musrat Fatima[4]

[1]*Nursing Begum Bilqees Sultana Institute of Nursing, People University of Medical & Health Sciences for women Shaheed Benazir Abad*

[2]*Benazir Institute of Nursing Shaheed Mohtarma Benazir Bhutto Medical University (BINACHS) Larkana*

[3]*Sheikh Zayed Medical College Rahim Yar Khan*

[4]*Peoples Nursing School, Liaquat University of Medical & Health Sciences, Jamshoro*

Completing graduate study, nurses require to passage through one year internship program. In other words, it is a form of transition or a change in a role. As health care professionals, role transition is an inevitable, constant and dynamic process. The journey from student to a registered nurse is exciting as well as complex phenomena. The study was conducted to explore the views of nurse internee, who have complete their one year internship period, about their experiences related to that important phase of transition. A qualitative descriptive study with purposive and convenience sampling method was conducted. Data were collected through interview. The data was analyzed through a method proposed by Colorafi KJ. Eight interviews were conducted. The main theme identified was Internship as a professional endeavor. Four subthemes as ambiguity in understanding objectives of the internship administrative and communication problems supportive environment and ethical practice environment were also identified. It was concluded that internship period is very essential component for achieving professional growth and skill acquisition, but it was also stressed that it can only be made effective, if objectives of internship be made clear to internee and communication and administrative problems solved on priority basis as to create an ethically sound, professionally favors conditions for internee.

Keywords: *Nurse Internee, One Year Internship Program, Role Transition*

FACTORS INFLUENCING MEDICAL STUDENTS' INTEREST IN RESEARCH ACTIVITIES

Hania Hasan[1], Sara Hasan Siddiqui[2] & Fatima Tuz Zehra[2]
[1]*Dow University of Health Sciences*
[2]*Jinnah Sindh Medical University*

There is an increasing need to incorporate research into undergraduate curriculum. We aimed to investigate the factors which influence students to get involved in research and potential obstacles they face during their research projects. Responses from 1073 undergraduate medical students from all five years of study were collected via a performed questionnaire which included questions regarding their interest in research, reasons for getting involved in it and hurdles faced by them during the course of their project. Responses were expressed as frequencies (percentage) for quantitative data and mean+SD for quantitative variables. Chi square test was used to compare responses between students of pre-clinical and clinical years. Eighty three percent of students demonstrated an interest in research. However, only 28.6% had actually participated in it. Improvement in CV, and desire to understand the research concepts were the main motivations behind majority student's research interest i.e. 40% and 37.7% respectively. Time constraints (60.5%) and lack of supervision (59.5%) were the main obstacles reported. Significantly more pre-clinical students demonstrated an interest in research (85.5% vs 77.6%, P value = 0.004). However, majority students who were involved in a research project belonged to Clinical group (36.4% vs 17.2%, p value = <0.0001). Even though the importance of research has been established and there was an overall positive attitude about it, research participation in Pakistani medical schools is still limited. Our study suggests areas/ factors that policy makers need to focus on in order to boost this research output in medical field from Pakistan.

Keywords: *Medical students, research, factors, obstacles, Pakistan*

PERCEPTION OF UNIVERSITY GIRLS ABOUT THEIR MENSTRUAL HEALTH AND COMMERCIAL SANITARY PRODUCTS

Marvi Sharma[1], Aneela Yasmin[1&2] & Jamil Ahmed[1]
[1]*US-PCASW, Mehran University of Engineering and Technology, Jamshoro*
[2]*Sindh Agriculture University, Tandojam, Pakistan*

Menstruation, a natural process, is culturally a taboo in Pakistan. Inappropriate education and lack of supplies to deal with menstruation

result in reproductive tract infections. The purpose of this study is to gather information regarding to menstrual hygiene (MH) practices, knowledge and usage of commercial products by university girls. A cross-sectional study was conducted and data was collected from 30- university girls of Mehran University of Engineering and Technology Jamshoro, between the ages of 18-25. Analysis was done through SPSS software version 22. The result shows that even university girls do have proper knowledge of their reproductive system like 72.7% girls do not know the organ responsible for menstrual blood discharge and, 54.5% girls had no knowledge about menstrual hygiene. The major source of information about MH for 69.7% girls was mothers and sisters. 60.6 % girls found to use disposable sanitary pads, 42.4% girls reported that they change pads 2 times a day whereas 24.2 % change their pads 3 times a day. Furthermore 42.4% participants responded that the menstruation interfere with their university performance due to pain (27.3%). 39% girls revealed spending 300-400 per month on sanitary pads and 39.4% girls reported feeling confident when using pads. Interestingly, 63.6% girls showed positive attitude towards menstruation. This study provided the information about the perception of MH among university girls. Results emphasize the need of women education regarding menstruation and its management with dignity so that females could take the charge of their own personal hygiene.

Keywords: *Menstruation, Knowledge, Practices, Health, University girls, Hyderabad.*

URDU VERSION OF ORAL HEALTH IMPACT PROFILE 14 (OHIP- 14) ITS RELIABILITY, VALIDITY AND COMPARATIVE ANALYSIS OF PSYCHOMETRIC PROPERTIES IN GENERAL PAKISTANI POPULATION

Hina Khan[1], Dania Farah[2] & Hajra Naz[1]

[1]*Department of Biochemistry, University of Karachi*

[2]*Institute of Business Administration (IBA)*

Oral Health Impact Profile is one of the most widely and internationally used method to measure and evaluate the oral health condition in individuals but its evaluation in general population is not evident in literature in Pakistan. The aim of this study was to assess the oral health condition of general population in Pakistan by using English and Urdu version of OHIP-14 and assessing the validity and reliability of Urdu version of OHIP-14. Data from 1000 volunteers was collected including

both the genders belonging to various age groups, inducted in different institutions and organizations. Socio-demographic data along with OHIP-14 Questionnaires had been recorded. Microsoft Excel version 2013 was used for compiling and scoring of data while SPSS licensed version 20 was used for statistical analysis of data. The value of the Cronbach alpha coefficient was 0.943 for all 14 items of the Urdu version of OHIP-14 instrument indicating excellent internal consistency. All items of the matrix of the inter-items correlation coefficients showed positive relationship. The total mean value of OHIP-14 (range 0 to 56) was 12.1279 which suggested satisfactory oral health conditions for sample Pakistani Population in general. Cross tabulation analysis for gender comparison revealed that oral health profile was comparable for both males and females in general Pakistani population. Simultaneously, sub domain analysis with respect to age showed that increasing age increased the number of responses of impact. Cumulative results of Oral Health Impact Profile-14 (OHIP-14) for the current sample indicated good health of the general population with respect to oral conditions.
Keywords: *Oral Health Impact Profile 14, General Population, Cronbach Alpha.*

POST GRADUATE PERCEPTION OF STRESS LEVELS, EDUCATIONAL ENVIRONMENT AND THEIR ASSOCIATION AT LIAQUAT UNIVERSITY HOSPITAL, HYDERABAD/JAMSHORO

Muhammad Muneeb[1&3], Aatir H. Rajput[2&3], Moin Ahmed Ansari[2]
Tahir Hanif[3], Abid Ali[3&4] & Anam Shaikh[3&5]
[1]*Dept. of Basic Medical Sciences, Indus Medical College, Tando Muhammad Khan*
[2]*Department of Psychiatry, Liaquat University of Medical & Health Sciences and Sir Cowasjee Jehangir Institute of Psychiatry, Hyderabad*
[3]*LUMHS Research Forum*
[4]*Karachi X-Ray*
[5]*Dept. of Pathology, Dr. Zia Uddin Hospital, Karachi*

Postgraduate Hospital Educational Environmental Measure (PHEEM) had been used to assess the educational environment in many countries. The educational environment is an important determinant of students behavior and is related to their achievements. Different elements of educational environment i.e. physical, emotional and intellectual puts great stress on students mind that make their perception negative for their educational

environment. To measure the post-graduate residents perception regarding hospital educational environment and stress levels at Liaquat University Hospital, Hyderabad/Jamshoro, Pakistan. This cross sectional study was conducted at Liaquat University Hospital, Hyderabad/Jamshoro, in from May, 2018 to July, 2018 on a sample of 94 post graduate residents working at the said hospital for more than 6 months. Sample was chosen via convenience sampling and after taking informed written consent, an anonymous self-administered questionnaire in English, consisting of Likert type modified form of Post-Graduate Hospital Educational Environment Measure (PHEEM) and Perceived Stress Scale, was used to obtained data. Data was analyzed via SPSS v. 19.0 and MS Excel 2013. Out of 130 residents, 72.3% completed the questionnaire. Majority of the sample was male (59.58%). The mean score of PHEEM was found to be 92.87 + 13.34 and the mean perceived stress was found to be high i.e. 28.34 + 6.45. Female residents reported higher levels of stress. Higher stress levels were also negatively associated with the PHEEM score. Most of the residents perceived the educational environment not much favorable and that is significantly associated with higher stress levels. There is dire need to address the areas of insufficiency and work towards provision of standardized clinical training.
Keywords: *PHEEM, Perceived stress levels among residents, LUH, Post graduate training*

IMPORTANCE OF PERCEIVED FAMILY SUPPORT FOR HIV/AIDS PATIENTS IN PAKISTAN: A COLLECTIVIST SOCIETY

Saima Bint-e-Saif & Salman Shahzad
Institute of Clinical Psychology, University of Karachi

Research related to HIV stigma is in its initial stages in Pakistan. Since there had been lower HIV cases in Pakistan, therefore no in-depth researches were initiated. Recently HIV cases among the injecting drug users are increasing, hence requiring the psychosocial aspect of the disease to be researched so that effective steps could be taken to reduce the stigma related to the disease. As HIV stigma is known to lead to depression and also hinder the treatment process, therefore it is necessary to explore factors which can be helpful in reducing the effect of stigma on depression. As Pakistan has distinct collectivist and religious values, culturally relevant interventions are needed. The purpose of this study was to explore the moderating role of perceived social support from three sources i.e.

family, friends and significant other in reducing the effect of stigma on depression among people living with HIV. The study included 150 male HIV patients, infected due to injecting drug use. Their age ranged from 25-45 years (M=31.65, SD=5.89). Data was collected through individual administration of the questionnaires namely the HIV Stigma Scale, Siddiqui Shah Depression Scale and Multidimensional Scale of Perceived Social Support. The study identified the moderating role of three sources of perceived social support. Family support was found to be the most effective moderating variable in HIV/AIDS stigma and depression relationship followed by support from significant others of the HIV/AIDS patients. Additionally, friends support did not moderate the relationship significantly. Pakistan, being a collectivist society, needs such interventions regarding HIV/AIDS stigma reduction that target the strengthening of patient's family support system. Community coalition programs should include support groups for HIV/AIDS diagnosed people as well as for family members providing care to these people.
Keywords: *HIV/AIDS stigma, depression, social support*

DOPPLER ULTRASOUND HEPATIC WAVEFORM AS A NON-INVESIVE TOOL IN THE ASSESSMENT OF SEVERITY OF PORTAL HYPERTENSION

Hasnain Ali Shah, Memoona Parveen, Zahid Azam & Nazish Butt
Dow University of Health Science

Portal Hypertension is a common and serious complication of cirrhosis. It leads to several sequelae such as Variceal bleed and Ascites. Portal Vein pressure correlates with severity of liver disease and likelihood of complications. It is therefore important to measure portal pressure in order to predict the occurrence of complications. Catheterization of Hepatic Veins to measure Wedged Hepatic Vein Pressure gradient (HVPG) is invasive and requires highly trained staff and equipment in specialized units. Previous Radiology article showed Hepaticvein Doppler ultrasound wave form (DUWF) as alternate modality of evaluation of portal pressure. It is non- invasive, cheap and readily available in most medical centers. To correlate HVPG with Hepatic Vein DUWF and thus assess severity of portal Hypertension non-invasively. Also to assess DUWF use after Carvedilol administration to document dynamic changes that can be correlated with this modality. 46 cirrhotic patients were enrolled and baseline investigations done to establish diagnosis of cirrhosis and assess severity of liver disease. Hepatic vein DUWF was studied and HVPG

measurements were done by wedged catheter technique and both procedures repeated following administration of tablet Carvedilol orally to lower the heart rate up to 25% of baseline. Forty six patients, 33 (75%) males, with mean age 49.1±9.5 yrs were studied. Triphasic, biphasic and monophasic wave-forms were observed in 3(6.8%),17(38.6%)and 24(54.5%) respectively. Post Carvedilol administration, the waveform changed from monophasic to biphasic in 6 (25%) while Heart Rate (HR) dropped from 81.0±7.0 /min to 65.3±19.3 (p<0.001) and HVPG dropped from 14.1±2.7 mmHg to 10.6±2.6 mmHg (p<0.03). Similarly, the waveform changed from monophasic to triphasic with a decrease of HVPG from 17.7±2.2 to 14.2±3.3 mmHg (p<0.03) and HR decreased from 97.0±11.9 to 72.2±10.2 per min(p<0.01). However, the wave form remained unchanged in 14 pts whose wave form was monophasic pre and post Carvedilol administration although the HVPG dropped from 13.1±2.5 to 10.1 ±2.9 mmHg and HR dropped from 81.6±10.4 to 69.3±6.3 per min (p<0.01). The results were inconsistent to use Hepatic vein DUWF as a non-invasive tool to replace HVPG as baseline & after Carvedilol intervention to drop HR & portal pressure.
Keywords: *Ultrasound, Portal Hypertension, Hepatic Waveform, Assessment*

RELATIONSHIP BETWEEN RESILIENCE AND GRATITUDE ON THE QUALITY OF LIFE OF PRIMARY CAREGIVERS OF HEMODIALYSIS PATIENTS

Noor Saba, Alvina Aziz & Fabiha Waseem
Institute of Professional Psychology, Bahria University

Positive psychology's various constructs like resilience, gratitude; character strength had played an important role to improve the quality of life. In this regard current research was conducted to explore the relationship between resilience and gratitude on the quality of life of primary caregivers of hemodialysis patients. It was a quantitative study consist of a sample of N=100 primary care givers of hemodialysis patients. To discover this relationship Connor Davidson Resilience Scale (CDRISC), Gratitude Questionnaire (GQ-6) by McCollough, Emmons & Tsang, and Quality of Life scale (WHOQOL-BREF) by World health Organization was given to the primary caregivers. The Urdu version of these questionnaires was used. The data was collected from the nephrology departments of hospitals, organizations and clinics. The results suggested that resilience has a strong relationship with quality of life and gratitude

has a moderate relationship with quality of life of primary caregivers of hemodialysis patients. Implication of the study is that this can serve researchers and mental health practitioner to make interventions.

Keywords: *Relationship, Resilience, Gratitude, Quality of life, Primary care givers, Hemodialysis*

TO IDENTIFY THE PREVALENCE OF UNDER-FIVE MORTALITIES AND THEIR CAUSES IN URBAN SLUMS OF KARACHI

MB Siddiqui[1,2,4,6], CW Ng.[1], WY Low[3], Noushad S.[4,6], Ahmed S.[4,6] & Hamid MA[5,6]

[1]*Department of Social and Preventive Medicine, University of Malaya, Kuala Lumpur, Malaysia*

[2]*ZABIST, Karachi, Pakistan.*

[3]*Research Management Centre, Faculty of Medicine, University of Malaya,*
Kuala Lumpur. Malaysia.

[4]*Advanced Educational Institute and Research Centre, Karachi.*

[5]*Assistant Professor, Department of Paediatrics, University of Toronto, Canada.*

[6]*Canada Pakistan Research Development Council.*

Pakistan is one of the countries with high child mortality rates. A total of 401,500 under-five and 240,900 neonatal registered deaths occurred in Pakistan during the year 2017. No recent estimates exist on prevalence of under-five mortality rate in Karachi, the metropolitan city of Pakistan. With this rationale, a child mortality survey was undertaken in urban slums of Karachi, Pakistan. Out of the identified households where under-five mortality occurred within the last one year before data collection, the sample size of 400 households were randomly selected and interviewed using verbal autopsy questionnaire. During Physician Certified Verbal Autopsy Review, the causes of death were assigned using International Classification of Diseases version-10 (ICD-10). This paper shares prevalence and causes of under-five mortality across slums of Karachi, Pakistan. A total of 15992 livebirths occurred and 1962 under-five deaths occurred in 12 urban slums of Karachi during the one year before data collection. The under-five mortality rate was 120/1000 livebirths. The ratio of neonatal deaths occurred among under-five mortalities was 46%. The prominent cause of neonatal deaths was preterm delivery (n=68, 37%); while among 1-59 months age group was diarrhoea (n=62, 28.7%).

Compared to national estimates, a higher U5MR was found across the urban slums of Karachi, Pakistan. Identified causes of under-five mortality suggest policy planners to take concerned efforts and show engaged determinations in improving child survival.
Keywords: *Prevalence, Urban Slums, Under-Five Mortalities*

RELATIONSHIP BETWEEN INTERLEUKIN 2 AND AUTOANTIBODIES IN DIABETIC PATIENTS

Fatima Noor[1], Mehnaz Nuruddin Gitay[1], Ayema Haque[2]
Zeba Haque[1] & Muhammad Masroor[3]
[1]*Department of Biochemistry, Dow International Medical College, Dow University of Health Sciences*
[2]*Dow Medical College, Dow University of Health Sciences*
[3]*Department of Medicine Dow University of Health Sciences*

Diabetes is a disease that has severely affected individuals all over the world. Individuals with diabetes suffer from a disturbed lifestyle and ultimately become distressed both physically and mentally. Life style is compromised due to the efforts made by the individual to manage the disease. Proper management of diabetes increases the healthy lifespan of the individual, while its mismanagement poses life-threatening conditions for the patient leading to severe debilitation and failure to cope with everyday challenges. Exploration of novel methods for management and treatment of diabetes are avenues of focus for biochemists and clinical researchers. Present study was designed with the aim of exploring diagnostic/predictive biomarkers of type 1 diabetes that mediate early detection of the disease in order to initiate early management and adaptation to the modified lifestyle. A total of hundred and four subjects were included in the study. Patients with diabetes (n=52) were selected as cases and their gender matched first degree relatives (n=52) were selected as controls. After written consent, a questionnaire was filled by the subjects and the control. With all aseptic measures 5ml of venous blood was collected in 2 separate tubes for plasma and serum each. Blood Glucose was analyzed by spectrophotometric technique; Interleukin 2 (IL2), C Peptide and Islet Cell Autoantibodies (ICA) were estimated by ELISA. Data were analyzed by SPSS version 22. Statistical tests applied were Mann Whitney t- test, and Pearson's correlation. A positive correlation is seen between ICA and IL2 in diabetic patients and non-diabetic relatives as well. Controlling the interaction of other parameters with IL2 and ICA, an increase in IL2 levels is seen with an increase in ICA

levels as well. C Peptide was negatively correlated with IL2 in diabetic while a positive correlation was noted in 1st degree in relatives. After controlling all physical and biochemical parameters, c peptide was negatively correlated with IL2 in both groups. Increased in immune activity marked by raised IL2 levels, indicates rapid proliferative phase of T cells and a consequent degeneration of the pancreas in type 1 diabetic individuals. The significance of the diagnostic value of IL2 can be highlighted with its positive correlation with antibodies against the Islet cell antigen (ICA) and its negative correlation with C Peptide. Testing of IL2 as a predictor of possible diabetes development may be of significance allowing individuals to modify their life style and prevent disease progression.

Keywords: *Blood glucose level, Auto antibodies, Interleukin 2, C-peptide, Diabetes Type I, Interleukin 2, ICA69, C-Peptide*

PREPARATION OF MORINGA SPREAD WITH ITS LEAVES FOR CHILDERN GROWTH AND TO ENHANCE NUTRIENT ADEQUACY

Aasia Liaquat Ali Khan
Jinnah University for Women

Moringa Oleifera is a tropical plant which is a very high value plant and its leaves has intensive property ranges of nutritional Pharmaceutical and economic values. Moringa Olifera leaves dispensed as power at health facilities to create moderate malnutrition in all age group people because Moringa Oleifera leaves are overloaded with plenty of important minerals, and are a good source of protein, vitamins, carotene, amino acids and various phenolics substance. We prepared moringa spread because of its multiple properties. Moringa spread have been used to combat malnutrition, especially among the children because it contain 92 nutrients in which 46 antioxidants, 36 anti-inflammatory compounds, 18 amino acids in which all the 9 essential amino acids are present which are essential for the growth and development of children. So the one of the main benefit of our moringa spread is that all types of patients can consumed moringa spread except for diabetic patient because we used sugar in it. In our daily basis it is very necessary to cover the whole food group that are essentially required for child growth but we are not able to cover all the food groups for obtaining micronutrient so moringa spread is very good opportunity for children growth and also for healthy person for maintaining their quality life. The moringa spread is very good instead of

consuming dried powder because the dried powder have very sharp aroma and bitter in taste. We prepared spread have very mild and pleasant aroma and attractive flavor for consumer acceptance. The sensory evaluation done by 16 panelist showed good results of flavor, odor, color and the spread ability of the sample. The overall acceptability of the product was also good. And the development of making moringa spread idea was very much supported.

Keywords: *Children Growth, Essential Amino Acids, Overloaded Micronutrients*

NUTRITIONAL AND SENSORY EVALUATION OF BISCUITS MADE FROM ALL PURPOSE FLOUR ENRICHED WITH MORINGA OLEIFERA.

Bushra, Anabia Mahboob & Maryam Khan

Jinnah University for Women

The general method of biscuit preparation from refined wheat flour or from all-purpose flour are deficient in protein, vitamins, mineral, fiber and many other nutrients. Addition of dry M. Oleifera leaf powder increases the nutritional value of biscuits. M. Oleifera contains essential amino acids carotenoids and many other components with nutraceutical properties. To prepare and evaluate a healthy biscuit with multiple nutrients to reducing the chances of ulcer, hyperglycemia, hyperlipidemia, colitis, dysentery, gonorrhoea, glandular inflammation, headache, bronchitis, ear and eye infection, scurvy and cataracts. Effect of 5, 10 and 15% dried M. Oleifera leaf powder on nutritional and quality characteristics of biscuits were studied. Results showed the possibility of using Dry Moringa Oleifera leaf powder in biscuits to increase their nutritional profile and quality. Iron, protein, fiber and mineral content increase with increasing amount of M. Oleifera I leaf powder. Biscuits enriched with 5% DML powder had a normal taste and flavor as well as low nutritional profile. Biscuits enriched with 10% DML powder had an acceptable taste, aroma, appearance and nutritional profile. Biscuits made from 15% DML powder are bitter in taste, hard in texture, unacceptable appearance but had a high nutritional profile just because of the increasing amount of M. Oleifera leaf powder. Use of Moringa Oleifera in biscuits imparts a good flavor and also increase its nutritional profile. Baking industries can use the powder of DML in biscuits making to increase their nutritional value and quality characteristics with a very low cost. Moringa Oleifera is an inexpensive source of multi-nutrients.

Keywords: *DML, Moringa Leaf Powder, Nutritional Value, Medicinal*

STRUGGLES OF RECREATIONAL CANNABIS USE AMONG YOUTH POPULATIONS IN PAKISTAN, THE UNITED KINGDOM, AND NORTH AMERICA

Muhammad Akhter Hamid & Atchaya Arulchelvan
University of Toronto; Toronto, Canada

This study will examine the challenges associated with recreational cannabis affecting youth populations in the UK, North America, and Pakistan. In addition, the study will look into government policies combatting marijuana use and polices surrounding recreational cannabis legalization. A literature search was conducted through PubMed, MEDLINE, EMBASE, and Cochrane Library with no publication date restrictions, with the MeSH terms adolescent, youth, delta-9-tetra-hydrocannabinol, marijuana, challenges, legalization, cognition, and academics. The struggles of recreational adolescent cannabis use has not been widely studied. As a result, governments, health-care providers, and educational institutions are not aware of ways to equip themselves to these new challenges. Health care providers are having difficulties treating adolescents with cannabis use disorders and addiction, as studies have shown adolescents with cannabis use disorder are having poor treatment responses. Additionally, studies have shown that marijuana use might be more effective in indicating lower educational attainment than adolescent alcohol use. There have been significant cannabis use among adolescents in North America, Pakistan, and the UK. Evidence has showed that regular cannabis adolescent users were more likely to progress harmful drug use behavior to adulthood. Structural and functional neuroimaging research have proposed that chronic cannabis use among adolescents potentially causes morphological changes in the medial temporal, frontal cortices, and the cerebellum. Further longitudinal studies and other forms of studies are required to fully investigate the long-term social and cognitive challenges of recreational cannabis use. Changes in governmental policy may serve as a way to combat cannabis use among youth population in Asia and Europe. For North America, currently, the jurys is still out on the effects of recreational cannabis legalization. However, there have already been some indications on possible harms legalization may cause.

Keywords: *Cannabis, Marijuana, Adolescent, Struggles, Cognition, Academics, Pakistan, United Kingdom, North America*

SOLVATION OF CHOLESTEROL IN DIFFERENT SOLVENTS: MOLECULAR DYNAMICS SIMULATION STUDY

Khair Bux

H.E.J Research Institute of Chemistry, International Center for Chemical and biological sciences (I.C.C.B.S), University of Karachi

Herein, we present a new model of cholesterol for molecular dynamics simulations based on the optimized potentials for liquid simulations force field. The new model was used to study the structural and dynamic properties of the molecule in four different solvents: water, methanol. Dimethyl sulfoxide and benzene. The results of the simulations show that structural and dynamic properties of the cholesterol especially behavior of alkyl chain vary in each solvent. In benzene alky chain undergoes high higher lateral diffusion with least atomic fluctuations due to similar wander walls interactions. Contrarily, in case of other solvents like dimethyl sulfoxide, methanol and water diffusion of chain decreases due to increasing polarity. Molecules as whole undergoes self-aggregation in water due to hydrophobic effect which decreases in decreasing polarity order and in last there is no self-association of molecule in case of benzene. In free energy of solvation evaluation, there is very small free energy of solvation of cholesterol in case of water that suggests its lower solubility due to opposite polarity and order and free energy of solvation follows polarity order and increases in decreasing order of polarity of solvents that is in good agreement with reported experimental quarries of solubility of molecule in these four solvents. Molecular Dynamics Simulation (MD) Free energy of solvation, Aggregation Herein, we present a new model of cholesterol for molecular dynamics simulations based on the optimized potentials for liquid simulations force field. The new model was used to study the structural and dynamic properties of the molecule in four different solvents: water, methanol. Dimethyl sulfoxide and benzene. The results of the simulations show that structural and dynamic properties of the cholesterol especially behavior of alkyl chain vary in each solvent. In benzene alky chain undergoes high higher lateral diffusion with least atomic fluctuations due to similar wander walls interactions. Contrarily, in case of other solvents like dimethyl sulfoxide, methanol and water diffusion of chain decreases due to increasing polarity. Molecules as whole undergoes self-aggregation in water due to hydrophobic effect which decreases in decreasing polarity order and in last there is no self-association of molecule in case of benzene. In free energy of solvation evaluation, there is very small free energy of solvation of cholesterol in

case of water that suggests its lower solubility due to opposite polarity and order and free energy of solvation follows polarity order and increases in decreasing order of polarity of solvents that is in good agreement with reported experimental quarries of solubility of molecule in these four solvents.

Keywords: *Molecular Dynamics Simulation (MD) Free energy of solvation, Aggregation*

ANALYSIS OF PHYSIOLOGICAL STRAIN RESPONSE TO ENDURANCE EXERCISE IN MILITARY PERSONNEL

Huma Bugti & Faizan Mirza
Dept. of Physiology, University of Karachi

Endurance exercise leads to systemic functional adaptations which yield certain physiological response in athletes and present study evaluated and compared the physiological variables, such as; Percent Heart Rate Reserve (%HRR), Maximum Oxygen Uptake (VO2max) and Lactate Threshold (LT), of military runners. For this purpose, data was collected from 25 military male runners with daily exercise routine of 90 minutes per day, with age range 20-30 years and these male runners were evaluated for their %HRR, VO2max and LT over a controlled environment by running on treadmill. The running time was set for 30 minutes time trail test in which running intensity was to be maintained for first 12 minutes and heart rate was noted in every 15 seconds lap to estimate %HRR, distance covered was noticed for estimating the VO2max and the last 20 minutes average HR was observed for estimating the LT. The results showed the gradual increase in HR and VO2max with increasing intensity of running. The VO2max and LT in runners yielded the higher value in good runners than weak runners, while, %HRR showed greater variation in the result. Hence, it was observed that VO2max and eventually, LT are the best indicators of the running potentials in male runners.

Keywords: *Military Runners, Endurance, %HRR, VO2max, LT, Physiological Strain*

DIETARY INTAKE OF MAGNESIUM IMPROVES RESERPINE-INDUCED DEPRESSION LIKE SYMPTOMS AND COGNITIVE IMPAIRMENT IN RATS

Sadia Sadir & Saida Haider
Department of Biochemistry, University of Karachi, Pakistan

The present study was designed to investigate the effects of magnesium (Mg) on reserpine-induced depression in rats. Depression is an affective disorder and a major public health problem. Almost 11% of adults older than 60 and 18.8% of those younger than 60 suffer from depression. Available treatments for depression either fail to produce complete recovery or induce unwanted side effects. Development of new treatments requires new animal models or intelligent use of existing. Recently, nutritional status has been linked to depression. Among nutrients, low magnesium status has been associated with increased depressive symptoms in different age group population. Depression was induced by reserpine administration at a dose of 1 mg/kg (i.p.) for three days which was followed by post-treatment with Mg (100 mg/kg; p.o.) for 15 days. At the end of treatment behavioral alterations were assessed. Animals were decapitated following behavioral testing and plasma and brain samples were collected for biochemical estimations. In this study we demonstrate that administration of reserpine produced behavioral deficits parallel to depression-like symptoms evident by decreased immobility time in forced swim test (FST). Cognitive functions also impaired by reserpine was evaluated by pattern separation test for similar new object (PST-SNO) and pattern separation test for different location of object (PST-DLO). These behavioral deficits were integrated with increase in plasma corticosterone levels and elevated oxidative stress in brain of the reserpinized rats. Magnesium post-treatment ameliorated the behavioral deficits associated with depression by restoring plasma corticosterone level and brain oxidative imbalances in reserpine-induced rat model of depression. These behavioral and biochemical outcomes indicate that Mg is an important dietary constituent that should be present in daily food, since its intake is able to minimize the behavioral disturbances related to oxidative damage in brain associated with depression.

Keywords: *Magnesium, Depression, Memory, Oxidative stress*

EFFECTS OF REPEATED ADMINISTRATION OF H1 RECEPTOR ANTAGONIST PROMETHAZINE ON FOOD INTAKE AND BODY WEIGHT IN RATS

Rabia Masood, Tooba Haiyaan, Mehak Sara & Farhat Batool
Neurochemistry and Biochemical Neuropharmacology Research Laboratory, Department of Biochemistry, University of Karachi

Obesity is important health issue that can later develop metabolic disorder and cardiovascular disease. Several lines suggest that histamine plays an important role in food intake and energy expenditure. H1 receptors are widely expressed in central nervous system and are known to involve in the regulation of appetite and energy homeostasis. The present study was designed to investigate the effects of repeated administration of antagonist promethazine on food intake and body weight in rats. Twelve (n=12) locally bred, female Albino Wistar rats 180±200g purchased from DUHS were fed on normal lab chow and given rate ad libitum. The animals were housed in an environmentally controlled room (ambient temperature 24±2°C and relative humidity 55±5%) on a 12:12-hour light/dark cycle (lights on 7:00 a.m.) experimental procedures were approved and performed in strict accordance of Institution Ethical Committee, University of Karachi, Pakistan. Rats received daily (10 mg/kg) of promethazine drug to test group and saline injection to control group for 15 days. Food intake and body weights were monitored weekly to understand the potential role of h1 receptor n the regulation of feeding and body weight. Animals received daily injection of promethazine (10mg/kg) showed significantly increase in body weights and food intake as compared to control. Promethazine, an antagonist of H1 receptor, plays significant role in regulating feeding and energy metabolism.
Keywords: *H1 Receptor Antagonist Promethazine, Food Intake, Body Weight*

TO STUDY USEFULNESS OF A FORMULATION CONTAINING CHICKEN FAT IN TREATING SKIN BURNS

Saleeha Israr, Fariha Jawaid, Mahzaiba Sheikh & Auwais Ahmed Khan
Dow College of Pharmacy, DUHS Karachi

Burn is a type of injury to skin or other tissues caused by heat, electricity, chemicals, or radiation. Skin burns are further classified into four types; Superficial/first degree burns, Partial thickness/second degree burns, Full thickness/third degree burns and fourth-degree burns. Chicken fat is

obtained usually as a by-product from chicken rendering and processing. Chicken fat is known for its high linoleic acid content. Aim of current study is to evaluate effectiveness of a formulation containing chicken fat in the treatment of burns and removal of burn associated skin marks. A formulation was developed using chicken fat. Burns model was used to study effectiveness of the formulation. A dosage of 0.2 mL/100 g body-weight was used for the induction of anesthesia (Millipore, Billerica, MA, USA). The dorsum of the rats was shaved using a shaver limited till pelvic bone from 12th rib than lines were drawn to divide the loin into four equal areas where burns were inflicted, each quadrant accommodating a single burn wound with the time interval of 5, 10, 15 seconds. These burns were than treated using euflavine in standard group and formulated chicken fat the test group. Animals of the control group either could not survive or were in severely worse condition where as standard group animals healed but the burn scars were still there. In contrast, the test group animals were healed in shorter period and burn scars were also gone. More effective results as compared to standard and experimental group demonstrate effectiveness of chicken fat in treating burns. Burns associated scars were also cured. A significantly lowered level of aggression (possibly linked with the burn wounds) was evident in animals treated with chicken fat.
Keywords: *Skin Burns, Chicken Fat, Chicken Fat in Treating Burns, Scar Healing, Burn Healing*

USING WALNUT SPREAD FOR THE CONTROL OF CHOLESTROL LEVEL IN CARDIOVASCULAR PATIENTS AND ALSO FOR TREATING CARDIOVASCULAR DISEASES

Shahmina Eruj Khan, Mariyam Bint e Shakeel, Mehak Ahsan,
Syeda Masooma Zehra & Um e Habiba Zaman
Jinnah University for Women

Due to high level of cholesterol and fats which cause blockage of arteries hence, blood is not properly pumped due to which coronary heart diseases can happen in order to cure these disease we prepared an spread in which main ingredient is walnut. Walnut is known as king of nuts because it is the most energy dense nut and have high % of PUFA, and have more and better antioxidants like Ellagic acid, Gallic acid which are 2-15 times more potent than the antioxidant Î³-Tocoferol (vit E), polyphenol. It decreases platelet adhesion rate, decreases platelet activation. It have highest % of folate amongst these three nuts and minerals like copper, manganese and zinc. Several studies carried out over the years strongly suggested that

substitution of the fat from one ounce of any type of nut for equivalent energy from carbohydrate in an diet is associated with reduction in the risk of coronary heart disease by 40%.

Keywords: *Cardiovascular diseases, walnuts, Tocoferol, Ellagic Acid.*

ENDORSING THE SYMPTOMS AND POSSIBLE INVOLVEMENT OF CHICKEN CONSUMPTION IN POLY CYSTIC OVARIAN SYNDROME: A SURVEY

Zara Sami[1], Hajra Naz[1] & Dania Farah[2]

[1]*Department of Biochemistry, University of Karachi*

[2]*Institute of Business Administration (IBA)*

Polycystic ovarian syndrome, a common disorder of reproductive age, is an endocrine disorder with a collection of hormonal disturbances thus becoming the leading cause of infertility. The distinguishable symptoms are excess androgen production, hirsutism and acne. According to the new Rotterdam criteria, a minimum of two out of three criteria should be met for the diagnosis of PCOS that include anovulation, androgen excess and polycystic ovarian morphology. Obesity with impaired glucose tolerance and type 2 diabetes tend to co-exist in PCO women. Causes of PCOS are still unknown but some explored PCOs are genetic (inheritance), increased levels of insulin, low level of chronic inflammation and some suspected causes are vitamin D deficiency, dietary habits. Insulin resistance (IR) is a risk factor in PCOS that is associated with increased risk of diabetes type 2. To validate the questions of self-designed questionnaire and to evaluate the possible involvement of three factors leading to PCOS. A validated structured questionnaire regarding the awareness of PCOS was used to collect data from38 and 162 female volunteers from University of Karachi and Bahria University respectively. Cross tabulations using SPSS revealed a significant relationship of occurrence of PCOS and acne ($P<0.01$), hirsutism ($P<0.01$) and irregularity of menses ($P<0.01$) along with quantity of chicken consumed ($P<0.05$). Most PCOS suffering females belonged to the age bracket of 21-25 years ($P<0.01$). General knowledge profile showed that females were significantly aware of pelvic ultrasound as a diagnostic test ($P<0.05$), weight loss and diet adjustment as a treatment modality ($P<0.05$) and doctor as suitable source of information ($P<0.01$). Females suffering from PCOS exhibited symptoms of menstrual problem ($P<0.01$), obesity ($P<0.01$), depression ($P<0.05$) along with other diseases ($P<0.01$). Our study endorses that PCOS sufferers exhibited irregularity of menses, acne, hirsutism, obesity and depression.

Keywords: *PCOS, Hirsutism, Acne, Obesity, Menstrual Irregularity*

INCORPORATION OF ORANGE PEEL IN THE PREPARATION OF CARROT JAM

Aleeza Rafique
Jinnah University for women

The present study was carried out with the objective to prepare carrot jam by incorporation of orange peel and to assess the acceptability and nutritive value of the product prepared. Carrots have many health benefits it is healthy for eyes, heart, teeth and gum and also fight against cancer. Carrot jam was prepared by crushing, grinding and boiling at moderate temperature. Lemon and orange juice was also added as a preservative and orange peel was added to act as a gelling agent. We have also perform brix and Ph test to study the shelf life of carrot jam. Carrots was collected and washed and then peel using hand peeler. After peeling carrots was boiled and then grind using food processor. Then we took water in a cooker and add sugar in it. When sugar dissolved completely then we added lemon juice and orange juice. Then sugar was added after stirring orange peel was added which was used as a gelling agent.
Keywords: *Carrot, Orange peel, Jam.*

ROLE OF VISFATIN AS A MARKER OF DEPRESSION IN ELDERLY PATIENTS

Sabeen H. Qazi[1], 1Shaista Emad[1] & Rubina Ghani[1&2]
[1]*Department of Biochemistry, Jinnah Medical & Dental College*
[2]*Pathological and Molecular Laboratories, Karachi, Pakistan*

Depression is one of the most burning issues observed globally. It has been estimated that about 351 million people throughout the world have been afflicted with depression per year. Adipocytokines have important role in depression. Many studies were carried out on leptin but no literature reported the role of visfatin in depression. Visfatin is an adipocytokines previously thought to act like insulin has now been found to play an important role in different metabolic processes. Present study was aimed to study visfatin levels in elderly depressed patients. To identify a new biomarker for depression in elderly residing in the old age institutes situated in Karachi city. This was a case control study requiring no therapeutic intervention. It was carried out by visiting different private old age institutions in the city of Karachi, Pakistan from 2017- 2018. A total of 164 people aged 60 years were enrolled via convenient sampling. Basic anthropometric variables were measured. Serum visfatin, was estimated

via ELISA as well as lipid profile was also estimated. Systolic blood pressure was highly significant in depressed subjects when compared with control cases p value < 0.000**.The diastolic blood pressure was significant p value < 0.001* as well the BMI, serum triglyceride and visfatin in depressed subjects were significant p values < 0.004* and < 0.001* respectively. The role of Visfatin has never been studied previously in depression. Therefore, present study provides an insight for visfatin as a marker for depression.
Keywords: *Geriatric depression, Lipid profile, Leptin, Triglycerides, Visfatin*

BODY DYSMORPHIC DISORDER (BDD); AN IGNORED EPIDEMIC

Farheen Malik, Jawad Ahmed, Taha bin Arif, Aimen Ali, Sundus Nasim, Dua Azeem, Iqra Tasleem, Fatima Memon, Sohail Kumar, Fatima Hasan, Zehra Hasan, Midhat Qadri, Hina Siddiqui, Nimra Hasnain & Surhan Kamal

Dow Medical College, Karachi

Body dysmorphic disorder (BDD) is a somatoform disorder characterized by a preoccupation with an imagined or slight defect which causes significant distress leading to social, professional and personal dysfunction. Determining the frequency and associated risk factors of BDD among students, its relation with gender, and its effect on different aspects of life. A cross sectional study based on DSM-V criteria was done using convenience sampling on students of Dow University of Health Sciences from January to February. Student's eating disorders were excluded. Results were drawn through descriptive statistics using SPSS v23. Statistical tests as ANOVA and Chi- square were also used. 600 students took part in the study with a response rate of 88.2% with majority (54.5%) being females. Frequency of BDD was found to be 12.9% among students. Significant relation was found with time spent on social media, ethnicity, gender, and physical defect being pointed out by peers (p=0.00). Sleep, appetite, studies and other aspects of life were significantly affected in students with BDD (p=0.00). BDD lead to depression and anxiety in students (p=0.00). BDD has significant impact on different aspects of life. Adequate measures need to be taken to address the issue.
Keywords: *Body Dysmorphic Disorder, Anxiety, Body dissatisfaction, Body image*

GENDER DIFFERENCES IN THE LEVELS OF INTIMACY ANOREXIA IN PAKISTAN

Hadia Sarwat, Arooba Adnan, Sarah Tariq & Kiran Bashir Ahmad
Institute of Professional Psychology, Bahria University, Karachi

Intimacy Anorexia has been characterized as an individual withholding emotional, sexual and spiritual intimacy actively from their partner. The current study aimed to understand whether a difference between the prevalence of intimacy anorexia exists between males and females in Pakistan, where openly seeing, even your parents being expressively romantic is looked down upon. 97 female participants and 11 male participants in the age group of 21-30 years with an intermediate education level or above were taken as a sample in Karachi. They completed the Intimacy Anorexia Test consisting of 10 items to assess the fear and aversion related to intimate relationships. The results were then statistically analyzed on SPSS Version 22. The results indicated a difference between the occurrence of symptoms of Intimacy Anorexia between males and females. Mean scores of females were higher than males. The study carries implications for the understanding of Intimacy Anorexia among professionals which can lead to the development of plans to clinically manage the symptoms of intimacy anorexia in the local context.

Keywords: *Intimacy Anorexia, Female Sexuality, Sexual Disorders, Pakistan*

RELATIONSHIP AMONG FAMILY COMMUNICATION, FAMILY FUNCTIONING, FAMILY SATISFACTION AND PSYCHOLOGICAL WELLBEING OF ADOLESCENTS

Hina Saleem Khan & Zainab Hussain Bhutto
Institute of Professional Psychology- Bahria University Karachi Campus

The aim of the study was to investigate if family communication, family functioning and family satisfaction would predict psychological wellbeing of adolescents. Based on the formulation made using previous literature a hypothesis was formed which stated that Family communication, family satisfaction and family functioning would significantly predict psychological wellbeing among adolescents. A total of 181 adolescents of age 13-15 years were selected from private schools of Karachi city. Family communication, Family satisfaction and Family Functioning were measured by Family Adaptability and Cohesion Evaluation Scales Fourth

Edition Package - FACES IV Package (Olson, Gorall & Tiesel, 2006), and psychological wellbeing was measured by Ryffs scale of psychological wellbeing (Ryff, 1989). With the aid of teachers, participants were informed about the research and the purpose of their participation, and their consent was taken. Data collected was then statistically analyzed using SPSS version 20. Using scores of scales contributing to healthy family functioning (cohesion and flexibility) and problematic family functioning (enmeshment, disengaged, rigid and chaotic) a total score was calculated to form scales of balanced family functioning and unbalanced family functioning. Correlation and Regression Analysis was done to test the hypotheses of the study and based on the results of regression analysis it was found that balanced family functioning scale and unbalanced family functioning were found to predict psychological wellbeing in adolescents by 38% and 16% respectively. Significant relationship was found between family communication with family satisfaction ($r=0.71$, $p< 0.01$), psychological wellbeing ($r=0.44$, $p< 0.01$) and balanced family functioning ($r=0.63$, $p< 0.01$) but it was found to be insignificant with unbalanced family functioning. In conclusion the hypothesis of the current study was partially validated. Further results were discussed and recommendations and limitations were provided.
Keywords: *Family communication, Family functioning, Family satisfaction, Psychological wellbeing, balanced family functioning, unbalanced family functioning*

DIFFERENTIAL REINFORCEMENT FOR HIGHER RATES ON SOCIAL RESPONSIVENESS IN AUTISM

Rubab Farzeen Iqbal Aswani & Shagufta Haider
Institute of Professional Psychology, Bahria University

The purpose of the study was to apply the procedures of Applied Behavioral Analysis for behavior modification in a clinical setting. The technique of Differential Reinforcement of Higher rates of Behavior (DRH) was used as an intervention in order to increase social responsiveness of a child with Autism. The data collection methods that were employed during the case study mainly includes frequency recording that was done by making observations distributed in the following phases; Pre-intervention, intervention, Post-intervention and Follow up Phase. During the intervention phase, a significant increase in the subject's social responsive behavior was seen which is quite evident from the graphical representation of the results. This was consequently compared with pre

and post intervention phases. Thus, it proves that the behavioral modification technique of Differential Reinforcement of Higher rates of Behavior (DRH) in Applied Behavioral Analysis can be successfully applied on children with Autism in Clinical settings.

Keywords: *Applied Behavioral Analysis, Differential Reinforcement of Higher Rates of Behavior, Autism*

WORKING CONDITIONS AND WORK-RELATED HEALTH ISSUES OF FEMALE DOMESTIC WORKERS IN FOUR DISTRICTS OF KARACHI

Hira Tariq, Shiraz Shaikh & Mehjabeen Musharaf
Appna Institute of Public Health (AIPH)

To assess the working conditions and determine work related health issues of female domestic workers in four districts of Karachi. It was a community based cross sectional study done in four squatter settlements of Karachi with a sample size of 406 female domestic workers in 2018. A pretested questionnaire was administered to collect data from the workers who were selected through snowball technique. Association of experiencing violence, work related injuries and chemical related health hazards was seen with different factors including age, education status, type of work, duration of work and monthly salary using Logistic regression analysis. Only a few (14.5%) earned Rs15000 and above. Less than 1% had any financial support for health or education of children. Verbal forms of violence experienced including shouted at (40.9 %), constant critique of work (17.2%), abuse (13.1%) and job threat (13.5%). Three most common workplace accidents reported included experiencing cuts (30.8%) followed by burn (27.6%) and bruise (23.6%). Doing laundry was significantly positively associated with experiencing cuts (OR=2.09; 1.15-3.71), those who looked after children were more likely to experience bruises (OR=2.29; 1.07-4.88) and cooking was positively associated with experiencing burns (OR=4.66; 2.68-8.08). This study reveals that substandard working conditions and work related health hazards are prevalent among the domestic workers. Creating economic environment which is equal for all low wage workers, setting up domestic labor standards and holding employers accountable to labor standards is essential.

Keywords: *Female Domestic Workers, Karachi Pakistan, Urban Slums, Community survey, Working Conditions, Health Issues, Violence*

EFFECTIVENESS OF COGNITIVE BEHAVIORAL THERAPY AND CLINICAL RELATIONAL FRAME THEORY FOR THE TREATMENT OF DEPRESSIVE SYMPTOMS IN ADULTS

Nayab Dehraj, Zainab Husaain Bhutto & Zainab F. Zadeh
Institute of Professional Psychology, Bahria University Karachi Campus

The aim of this research was to explore the effectiveness of Cognitive Behavioral Therapy (CBT) and Clinical Relational Frame Theory (Clinical RFT) on adults with depressive symptoms. A pretest-posttest experimental design was used for the research to test the hypothesis that there would be a significant difference in the level of depressive symptoms between adults experiencing Cognitive Behavioral Therapy and Clinical Relational Frame Theory. A total sample of eight participants, between the age range of 20-35 years was selected through purposive sampling from different clinics in Karachi city where psychological treatment is provided and through advertisement on internet. Adults scoring 26-49, which is mild to moderate range, on Siddiqui Shah Depression Scale (SSDS) were included in the study. Participants were randomly assigned to four week treatment of either Cognitive Behavioral Therapy group or Clinical Relational Frame Theory group for individual sessions and a follow up session was also conducted after two weeks. The data was analyzed through SPSS (version 22) using independent sample t-test for between group comparison of pretest and posttest scores. Results revealed no significant difference in the level of depressive symptoms of CBT and Clinical RFT group in the post intervention phase indicating that both therapies were effective interventions. Findings also suggest that the outcomes of this research can be used by the psychotherapist or psychologists in improving the CBT manual and also utilizing language based clinical RFT for reducing the symptoms of depression, according to the culture of Pakistan.

Keywords: *Cognitive Behavioral Therapy, depressive symptoms, Clinical Relational Frame Theory, Pakistani Culture*

EFFICACY OF AUGMENTED REALITY VIDEO GAME ON MOTOR SKILLS OF CHILDREN WITH CEREBRAL PALSY

Syeda Rida Asad
Institute of Professional Psychology, Bahria University

The aim of this study is to determine the efficacy of augmented reality video game on motor skills of children with cerebral palsy. It was hypothesized that there would be a significant difference on motor skills of children with cerebral palsy after playing the augmented reality video game. The research was conducted on sample of six children suffering from cerebral palsy. The sample was selected through purposive sampling and design of the research study was an interrupted series quasi experimental design. The data for the research was collected through augmented reality video game software (WonderTree). In order to evaluate the motor skills of children, Gross Motor Function Measure (GMFM) was used as pre and post measure. To analyze the data, Paired Sample t-test was used along with descriptive statistics. The results of the study indicated that there is no significant difference of augmented reality video game on motor skills of children with cerebral palsy ($p<.05$). Cerebral palsy is a group of permanent disorder which effects the movement, posture and motor skills of a person. There are some treatments that could improve the state of the person with cerebral palsy that consist of physical therapy, occupational therapy, speech therapy and medication. Due to the advancement on technology, another treatment that has been identified is the augmented reality games for improving the motor skills. There had been lack of evidence on the augmented reality games being effective for treatment, however, the results from the sample t test have demonstrated that before and after the intervention, there had not been much improvement on motor skills of children with cerebral palsy. However, the improved mean differences on few motor domains and behavioral observations noticed in the study opens door for future researchers to explore these areas in depth specifically with respect to culture of Pakistan.

Keywords: *Augmented Reality Video Game, Motor Skills, Cerebral Palsy, WonderTree*

EFFECTIVENESS OF COMBINED COGNITIVE BEHAVIORAL AND POSITIVE PSYCHOLOGY INTERVENTION ON MARITAL BURNOUT OF HOUSEWIVES

Zainab Ali & Zainab F. Zadeh
Institute of Professional Psychology, Bahria University

Marital burnout is associated with decreased intimacy and conflicts in marriage with characteristic features of physical, emotional and psychological exhaustion. The present study aimed to investigate the effect of combination of cognitive-behavioral and positive psychology intervention on the marital burnout of housewives. It was hypothesized that combination of cognitive behavioral and positive psychology intervention will have significant effect on marital burnout of housewives. Further, housewives who will be exposed to cognitive behavioral and positive psychology intervention will report lesser marital burnout as compared to those who receive no interventions (control group). For the purpose of study, a sample of 22 housewives were selected through purposive sampling who were financially dependent on their husbands with minimum education level of intermediate and had at least one child. The design of the study was mixed experimental design with both experimental and control group (11 participants in each group). Data was collected using informed consent form, demographic form and the 10-Item Couple Burnout Measure (Pines, 1996). The experimental group was subjected to six sessions of combined CBT and positive psychology interventions. The data was analyzed through SPSS (version 22) using independent sample t-test and paired sample t-test for between and within group comparison respectively. Findings revealed significant difference ($p < .05$) in marital burnout of experimental and control group in the post intervention phase indicating that interventions were effective in reducing burnout. The limitation of the study involves lack of generalizability and follow-up.

Keywords: *Marital Burnout, Housewives*

PERCEPTION OF PSYCHIATRISTS REGARDING THERAPEUTIC EFFICACY OF COGNITIVE BEHAVIORAL THERAPY

Aatir H. Rajput[1&2] & Moin Ahmed Ansari[1&2]
[1]*Department of Psychiatry, Liaquat University of Medical & Health Sciences*
[2]*Sir Cowasjee Jehangir Institute of Psychiatry, Hyderabad*

Cognitive Behavioral Therapy (C.B.T) is an umbrella term for a class of empirically supported interventions that share a basic premise that mental disorders and psychological distress are maintained by cognitive factors. Despite fast becoming the therapy of choice for psychologist around the world, little is known regarding how psychiatrist perceive its therapeutic efficacy. To evaluate the perception of psychiatrist regarding the therapeutic efficacy of Cognitive Behavioral Therapy (C.B.T). This descriptive study, comprised of a sample of 36 psychiatrists (both consultant psychiatrists & resident psychiatrists) chosen via non-probability, purposive sampling in the months of January and February, 2019. Data were collected from the respondents by using a pre-structured, self-administered questionnaire containing inquiries about the perceived therapeutic efficacy of C.B.T for a variety of mental health conditions and its comparison with pharmacological management and other psychotherapies. The sample majorly comprised of males (80.5%), with a mean age of 39 years (SD Â± 9). A majority of the respondents employed psychotherapy rarely (16.7%) in their practice and C.B.T even less so (5.6%), despite recognizing C.B.T to be more therapeutically efficacious than other psychotherapies. Among the conditions that respondents perceived most likely to benefit from C.B.T were depression (72.2%) and anxiety disorders (11.1%). Most of the respondents regard therapeutic efficacy of CBT superior to regular psychotherapies but inferior to the pharmacologic therapy. All of the respondents recognized that CBT can augment the results produced by pharmacological therapy alone. It can be safely stated on the basis of results that therapeutic efficacy of C.B.T is perceived to be largely positive by psychiatrists but their views seldom translate into practice. Further research needs to be conducted to investigate why (despite a general agreement on the high efficacy of the therapy), very few are actually employing it.

Keywords: *Cognitive Behavioral Therapy, Therapeutic Efficacy, Psychiatrists, Non-Pharmacological Interventions (NPI)*

REDUCING SELF-HARMING BEHAVIOR USING DIFFERENTIAL REINFORCEMENT OF ZERO RATES

Amna Allauddin
Bahria University, IPP Karachi Campus

"The purpose of the study was to apply the procedures of Applied Behavioural Analysis for behaviour modification in a clinical setting. The study was to determine whether self-harming behaviours could be decreased with the application of Differential Reinforcement based on the principal of differential reinforcement of zero rates of behaviour (DRO). The study was conducted with a 7-years old child having microcephalus with intellectual disability in dul sukoon. The data collection methods that were employed during the study mainly includes frequency recording that was done by making observation distributed in the following phases; pre-intervention, intervention, post-intervention and follow phase. Result indicated noticeable decrease in the target behaviour during the post intervention and follow up phase. Subject's behaviour was a function of attention seeking that he drives from self-harming behaviour. The studys result was in accordance with the principals of applied behaviour analysis and its result support ABAs construct. Thus, it proves that the behavioural medication technique of Differential Reinforcement of Zero Rates of Behaviours (DRO) in Applied Behavioural Analysis can be successfully applied on children with disabilities in Clinical settings.
Keywords: *Applied Behavioural Analysis, Self-harming behaviours, Differential Reinforcement of Zero Rates of Behaviours.*

PREVALENCE AND AWARENESS OF HEPATITIS B-INFECTION IN THE STUDENTS UNIVERSITY OF SINDH JAMSHORO.

Abdul Qayoom Rakhshani, Jaindo Shaikh, Zulfiqar Laghari, Sarfaraz Ahmed & Kiran Abdullah
Department of Physiology University of Sindh Jamshoro

Hepatitis is an inflammation of the liver. The condition can be self-limiting or can progress to fibrosis (scarring), cirrhosis or liver cancer. Hepatitis Viruses are the most common cause of hepatitis in the world but other infections, toxic substances (e.g. alcohol, certain drugs), and autoimmune diseases can also cause hepatitis. Approximately 1 in 12 persons worldwide, or some 500 million people, are living with chronic viral hepatitis. Viral hepatitis is among the top 10 infectious disease killers and

the leading cause of liver cirrhosis and cancer. To determine the prevalence of Hepatitis B- Infection, risk factors and awareness in Students University of Sindh, Jamshoro. We analyzed serum for HBV infection among one thousand six hundred fifty eight (1658) students of Sindh University Jamshoro, of either sex (male & female) with age of 18 to 25 years and also residential base (hostler, bachelor, family) were included in questionnaire and other analysis. We analyzed serum of volunteers by Device method (IMMUNOCHROMATOGRAFIC Assay) for the Qualitative detection. The total population of Sindh University students are approximately 25000(Â±) , out of them we studied 1658 volunteers having (6.63%) infection in general . Out of 1658 students male students are 1024 (61.76%) and female students are 634 (38.23%). Out of 87 positive screened students, the ratio of male infected students is greater than female students. The number of infected male students was 78 (89%) and the remaining 09 (10%) students are female. Out of these positive students the majority of students are resident of Hostlers as well as bachelors, the ratio of infected hostlers students is 52 (59%), bachelors students are 24 (27.58%) and residents in families 11 (12%). The main cause of spreading hepatitis is that mostly students were unaware from hepatitis risk factors, according to our study 1110 (66.94%) students were unaware, and 548 (33 %) students are aware from Hepatitis risk factors which are responsible for the spread of infection among the population. Our results indicate high prevalence rate of Hepatitis B- infection, in Hostler students, most of the students found unaware from cause of spread of HBV infection.
Keywords: *Prevalence, Awareness, Hepatitis B- Infection.*

RESISTANTCE PATTERN OF CLINICAL ISOLATES FROM CASES OF URINARY TRACT INFECTION AGAINST GATIFLOXCIN

Faisal Sultan, Samiyah Tasleem[1&2] & Syed Baqir Naqvi[2]
[1]*Department of Microbiology, University of Karachi*
[2] *Federal Urdu University of Arts, Science & Technology, Karachi.*
[3]*Department of Pharmaceutics, Faculty of Pharmacy*

A urinary tract contamination (UTI) is a disease that influences some portion of the urinary tract. When it influences the lower urinary tract it is known as a bladder contamination (cystitis) and when it influences the upper urinary tract it is known as kidney contamination (pyelonephritis). Gatifloxacin is an anti-toxin of the fourth-age fluoroquinolone family that

like different individuals from that family hinders the bacterial compounds DNA gyrase and topoisomerase IV. One hundred thirty five clinical isolates of Staphylococcus aureus, Escherichia coli, and Pseudomonas aeroginosa were collected from different hospital and labs. These isolates were evaluated against the Gatifloxacin to investigate minimum inhibitory concentration and the resistant pattern. The antibacterial activity of Gatifloxacin was carried out by disc diffusion method. Gatifloxacin was found to be 49.44%, 21.66% and 37.77% sensitive to Staphylococcus aureus, Escherichia coli and Pseudomonas aeroginosa respectively and shows 50.55%, 78.33% and 62.22% resistance to clinical isolates. Minimum inhibitory concentration of Gatifloxacin against Staphylococcus aureus, Escherichia coli and Pseudomonas aeroginosa was found to be 0.5mg/lit. Hence it has been evaluated that all these clinical isolates have developed resistant to Gatifloxacin, though it is a new fluoroquinolone in our clinical settings but the clinical isolates had developed resistant to different antimicrobial which is very alarming. So fluoroquinolone should not be prescribed unless alternates are available.

Keywords: *Urinary Tract Contamination (UTI), Gatifloxacin, Microorganism*

HAND DISINFECTANTS; ARE WE USING THEM ADEQUATELY?

Jawad Ahmed, Farheen Malik & Taha Bin Arif
Dow Medical College, Karachi-Pakistan

In hospital settings where infection is prevalent the use of hand hygiene is of utmost importance. In 2002, the guidelines published by CDC recommended the use of alcohol-based solution for invisible hand decontamination and usage of soap and water for visible contamination. In a study by Girou et al, Alcohol hand rubs were found to be more significantly effective than hand washing with soap in reducing bacterial contamination. Bacterial contamination of hand increases linearly with time and varies according to different location in the hospital. It is estimated that millions of people worldwide suffer from Health Care Associated Infections (HCAI). A similar study conducted in Gondar University Hospital, only 16.5% health care providers had good handy hygiene compliance. The aim of this study is to find out the frequency of usage of alcohol disinfectant among hospital staff as well as to determine different level of compliance of this practice among varying work group and gender. A cross sectional and observational study was done. The study

was explained to the participants and consent was taken. The study was done in a tertiary care teaching hospital in Karachi in February 2018. The staff was divided in four groups; doctors, nurses, technical staff, and female ward assistants. The cooperation rate was 72.36%. A total of 220 participants agreed to take part in our study of which 212 were included, 41.5% males and 58.5% females. Only among doctors, males on average used hand disinfectant more times than females but it was vice versa in rest of work groups. Most disinfectant use was in surgery, seconded by medicine and then dental. The compliance of staff to guidelines for use of hand disinfectant that is before and after every patient was 12.3%.
Keywords: *Hand disinfectants, Nosocomial Infections*

TO DOCUMENT PNEUMONIA CASE MANAGEMENT PRACTICES IN SELECTED COMMUNITIES IN PAKISTAN; A QUALITATIVE STUDY

Tabish Hazir[1], Hana Mehmood[1], Subhana Akber[1], Saira Mujahid[1], Yahya Sheraz[2], Harish Nair[3], Allison Worth[3], Harry Campbell[3] & Aziz Sheikh[3]
[1]Maternal, Neonatal & Child Health Research Network (MNCHRN), Islamabad, Pakistan
[2]International Research Force (IRF), Islamabad, Pakistan
[3]RESPIRE Collaboration, University of Edinburgh, United Kingdom

Pneumonia continues to be one of the leading killers, accounting to around 16% of under-five mortality in Pakistan. WHO and UNICEF have developed multiple action/ intervention plans to curb morbidity and mortality based on which Pakistan launched multiple national programs (ARI, MNCH, IMCI etc.). Under all these programs, selected health care professionals were trained on WHO standards of ARI case management. Looking at the unchanged mortality statistics, there is a concern that these trainings might have failed to change the case management practices within the community. To identify and document under five pneumonia case management practices at three levels of health care: LHW, FLCF, Tertiary care (private and public). A qualitative study will be conducted through participant observations over a period of 13 months across randomly selected sites in four provinces of Pakistan in addition to the federal capital. These will be structured, disguised observations which will be done using a validated observation tool based on standard WHO pneumonia case management guidelines, developed in close collaboration with local experts and University of Edinburgh. We have planned to conduct at least 32 observations from each of the four provinces and the

federal capital. Thus a minimum of 160 observations will be conducted. Behavioral coding will be employed to analyze data.

Keywords: *Acute Respiratory Illness, Children, Treatment Options*

HYPOVITAMINOSIS D IN ASSOCIATION WITH OBESITY, SERUM CALCIUM AND PHOSPHATE LEVELS AMONG YOUNG HEALTHY MEDICAL STUDENTS

Afshan Aslam, Shaista Emad, Rubina Ghani & Fadiele A. Sohail
Department of Biochemistry & Medical Education,
Jinnah Medical and Dental College

Hypovitaminosis D and obesity has been linked to hypocalcemia and hypophosphatemia. However, information on vitamin D metabolites and their association with clinical findings and outcome in obese individuals is lacking. The goal of this study was to determine the prevalence of vitamin D deficiency and its association with serum calcium and phosphate levels among young healthy medical and dental students. This cross-sectional study included responses gathered on questionnaire from students of a medical college in Karachi, Pakistan. The study was continued over a period of five months. All the participants were given written informed consent to participate in the study. Weight and height were recorded. BMI (kg/m2) was categorized as normal (18.5-24.9), overweight (25.0-29.9) and obese (> 30.0). Serum 25 (OH) vitamin D3, calcium and phosphorus levels were measured through laboratory examination. For serum 25 hydroxy vitamin D, the cutoff values were defined as sufficient (50-70 ng/ml), insufficient (30-50 ng/ml), and deficient (< 30 ng/ml). A total of 450 students participated in the study in which 140 (31.1%) were males and 310 (68.9%) were females, out of which 106 (75.5%) males had vitamin D deficiency. The prevalence of vitamin D deficiency in healthy-weight, overweight and obese participants was 73.4%, 65.4%, and 71.4% respectively. Results show 96.84% of positive correlation of vitamin D with serum Calcium and 72.19% negative correlation with serum phosphate levels. Deficiency of vitamin D is common among males particularly with BMI falling in optimal category rather than obese students.

Keywords: *Body Mass Index, Vitamin D, Obesity, Serum Calcium, Serum Phosphate*

AWARENESS OF ISCHEMIC HEART DISEASE SYMPTOMS IN POPULATION VISITING TERTIARY CARE HOSPITAL, RAWALPINDI

Sahibzada Mamoon Rasool, Zulqurnain Asad & Affifa Kulsoom
Rawalpindi Medical University

In Pakistan, Cardiovascular diseases account for 19% of total deaths including communicable diseases. Developing nations like Pakistan with poor literacy rates and majority of the population (60-65%) living in rural areas seem to be insufficient in their knowledge of symptoms. A study indicated about half of Cardiac deaths occur within 1 hour of onset of symptoms, thus it is necessary to have adequate knowledge of symptoms to identify the subject and to pursue medical services earliest possible. To assess the knowledge of Ischemic heart disease symptoms in the population and to investigate the relationship between age, gender, socioeconomic status, Education with knowledge. Our study was a Descriptive Cross-Sectional study held in Holy Family Hospital, Rawalpindi in a period of 3 months. Individuals aged 18 and above were included while Medical Professionals were excluded. Interviewer Assisted Semi-Structured Questionnaire was used as the tool. After taking consent, 225 participants were asked about demographic profile and then to enlist as many symptoms of IHD as possible. Spss 23.0 was used for analysis. Chi-square and non-parametric tests were applied for qualitative and quantitative variables respectively. Out of the 7 symptoms endorsed by WHO, Chest pain was most frequently identified (42%), followed by Pain in Arm (23%), Diaphoresis (19%), Weakness & Fainting (16%), Dyspnea (15%), Paleness (8%), Sickness & Vomiting (5%). Mean score out of 7 symptoms was 1.28 with S.D of 1.19. 34% of the participants could not list any symptom. Participants with Higher Education showed better score (p=0.01). Skilled workers showed better knowledge than unskilled workers (p=0.003). Participants having relatives who suffered from IHD also showed higher score (p=0.000). The study showed of paucity of knowledge among the participants. Hence this study provides ground for future awareness campaigns to educate the masses.

Keywords: *Awareness, Ischemic heart disease symptoms*

FACTORS ASSOCIATED WITH NO USE OF CONTRACEPTIVE AMONG MARRIED WOMEN IN PAKISTAN USING PDHS DATA 2012-13

Muhammad Imran
Shaheed Zulfikar Ali Bhutto Institute of Science and Technology

Pakistan was realizing that their rapid population growth in 1965, at that time Pakistan was the first Asian country who implement National population policy to control rapid population growth. Despite Pakistan was introduced modern contraceptive in 1976 but up till yet there is no remarkable increase in contraceptive prevalence rate which was around 30%. Pakistan is one of the most populated country in Asia with a total fertility rate of 4.85. We assessed the association of Socio-demographic characteristics, using Pakistan Demographic and Health Survey (PDHS 2012-13) data, with contraceptive use and no use among married women. The socio-demographic factors included province of residence, rural or urban place of residence, visited by family planning worker in last 12 months, wealth index, highest education level, age in 5-year group and health care decision maker. Design based analysis was carried out to account for the complex survey design of the Pakistan DHS 2012-13 datasets. In PDHS 2012-13 total 13558 women were interviewed and ask question regarding use of contraceptive. Adjusted analysis showed that the women in the province of Baluchistan fared the worst in the country regarding the use of contraceptive for family planning (OR 0.48; 95% CI 0.42-0.55). Women live in rural areas were less likely to use contraceptive for family planning (OR 0.67; 95% CI 0.61-0.73). Women with primary education were more likely to use contraceptive (OR 1.74; 95% CI 1.55-1.95). Women with age group 30-39 years were more likely to use contraceptive (OR 6.00; 95% CI 4.55-7.91). Women whose healthcare decision taken by husband and respondent were more likely to use contraceptive (OR 1.43; 95% CI 1.26-1.63). The findings of this study reveal that age, education, place of residence and region are most important predictors. In order to address issues of family planning in the region, policy should set mechanisms to enforce the law on minimum age for marriage, improve child survival and increase educational access to females. In addition, the policy should promote awareness creation about family planning in rural areas."

Keywords: *Contraceptive use, Prevalence of Contraceptive, Family Planning in Pakistan.*

EVALUATION OF FERRITIN AND VITAMIN-D IN PATIENTS CO-INFECTED WITH HBV AND HCV AMONG AGE GROUP OF 15-50 YEARS IN PAKISTAN

Anum Muneer
Dadabhoy Institute of Higher Education

Viral hepatitis is a major health problem in all parts of world. HBV and HCV are hepatotropic viruses leading to significant morbidity and mortality worldwide. Hepatitis B virus (HBV) causes the inflammation of liver. Hepatitis C virus (HCV) is an important human pathogen that causes hepatitis, liver cirrhosis and hepatocellular carcinoma. Route of transmission for Hepatitis B and Hepatitis C are infected blood, semen, or other body fluids, sexual contact, sharing needles, syringes, or other drug-injection equipment; or from mother to baby at birth. The aim and objective of this study was to investigate the prevalence of patients co-infected with hepatitis B and hepatitis C and also to determine prevalence of monoinfection of HBV or HCV. The other objective was to examine vitamin-D and ferritin status in patients co-infected with HBV and HCV and to identify that which area and which age group of Pakistan are more affected by co-infection. Material & Method: The study was be conducted in Rahila Research and Reference lab, Samples were collected from patients suspected for viral hepatitis. Serum samples were screened for detection of HBs Ag and HCV Ab. by using commercially available kits of ELISA (Enzyme-linked immunosorbent assay). Seropositive samples will then be confirmed by Real time PCR. After confirmation, level of vitamin D and ferritin was analyzed in co-infected patient's sample. Further, biochemical tests were also performed to find the correlation between liver and liver enzymes. A total of 100 seropositive samples of HBV and HCV were analyzed for vitamin D and ferritin level. Liver Function tests of these patients were also analyzed. In our study of 100 patients co-infected with HBV and HCV which had 44 (44%) males and 56 (56%) females having with mean age 36.57±9.68 years, the mean level of vitamin D was 27.41±17.30 ng/ml and mean Ferritin was 573.53±1552.76 ng/ml. The mean Serum Glutamic Pyruvic Transaminase was found to be 57.36±24.67 U/L. The mean Gamma Glutamyl Transferase was 41.53±13.42 U/L. The mean Alkaline Phosphatase was 262.25±86.36 U/L. The mean Indirect Bilirubin was found to be 0.55±0.09 mg/dl. The mean Direct Bilirubin was 0.20±0.03mg/dl. The mean Total Bilirubin was 0.74±0.12 mg/dl. It was found that majority of patients with Hepatitis B and Hepatitis C co-infection was from Karachi followed by

city of Larkana. Most patients showed insufficient Vitamin-D with elevated levels of ferritin with high levels of liver function tests. It is concluded that there is significant reduction in vitamin D and elevated ferritin level in co-infected patients with HBV and HCV. However no substantial difference was observed in these patients on the basis of gender. Karachi was found to be the city having more number of co-infected patients as compared to other cities. The mean age that was found to be more affected by HBV and HCV co-infection is 36 years which is considered as young population. Our research concluded that there is significant reduction in vitamin D and elevated ferritin level in co-infected patients with HBV and HCV. Karachi was found to be the city having more number of co-infected patients as compared to other cities. The mean age that was found to be more affected by HBV and HCV co-infection is 36 years which is considered as young population.
Keywords: *Co-infection, Hepatitis B Virus*

TUBERCULOUS LYMPHADENITIS WITH ANTHRACOSIS: AN UNUSUAL CAUSE OF UNILATERAL VOCAL CORD PARALYSIS

Sadaqat Ali[1], Hina Inam[1], Zainab Abbasi[2], Sulaiman Bashir Hassan[1]
[1]*Aga Khan University Hospital (AKUH)*
[2]*Liaquat University of Medical and Health Sciences (LUMHS), Jamshoro*

Tuberculous lymphadenopathy is an extremely common condition in developing countries; however, vocal cord paralysis secondary to compression by enlarged tuberculous lymph node is an extremely rare presentation. In this paper, we present the case of a 72-year-old male patient who came to us with concerns of hoarseness of voice for the last eight months with fever and chills. He had been treated previously at ear nose and throat clinics, and, on evaluation, we discovered he had left vocal cord paralysis. Imaging showed multiple enlarged mediastinal and right hilar lymph nodes. Mediastinoscopy with biopsy was done and after histopathologic confirmation of tuberculosis, the patient was prescribed antituberculous treatment. Antituberculous treatment in such patients shows signs of clinical and radiologic improvement.
Keywords: *Tuberculous Lymphadenopathy, Vocal Cord Paralysis, Antituberculous Treatment*

PERCEPTIONS OF HYPERTENSIVE AND DIABETIC PATIENTS REGARDING ADOPTION OF PREVENTIVE MEASURES TO AVOID CARDIO ARTERY DISEASE

Yousuf Tahir Ali[1], Yasir Tahir Ali[1], Syed Arif Ali[2], Yousuf Usman[3], Wahaj Ahmed Siddiqui[1]

[1]*Dow Medical College; (DUHS)*

[2]*Dow Dental College (DDC); (DUHS)*

[3]*Department of Research, (DUHS*)

The purpose of this study was to determine the level of current Coronary Artery Disease Knowledge and preventive behavior among hypertensive and diabetic patients. This was a descriptive cross-sectional study conducted through Non probability purposive sampling technique during Jan 25th through March 4th, 2018 with calculated sample size 320. IRB approval was taken from DUHS and consent was taken by each patient fulfilling the inclusion criteria. The study was conducted at Civil Hospital Karachi (CHK). A structured questionnaire was developed specifically for this project to collect the data regarding demographic information, knowledge about coronary artery disease and major risk factors, measurement of blood pressure, weight and height. Preventive measures and misconception were evaluated and finally they were guided for CAD prevention not known to them free of cost. The data was analyzed through SPSS 16. Mean and SD was calculated for all quantitative variables whereas frequency and percentages were calculated for all qualitative variables. Chi-square test was applied for significance of data at $p>0.05$. Overall, the mean age of the participants was 44.7±11.3 years. Majority were married. Out of the total participants, 92% were diabetics and 97% were hypertensive. Controlled blood pressure was found in only 325 of the participants. The family history of Coronary Artery Disease (CAD) was found in 42% of the participants. Knowledge about CAD was found in only 28% pf the participants whereas only 26% participants had the knowledge regarding the risk factors of CAD. The symptoms of heart disease were known by only 16% of the participants. Relaxation activity was done by 34% of the participants, whereas only 44% of the participants were doing exercise to overcome the problem. Preventive measures against CAD were known by 68% of the participants. Overall knowledge regarding Coronary Artery Disease was not up to standard in high risk group people which proves that awareness should be developed in general public for such disease on a larger scale to reduce the disease pattern.

Keywords: *CAD, Hypertension, Diabetes, Perception*

POSTER PRESENTATIONS

UTILIZATION OF AQUAFABA AS AN EGG REPLACER FOR EGG INTOLERANT IN THE PRODUCTION OF VEGAN MAYONNAISE

Adeela Anwar, Hafsa Khalil, Maham Fahim, Saniya Tayyab, Kanza jameel & Rashida Ali
Jinnah University for Women

The intention of this study was to make a mayonnaise specifically for egg allergens or intolerant and for those who don't like the odor of egg and for vegans. Egg allergy or intolerance basically an immune hypersensitivity disease of egg protein called anaphylaxis, usually found in infants or young children. Aquafaba is one of the superlative egg replacer because it works tremendously well as a mimicker of egg. Aquafaba is the viscous water in which chickpeas have been cooked which is usually discarded but it can be used as a thickener, binder and emulsifier also as a foaming agent and now it is broadly prevalent in the vegan culture. Utilizing auqafaba is to eliminate the smell and allergens cause by egg because aquafaba does not cause bad smell neither not an allergens instead of which it is a Cholesterol-free replacer and it is extremely low in calories. The color and texture of mayonnaise made with either egg white or aquafaba both were similar and acceptable but the consistency of the mayonnaise prepared with aquafaba was less than made with egg white, our results showed that aquafaba has capability to substitute egg in different egg recipes.
Keywords: *Vegan, Aquafaba, Egg, Mayonnaise, Superlative, Chickpea*

A SOCIOLOGICAL ANALYSIS OF SELF-MEDICATION AMONG THE STUDENTS AT THE UNIVERSITY OF SINDH, JAMSHORO

Ahsan Illahi & Aijaz Ali Wasan
Department of Sociology, University of Sindh, Jamshoro

Self-medication is a common type of health care behavior in the population of many countries. However, the practice of self-medication varies from country to country and region to region. Therefore, this study was designed to analyze self-medication practice and pattern in the socio-cultural context among the students of University of Sindh Jamshoro. The nature of this socio-cultural analysis of self-medication was exploratory. Thus in order to explore the set objectives, a cross-sectional survey was

taken. Data were analyzed on SPSS (Statistical Package for Social Sciences). Descriptive and inferential analysis was used to analyze data accurately. Using the purposive sampling method, 103 respondents were hand-picked for this research. The structured-questionnaire was self-administered among the students of University of Sindh, Jamshoro. The results show prevalence of self-medication was high among the students. The paracetamol was commonly used medicine. The nature of disease was major determinant of the practice of self-medication; the serious the disease, the less the self-medication. Students practice self-medication because it provides quick relief as it is an easy option at their disposal. The perceived students' regional background was significantly related to self-medication. Furthermore, the perceived gender was related to students' knowledge concerning self-medication. Notwithstanding, there was no gender gap in the use of self-medication. There was no correlation between religious belief and self-medication. This study concluded self-medication practice as a custom; repeated behavior of many students in most of the first episode of illnesses. On the basis of results, it is recommended parents and teachers should promote responsible self-medication as well as highlight health hazardous related to irresponsible self-medication. State can play its big role at large by introducing a law and ensure its implementation regarding irrational use and availability of drugs.
Keywords: *Self-medication, nature of disease, Custom, Regional background, serious disease, Gender*

NUTRACEUTICAL SUPPLEMENT SUPPRESSING DISEASES AT RISK PRODUCT: (SPLASH - D)

Aiman Yaseen Butt, Syeda Hafsa Aamir, Seema Ashraf & Rashida Ali
Jinnah University for Women, Food Science & Technology Department

The increasing trend of nutraceutical supplements has brought huge diversity in human health sciences and technology. Such nutri-based supplements are a step towards innovation in field of Food Sciences and pharmaceutics. The aim of our object is to make an extracts out of naturally grown organic commodities, that contains higher amounts of antioxidants, bioactives and phenols required by the body for better immunity and performance as they gave higher power to metabolism that helps to cure numerous health threatening diseases such as CVDs, Hypertension, obesity, arthritis, high cholesterol level and to incorporate the obtained characters of extracts into a supplement named as Splash-D. This supplement exhibits all the desired properties and bioactive

components like Gingerol, Shogaols, Bioactive Peptides, Phenols, Ketones, natural sweeteners, acids that generate positive impacts against artery dilation, inflammation. It has tendency to scavenge free radicals, reduce inflammation, soothes veins, normalize blood flow etc. The produced extracts can be introduced to nutraceutical product based market via fortification, enrichment, ready to consume products (beverage) and as a medicinal supplements.

Keywords: *Nutraceutical Supplements, Food Sciences, Organic Commodities, Threatening Diseases.*

FORMULATION AND EVALUATION OF HERBAL MARICLE TEA FOR PATIENTS OF GESTATIONAL DIABETES WOMEN

Areesha Abdul Majeed & Mehwish Khan
Jinnah University for Women

Herbal teas are simplest form of herbal preparations used in form of infusions. Gestational diabetes is much risky condition during pregnancy can cause serious complications to the mother and fetus. As most of medications are contraindicated during pregnancy. In that condition the use of herbal medication is excellent choice. To formulate Herbal MIRACLE tea and perform its Chemical and sensory evaluation for Women suffering from Gestational diabetes. We have used Moringa Oleifera, Fenugreek seeds and Cinnamon bark in the form of herbal infusion. Chemical and sensory evaluation is perform on three different ratios of formulation taking Moringa leaves as a standard. We have perform Ph, Moisture content by FTIR moisture analyzer and Water soluble extractive (WSE) content and determination of stalk content on raw form of crude drugs. For sensory evaluation we have applied Acceptance test for this, Hedonic scale test is used for scoring. Formulation HTP1 and HTP3 found greater score among all formulation in terms of aroma, taste, aftertaste, colour and overall appearance as compared to standard tea of Moringa leaves. For statistical analysis we have applied paired sample T test by IBM SPSS Version 20 and found significant results of formulation of HTP1 and HTP3 as compared to standard herbal tea of Moringa ($P<0.05$). Herbal tea are effective tool simple easy to prepare and so many evidence are found for using Moringa leaves, Fenugreek seeds and Cinnamon bark used solely also for management of GDM. We have used combination of these three herbs the form of tea as moringa is called to be a miracle plant due to highly beneficial effects. We have found significant results in chemical and

sensory evaluation of herbal tea preparation. Further investigation is required for clinical evaluation.

Keywords: *Herbal Maricle Tea, Gestational Diabetes, Moringa Oleifera, Cinnamon Bark, Fenugreeks Seeds.*

CURRENT TECHNOLOGY, PHARMACOLOGICAL OPTIONS AND LIFE STYLE MODIFICATION FOR TREATMENT AND CURE OF DIABETES IN PAKISTAN; A SURVEY BASED STUDY

Sidra Zubair, Attiqa & Seema Abdul Rasheed

Jinnah University for Women

Diabetes is a pathological condition affecting one in every 20 people in which blood sugar level increases above the normal range which can be dangerous for the body. From 1980-2008 diabetic patient increases from 153 million to 347 million. Whereas male ratio rises from 8.3%-9.3% while female ratio rises from 7.5%-9.2%. The World Health Organization estimates that 1.5 million deaths in 2012 were directly caused by diabetes and predicts that this disease will be the 7th leading cause of death in 2030. We have conducted this study for giving awareness that how can non-diabetic and prediabetes be prevented by diabetes by lifestyle modification by changing diet plan, by exercise and by usage of diabetic boot. We have also given awareness to diabetic patient for treatment and cure of diabetes by current technology and pharmacological options available in Pakistan which includes contact lens, insulin pump, insulin glargine, insulin pen, needle free revolution, and insulin producing implants. We have conducted survey based study in Pakistan among 200 peoples between medical and non-medical individuals and between diabetic and non-diabetic patients. We conclude that half of population (involved in our survey) are not aware from new treatment and lifestyle modification for treatment of diabetes. The aim of our study is to aware people from new treatment of diabetes along with cure of diabetes by changing lifestyle. In our survey we find that much of population are not familiar with new treatment and lifestyle modification (diabetic boot) which are even available in Pakistan.

Keywords: *Diabetes, new techniques, lifestyle modification, insulin pen, green vegetables.*

QUALITY OF LIFE OF MEDICAL STUDENTS IN PUBLIC SECTOR UNIVERSITIES OF PAKISTAN

Ayema Haque, Sobia Mansoor, Farheen Malik & Jawad Ahmed
Dow Medical College

The aim of our research is to measure the QOL of medical students undertaking MBBS course in Semester VS Annual systems and to assess the variations in QOL of medical students from First to final years. Quality of life (QOL) is defined by the World Health Organization (WHO) as an individual's perception of their position in life in the context of culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. A cross sectional study was conducted at Dow Medical College, Sindh Medical College and Karachi Medical and Dental College from October 2017 to October 2018. WHOQOL-BREF questionnaire was used consisting of 26 items. The student sample was defined on the basis of their current year of study and the educational system they are exposed to. SPSS v.20 was used to analyze the data. Kruskal Wallis test and Mann- Whitney U test was used to compare scores among various years of Medical study and between different curricular systems respectively. Out of 404 students, females were 81.3%, males were 18.3%. Mean age of the sample was 21.23. According to years of study, significant differences were observed in physical health and overall QOL domain, with 3rd year students having the highest scores. Comparing Annual and Modular systems, latter was found to have a better QOL with mean of 83.34. The overall QOL of students in Clinical years was found to be significantly better than the students in preclinical years. We conclude that WHOQOL-BREF is a reliable tool for accessing QoL of medical students. Institutions with Modular system showed a better score. Our study shows an overall impairment in the Qol of medical students.

Keywords: *WHOQOL-BREF, Medical students; Quality of life; Domains*

FREQUENCY OF PERIODONTITIS AMONG PATIENTS WITH TYPE 2 DIABETES MELLITUS

Bushra Khalid & Hina Wahid.
Dow University of Health Sciences

Periodontitis is a chronic multifactorial infectious disease of supporting tissues of tooth. Periodontal disease is three times more prevalent in individual with type 2 diabetes. It is recognized as sixth complication of diabetes mellitus. There is growing evidence that patients with diabetes

mellitus suffer with severe periodontal diseases and literature may be reported bidirectional relationship between these two conditions. The objective of this study was to assess the frequency and severity of periodontal disease among patients with type II diabetes mellitus. Demographic information, medical, dental histories was recorded. Periodontal examination of all participants was formed. Following periodontal parameters was recorded using a dental mirror and ball pointed CPITN probe i.e. periodontal pocket depth, clinical attachment loss and bleeding on probing. All statistical analysis was implemented using the statistical analysis software of SPSS. The means of Periodontal pocket depths, Clinical attachment losses and bleeding on probing, in these patients, were measured to be 0.6, 1.05 and 0.8 units respectively. All patients were diabetic out of whom, 73.3% had been suffering from the disease for more than 1 year and 26.7% had developed the disease during the last 1 year, 30% of all being on insulin. Although 40% of the patients did not have any diabetic complications, the rest of the 60% suffered from either diabetic nephropathy, retinopathy, diabetic foot, cardiovascular disease or others including diabetic neuropathy. Within the limits of present study, the result indicated that patients with T2DM have high value of periodontal pocket depth (PPD), clinical attachment loss (CAL), bleeding on probing (BOP) and the risk of periodontal diseases increases with severity of diabetes.
Keywords: *T2DM, severity of periodontal disease, periodontitis.*

COMPARATIVE STUDY FOR THE RAPID DETECTION AND GENOTYPING OF MTB AND RIF / INH RESISTANT MTB MUTANTS WITH GENE FLOW HYBRIDIZATION AND CONVENTIONAL PCR

Ayesha Anum[2-4], Shaista Emad[1] & Rubina Ghani[1-4]
[1]*Department of Biochemistry, Jinnah Medical & Dental College,*
[2]*Dadbhoy Institute of Higher Education,*
[3]*Pathological & Molecular Laboratorios,*
[4]*Musavvir Stem Cell Clinic, Karachi, Pakistan*

Tuberculosis (TB) is one of the major infectious causes of morbidity and mortality worldwide. Mycobacteria comprise a diverse group of bacteria that are widespread in nature, some of which cause significant disease in humans. TB is difficult to control due to the time taken for the microbiological diagnosis especially culture on solid media which takes 68 weeks. Members of the Mycobacterium tuberculosis complex (MTBC)

are the most important human pathogens of the genus Mycobacterium. Traditional methods for detection and identification of mycobacteria include microscopy, culture and phenotypic tests. These methods either lack sensitivity, specificity, or are time consuming. Advances in the field of molecular biology have provided rapid diagnostic tools that have reduced the turnaround times for detecting MTBC and drug resistance in cultures and directly in clinical specimens from weeks to days. The objective of this study was designed to compare Gene Flow with regular PCR and detect the drug resistant mycobacteria in body fluids and tissues besides sputum. The conventional method and PCR detected MTB only in sputum and no sensitivity pattern was observed. In comparison gene flow hybridization not only detected MTB in sputum, pleural fluid, CSF and tissue samples but it also found the sensitivity patterns. This technology is rapid, cost-effective and the development of the result in an assay is more useful than the single-nested PCR technique for application to diagnosis of a large number of clinical samples.

Keywords: *Gene flow, Mycobacterium tuberculosis complex, Mortality, Phenotype, Polymerase chain reaction.*

PREFERENCES OF PATIENTS REGARDING THEIR CARE WHEN VISITING PHYSIOTHERAPY OUT PATIENT DEPARTMENT

Filza

College of Physiotherapy, JPMC

Very little researches are available on the factors that address the aspects which were considered important in physiotherapy care. To establish patient's preferences with regard to outpatient physiotherapy care and to determine the aspects which were considered important in subgroups of variables gender, age, level of education, perceived health, frequency of visiting a physiotherapist (PT). A self-administered questionnaire, consisting of the aspects regarding the physiotherapy care was handed to 100 patients in different hospitals of Karachi, Pakistan. The patients were asked to rate the importance of each aspect from not important to extremely important. The response rate was 98%. All the aspects of the questionnaire were considered important. The most important aspect was that the PT is expert in his professional field which was rated as 96.9%. The different subgroups ranked the priorities, to a large extent, in the same manner except that the education group considered only one aspect important as PT is expert in his professional field. The results obtained

from this study helps the physiotherapist to know about the patients expectations regarding the different subgroups of variables. The study also helps to develop instruments for measuring patients experience and satisfaction with physiotherapy care.

Keywords: *Physiotherapy, Patients' Preferences, OPD, Satisfaction.*

UNDERSTANDING THE REASONS FOR DELAY IN SEEKING CARE FOR PNEUMONIA AND RECURRENT WHEEZE AMONG CAREGIVERS OF CHILDREN UNDER FIVE IN PAKISTAN

Tabish Hazir[1], Hana Mahmood[1], Subhana Akber[1], Saira Mujahid[1], Syed Yahya Sheraz[2], Osman Yousuf[3], Brian Mckinstry[4], Saturnino Luz[4], Karen Fairhurst[4], Harish Nair[4], Harry Campbell[4] & Aziz Sheikh[4]

[1]*Maternal, Neonatal & Child Health Research Network (MNCHRN),*
[2]*International Research Force (IRF), Islamabad*
[3]*Allergy and Asthma Clinic, Islamabad*
[4]*Respire Collaboration, University of Edinburgh, United Kingdom*

Pneumonia and recurrent wheeze contribute extensively to under five childhood morbidity and mortality in Pakistan. Among the avoidable causes of death due to these diseases, delayed care seeking is a major one whereby around 38% of deaths due to acute respiratory illnesses occur in households. We, aim to establish an understanding of perception of under-five pneumonia and recurrent wheeze among caregivers of children under five along with associated factors of delayed care seeking in selected communities in Pakistan. The results of this study will permit us to design an effectiveness study which can be used by program managers and policy makers to develop program strategies. A qualitative approach which will help us in better understanding the complex reality of caregiver perception and factors affecting care seeking. This will be followed by development of a health based feasibility study. Data will be collected from respondents residing in rural and urban communities across four provinces of Pakistan and the federal capital. Purposeful sampling will be employed for focus group and in depth interviews with mothers or primary caregivers of children suffering from pneumonia. Thematic analysis will be employed.

Keywords: *Acute Respiratory Illness, Children, Parental Knowledge*

AWARENESS OF POLIOMYELITIS IN LOCAL POPULATION OF KARACHI

Sabiha Gul & Husna Khan
Jinnah University for Women

Polio (also known as poliomyelitis) is a disease caused by a virus that attacks the nervous system. Children younger than 5 years old are more likely to contract the virus than any other group. The objective of this study is to survey about the awareness of the poliomyelitis vaccination in local population. We have generated the questionnaire for polio awareness survey and we went different local localities of Karachi such as Korangi, Memon Goth, Saffora Goth, Orangi Town, Kattipahari, Model Colony, Malir and also from Gambat City. The Sample size is 250 and we selected people by random sampling. In a survey out of 250 people 65% of the people are aware that the lack of immunization against poliomyelitis is the main cause of this destructive disease and 35% people denies that it is not the cause. 55% of the people do not believe that it is the fatal disease while 45% can be fatal for their child. Many of the people tell that the availability issues. Almost all of the people think that the polio is not transmitted by oral, fecal & respiratory route and by touching & also it cannot cause death of the patient, 37% people do not think that it is important for their child, 19% of the population have no faith in vaccination while 18% of the people consider that the vaccination is not safe for their because of poor quality of the vaccination. According to this survey, the polio vaccination of children is very encouraging in some areas of Karachi as compared to some other local areas because mostly people were disbeliefs that polio drops are involved in family planning, lack of knowledge and accessibility issues caused by law and order situation etc.
Keywords: *Poliomyelitis, Vaccination, Immunization, Virus*

A SIMPLISTIC SCREENING ASSAY OF ANTIMICROBIAL COMPOUNDS AND ENZYMATIC ACTIVITY FROM LOCAL SOIL MICROBES

Kashmala Zainab, Hira Batool & S.Ghufrana Nadeem
Department of Microbiology, Jinnah University for Women, Karachi.

Antibiotics production is the most emerging field worldwide with constant need of new ones to fight against microbial resistance. Therefore, a more attention has been paid towards antimicrobial activity. Present study was carried out to screen for potential antimicrobial agents producing microbes

from soil samples collected from different locations in Karachi. After primary and secondary screening by Cross streak, Disc Diffusion and Agar Well Diffusion methods, bacterial isolates (S1, S2,S3,S4,S5) and five fungal isolates (F1, F2, F4,F6 and F7) have showed antimicrobial activity against Staphylococcus aureus, Escherchia.coli, Pseudomonas.aeroginosa, Proteus.Vulgaris, Candida. albicans. Assays of extracellular enzymes protease, lipase, lecithinase, cellulose, amylase following the substrate hydrolysis were performed on different Agars such as Casein, Tween 80, EYA, CMC, Starch respectively. Optimization of antibiotic production was carried out, where growth and antimicrobial activity of the isolates were observed on various physical as well as chemical parameters such as pH, and NaCl concentration. The Physiochemical and biochemical characters of the isolated microorganisms which produced antimicrobial compounds are members of the genus Bacillus andActinomycetes, Streptomycetes and the Fungal isolates Horteawerneckii, Aspergillusflavus, Aspergillus fumigates, Penicilliumnotatum, Aspergilusniger, were identified on the basis of their cultural, morphological and microscopic characteristics. The research work relvealed that all the bacterial and fungal isolates showed maximum activity against test organisms and exhibited at least two of the tested enzymes.

Keywords: *Antibiotics, Soil microorganisms, Enzymatic assay, Optimization.*

HOUSE OFFICER STRESS SYNDROME; ARE DOCTORS WORKING TOO HARD?

Sara Sadiq, Zainab Rabail, Muhammad Fazal Hussain Qureshi, Muzna Shah, Mahira Lakhani, Fahad Khalid Soleja, Areeba Shaikh, Munira Sarfaraz, Syed Mustafa Ali Shah, Hira Farhan, Duaa Nini & Tehreem Fatima

Ziauddin University

The house officers face multiple challenging situations on a daily basis at work throughout the internship year which lead to house officer stress syndrome a phenomenon that causes physical, mental or emotional exhaustion, affecting their cognitive function along with personal and professional life. The aim of this study was to calculate the incidence of House Officers facing stress and examine the subsequent behavioral and psychological effects it has on those affected by stress. A cross sectional study was carried out in the tertiary health care setup of Karachi. A self-designed, self-explanatory questionnaire was distributed among house

officers. The data was analyzed using Statistical Package for Social Sciences (SPSS-20) and ANOVA. Behavioral impairment was evaluated via a 5 point Likert scale. A total of 278 responses were obtained from 13 Government and Private Hospitals. The majority of the participants were female that is about 83.9% and their marital status was single (84.6%). Among the total participants, 42.6% of the participants having 96 hours working duration per week while 64% reported to be on call 7-9 times a month. The sleep duration available on call was as low as 1-2 hours. Almost 56.4% felt physically tired at work. Around 27.9% disclosed that they find the job overwhelming. Close to 30.9% admitted to the pressure received by senior doctors. It can be concluded that house officers are susceptible to stress which affects their overall work performance. Henceforth, a holistic approach must be taken in order to promote a healthy working environment and effective patient care.
Keywords: *House Officer Stress Syndrome, Cognitive Sleep Debt, Pager Policy*

EXPLORATION OF PNEUMONIA RELATED POLICY FORMATION AND IMPLEMENTATION IN PAKISTAN

Tabish Hazir[1], Hana Mahmood[1], Subhana Akber[1], Saira Mujahid[1], Syed Yahya Sheraz[2], Aziz Sheikh[3], Devi Sridhar[3], Allison Worth[3], Harry Campbell[3] & Harish Nair[3]

[1]*Maternal, Neonatal & Child Health Research Network (MNCHRN),*
[2]*International Research Force (IRF), Islamabad*
[3]*RESPIRE Collaboration, University of Edinburgh, United Kingdom*

In Pakistan, numerous policies have been formulated in the past on pneumonia management translated into various programs. However, despite completion, the state of pneumonia mortality remains unchanged as no sustainable solutions have been yielded by these programs. The objective of this study is to identify and analyze pneumonia related policies/ strategies in Pakistan for children under five and identify key stakeholders who influence these policies and program financially and technically. The results of this study will inform policies and program managers to translate it into action to reduce pneumonia related morbidity and mortality. The study will be conducted in two phases. The first will be qualitative with key informant interviews conducted from relevant stakeholders involved in program/policy making and/or implementation. Data will be analyzed through an integrated approach. The second phase will consists of social network research conducted by studying actors

linked together by social relations achieved through net mapping exercise. Data will be analyzed through the Organizational Risk Analyzer (ORA) which is a meta-network assessment and analysis tool.

Keywords: *Acute Respiratory illness, Guidelines, policy formation*

EFFECTIVENESS OF POSITIVE PSYCHOLOGY INTERVENTIONS ON THE LEVEL OF DEPRESSION IN INSTITUTIONALIZED OLD AGE FEMALES

Faiza Malik, Kiran Fatima Merchant, Syeda Sadaf, Sumbal Bibi, Syeda Mahnoor, Sachan Guriro, Asmat Raza, Sanober Akram & Shabnam Arshi

Institute of Professional Psychology Bahria University Karachi Campus

Current study was envisioned to find out the usefulness of intervention of positive psychology in alleviating the depression in old age females living in an institution. The hypothesis under consideration was that there will be a significant difference in the level of depression of women living in institution before and after the incorporation of positive psychology interventions in their daily routine. The study included (N= 8) participants from an old age home in Karachi, Pakistan who were living there for more than 1 year and suffered with depression. Sample was collected with purposive approach. The age of participants ranged between 50-70 years (M=67). A pre-post quasi design was applied in the study. Patient health questionnaire (PHQ-9) was used for pre-and-post-test to assess the efficacy of interventions being used. The study utilized Reminiscing, Color-paper collage, Gratitude Tree and discover your unique self as interventions of positive psychology along with relaxation exercise to alleviate the symptoms of depression in the subjects. The results of the paired sample t-test ($p < 0.05$) revealed a significant difference between pre-and-post interventions ($r=5.58$). In the post-test, the subjects revealed substantially lower level of depressive symptoms as compared to pre-test results. The study provides guidelines to mental health practitioners and care takers in old age institutions to be able to decrease or deal with depression among old age women living in institutions. Furthermore, awareness programs can be started to guide people about the effectiveness of positive psychology interventions and incorporate that in their daily lives.

Keywords: *Depression, Positive Psychology Interventions, Institutionalization, Reminiscing*

EFFECT OF PREGNANCY AND CREMOPHORE EL ON PLASMA PROTEIN BINDING OF FLUTICASONE PROPIONATE

Habiba Nasir, Hadiqa Akhter, Muhammad Waqar Ali & Usama Raza
Dow College of Pharmacy

There is a need of dose adjustment in pregnant women because of the high apparent volume of distribution (VD) and reduced plasma proteins. Number of studies have shown that pregnancy affects levels of plasma protein, which may have an impact on the fraction of plasma protein binding. Besides, Cremophor EL is used as a formulation vehicle in poorly water soluble drugs, such as paclitaxel. Literatures have shown that cremophor EL may have biological effects. One proposed mechanism is through micellar encapsulation of free drug, reducing free drug concentration in plasma. According to free drug hypothesis, it is free the drug which is able to interact with receptor and responsible for the pharmacologic effect. We hypothesize that Cremophor EL and pregnancy will both alter free drug concentration in mice. Ex-vivo and in-vivo studies were conducted in a group of timed pregnant and non- pregnant mice to determine differences in fraction free drug differences in pregnant vs non pregnant mice. Fraction free was determined by Rapid Equilibrium Device (RED) and analyzed by HPLC. As we hypothesized, drugs fraction unbound increased in timed pregnant mice compared to the group of non-pregnant mice. There was not a significant difference in drug fraction unbound between cremophor EL and saline treated mice. Therefore, free drug is not getting trapped in micelles in the blood. Increased fraction unbound results in higher free concentration and more pharmacological effect. Which may result in increased in exposure, of highly protein bound drug, to the fetus and pregnant women. Therefore, the dose of a drug should be adjusted accordingly.

Keywords: *Paclitaxel, Micellar Encapsulation, Volume of Distribution.*

BIODEGRADATION OF DIESEL BY INDIGINOUS BACTERIA ISOLATED FROM SOIL

Aliya Hayat, Hina Fareed & Hafsa Jabeen
Department of Microbiology, Jinnah University for Women, Karachi.

Petroleum and petroleum products are highly complex hydrocarbons which include mixture of nature gas, condensate and crude oil etc. Frequent use of petroleum products increases environmental problems in

soil and seawater. Hydrocarbon utilizing microorganisms are ubiquitous and distributed in the environment. They biodegrade the complex toxic substances and convert them into less toxic form. The aim of the study was to isolate and characterize oil- degrading microorganisms from soil sample. Soil sample was collected from petrol pumps and analyzed for the presence of microorganisms using standard microbiological techniques. Biodegradation was performed in minimal salt medium (MSM) supplemented with 1% diesel oil. The activity was observed using individual organisms and consortium separately. The inoculated flasks were kept in shaker at 250C for 25 days. Optical density was measure at 620nm after every 24hrs. Biodegradation studies were carried out by gravimetric analysis. The isolated organisms were identified as E.coli, S. aureus, Bacillus subtilis, Pseudomonas aeurignosa and Salmonella sp. It was observed that microbial consortium after two weeks of incubation degrade 10% of diesel oil while individual organisms which took 25 days to biodegrade diesel oil (approx 2%). The indigenous organisms are the potent source for the remediation of oil contaminated site. Bioremediation is less expensive and alternative to physical, mechanical and chemical means of disposing hydrocarbon pollutants.
Keywords: *Biodegradation, Diesel Oil*

TALBINA CUPCAKES INCORPORATED WITH DATES, SOYMILK AND OATS

Iqra kaleem, Maheen Hasan & Hafiza Mariam Rauf
Jinnah University for Women

The study was carried out in order to extract the hidden benefits of dates, oats and soy milk. The research carries all the important procedures which are required to prepare a Talbina cupcake. The main targeted component was dates through which we made a product known as TALBINA. Talbina is the most beneficial natural product it is THE PROPHETIC MEDICINE and there are many AHADITH on the merits of talbina for the sick and grieving person. It helps in the treatment of diabetics, heart sickness, aids digestion and is most beneficial in women's hormonal disorders. We transformed it into a cupcake so that it would be feasible to everyone Providing both Flavor and Nutraceutical benefits.
Keywords: *Neutraceutical Cupcakes.*

BACTERIAL CONTAMINATION OF TOOTHBRUSHES AND TOOTHPASTES USE BY CHILDREN

Aliya Hayat, Hina Fareed & Anum Abbas
Department of Microbiology, Jinnah University for Women, Karachi.

Brushing teeth is most common practice of oral hygiene. Tooth brushes are the good source of variety of microorganisms as they are commonly located near the bathroom sinks and moist areas. Consumption of free sugars and fermentable carbohydrates such as citrus fruits, soft drinks, crackers, chocolates, caramels, raisins and cookie with improper oral hygiene increases the microbial burden in children and teenagers. The aim of this study was to estimate the bacterial contamination on toothbrush bristles and toothpaste. In current study 20 toothbrushes and toothpastes were used from children aged between 5 to 15 years. The toothbrushes were soaked in sterile PBS (5mL) and tooth pastes (2gm) were transferred in sterile PBS (5mL) for 2 hrs. From each tube 100 µl was poured on Mannitol Salt Agar and MacConkey agar plates. The plates were incubated at 370C for 24 hrs. Isolated organisms were identified by biochemical tests. It was observed that among gram ve rods Pseudomonas aeruginosa (30%) and among gram + Staphylococcus aureus (70%) were present in tooth brushes. In tooth pastes 73occobacilli was present. The moisture in environment plays important role in the increase of bacterial contamination. Therefore, not only good hygiene ensures the reduction of microbial load, but replacing the tooth brush after three months can also ensure individual batter oral health. Preventive measures such as health education on oral hygiene, dietary habits and importance of dental visit are also obligatory for children.

Keywords: *Tooth Brushes, Toothpaste, Bacterial Contamination, Oral Hygiene*

SKQ1 (MITOCHONDRIAL TARGETED ANTIOXIDANT) PROLONG LIFESPAN AND PREVENTS TRAITS OF SENESCENCE

Hira Afroz & Jaweriya fazal
University of Karachi

"If you target an ageing process then you slow down all the diseases and pathology of ageing as well"... Skq1 is a smart mitochondrial antioxidant.

Among geroprotectors, SkQ1 is proved to be a unique, small molecule not only due to such a wide range of organisms where it is effective but also

extremely low values of the concentration required to prolong lifespan. This agent specifically target the mitochondria because of polarity of mitochondria and skQ1:The following properties of SkQ1 makes it more unique among anti-aging agents; -.easily penetrate through lipid membranes, generating the theoretically expected diffusion potential operate as antioxidants and prooxidants in isolated mitochondria, the window between the anti- and prooxidant activities being very large. -in cells cultures, specifically accumulate inside mitochondria and prevent H2O2-induced apoptosis as well as light-induced necrosis in the presence of a photo- sensitizer in animals, lower levels of age-induced oxidation of lipids and proteins show favorable therapeutic effects on age-related diseases such as heart infarction ,heart arrhythmia stroke ,kidney ischemia ,some kinds of cancer ,eye pathologies (cataract, retinopathies, glaucoma, and uveitis , and osteoporosis. Collectively, these data support mitochondrial dysfunction may play a key role in the pathophysiology of ageing and that therapies with target mitochondria are potent to normalize a wide range of cellular signaling processes and therefor slow down the progression of ageing.

Keywords: *Senescence, therapy, ROS, aging phenomenon, neurodegenerative disease*

SELFITIS A COMPLEXION DISORDER & PATIENTS MAY RISK THEIR LIVES TO TAKE BEST SHOTS

Hudaibia Saleem, Samra Naseer, Aimen Wali & Hudaibia Saleem
Jinnah University for women's

To evaluate the psychological effects of taking selfies & prevalence of life threatening attempts in taking best shots for selfies in general population. The picture taken of yourself with phone or webcam is called selfie. Since people were attracted to take pictures of themselves & others from many years, but it's excessiveness leads to a mental disorder. The obsession of selfies occurs due to selfie cameras. In 2014, addiction of selfies was declared as the mental disorder by APA (American psychiatric association). Many deaths have also been reported which indicates the psyche level of selfie addictors in general public. From 2014 - 2016, while attempting selfies 72 people have died in 52 accidents worldwide. The top three modes of death are drowning, rail accidents & fall from height. A retrospective cross sectional study was conducted on 207 individuals of different age groups to evaluate that how many people can risk their lives to take best shots. Our study showed that 82.6% population is taking

selfies & most of them were addicted to it , out of these 31.8% were those who risked their lives to grasp attention & 36.4 % were those who influenced by adventure shots. From our study we conclude that selfitis is basically a mental disorder & people get addicted to it which is very common in youngsters due to depression, narcissism, loneliness & a poor lifestyle, so they captured dangerous selfies by risking their lives and upload it on social media just to grasp the attention of others.
Keywords: *Selfitis, Narcissim, Reterospective*

ECONOMICAL BIOSYNTHESIS OF SILVER NANOPARTICLES BY USING FRUIT WASTE

Ifra Iqbal
Jinnah University for Women

In recent science applied science is a burning field for the researchers. Applied science deals with the Nanoparticles having a size of 1-100 nm in one dimension used considerably regarding medical chemistry, atomic physics, and all different well-known fields. Nanotechnology is an emerging field in the area of interdisciplinary research, mainly in biotechnology. Nanoparticles research is expected today not because of only application and also by the way of synthesis. Nanoparticles are used vastly due to its very little size, orientation, physical properties, that are reportedly shown to change the performance of any fully different material that is actually with these little particles. These particles will be ready simply by completely different chemical, physical, and biological approaches. However the biological approach is the most growing approach of preparation, because, this technique is easier than the different methods, ecofriendly and less time intense silver. Bio-inspired silver nanoparticles were synthesized with the aid of a novel, non-toxic, eco-friendly biological stuff namely, banana peel extract (BPE) and Curry leaves extract. According to our research project, we synthesize the nanoparticles using fruits peel then characterized by UV-visible Spectrophotometer. The nanoparticles were found have the size ranges from 300-600 nm. Moreover, they showed a synergistic effect on the antimicrobial activity against Gram-positive and Gram-negative bacteria under investigation. This green synthesis approach appears to be a cost-effective, non-toxic and alternative to the conventional microbiological, physical and chemical methods, and would be suitable for raising a biological process for large-scale production. ***Keywords:*** *Green Synthesis, Nanotechnology, Silver nanoparticles, Antimicrobial Activity.*

EXPRESSIVE ANTI-FAT ATTITUDE AMONG PHYSICAL THERAY STUDENTS

Iqra Ali
College of Physiotherapy, Jinnah Postgraduate Medical Centre

To determine whether physiotherapy students demonstrate expressive anti-fat attitude. The increasing prevalence of obesity in both developed and developing countries and its associated health risks have brought the issue of obesity prevention and management a public health debate. Health care professionals have been identified to have a role to play in directing the future of obesity management. However, among the numerous barriers for effective management of obesity is negative attitudes towards obese patients by health care professionals. With limited or no studies available for the physiotherapy setting, the aim of the study was to determine whether physical therapy students demonstrate expressive anti-fat attitude. A descriptive quantitative research design using a cross-sectional survey was used. A total of 300 samples being used from first year to fifth year of study, each year contain sixty samples. Anti-Fat Attitude Questionnaire was used as an outcome measure to determine anti-fat attitude. Questions on demographic data and experience of weight bias were also included in the questionnaire. A response rate of 98.3% was obtained. Descriptive and inferential statistics were employed to describe the relationship and association between variables. Alpha level was set at 0.05. The results showed that majority of the students of Physiotherapy (72.7%) reported having positive attitude towards weight with mean item score of 3.3±1.2, where results greater than 4 indicate anti-fat attitude. The relationship between gender with anti-fat attitude shows statistical significance ($p<0.05$). Body mass index and age shows no statistical significance with anti-fat attitude ($p>0.05$). Association between experience of weight bias and anti-fat attitude also shows no statistical significance ($p>0.05$). Physiotherapy students do not demonstrate anti-fat attitude towards obese individual.

Keywords: *Anti-fat attitude, Weight stigma, Physiotherapy, Students*

GREEK YOGURT OAT MEAL-NEUTRACEUTICAL PRODUCT

Waqar.I. , Huda.G.B. & Noor. A.
Department of Food Science & Technology,
Jinnah University for Women

The aim of this product was to discuss the development of nutraceutical product which include the current market trends, challenges to cure the disease like, constipation, help in weight control, heart health, and digestion. Greek yogurt oat meal are the master of morning convenience. Whole grain (rich source of vitamins, minerals, fiber, and antioxidants).it contain slow carbohydrate, essential fatty acid, and beta glycan. The purpose of the study to cure the disease. The method was that we boil the milk then add cumin then add Greek yogurt, honey, vanilla essence (for aroma), chiaa seed, you can also add strawberry it is optional. We concluded that it is an excellent prebiotic as well as to help to cure the disease. It contain all essential vitamins present in Greek yogurt.
Keywords: *Excellent prebiotic, meaning feed good bacteria, Essential fatty acid, Beta -glycan*

CHILD RESTRAINTS: MOTOR VEHICLE CRASHES AND MORTALITIES

Jawairya Munir
Chandka Medical College SMBBMU

Motor vehicle crashes (MVCs) are the leading cause of death and serious injuries among children below 14 years of age in many developing and developed nations. Use of Child Restraint System (CRS) could be an effective measure to all those problems which a motor vehicle crash possesses. It significantly reduces the risk of serious injuries and death in children due to MVCs. This systematic review reports on status of child restraints, motor vehicle crashes and mortalities in United States, Canada, China and Sweden. To evaluate the status of Child Restraint use in Sweden, Canada, United States and China in relation to child fatality rates due to motor vehicle crashes. Databases were searched for relevant articles between 1993 to 2018. Pubmed, Science Direct, Medline, Embase. Inclusion and exclusion criteria was applied which resulted 20 articles included in this systematic review. The analysis showed that mortality rates among children are higher in China due to MVCS as there's lack of effective legislation. In Canada, United States and Sweden there is improvement in child fatality rates after the implementation of legislation

but still MVCs are leading cause of death in children under 14 years of age considering the fact that low socioeconomic conditions, misuse of CRS and lack of preventive strategies is still prevalent in these countries including China. Overall, misuse of CRS due to lack of awareness of parents and not widely enforced legislation is the major problem in these nations. Education campaigns, widespread legislation and its enforcement and effective strategies would provide breakthrough along MVCS and mortalities.

Keywords: *Motor Vehicle Crashes, Fatality Rates, Child Restraint Legislation, Child Passengers, Fatality Rate Investigations.*

NUTRACEUTICAL DRINKS MADE UP OF AN AROMATIC HERB TARRAGON (ARTEMISIA DRACUNCULUS) MAINLY FOR METABOLIC DISORDERS

Ameemah Khan[1], Barirah Nadeem[1], Minhal Rajput[1], Nida Iqbal[1&2] & Rashida Ali[1&2]

[1]*Jinnah University for Women*

[2]*University of Karachi*

Artemisia dracunculus L. (tarragon) has a long history of use as a spice and remedy. The tarragon (Artemisia dracunculus L., Asteraceae family) is exquisite herb which is rich in numerous health benefiting phyto-nutrients that are indispensable for health for optimum health. The extract of the herb is useful enhancing the functionality of lemonade (citron) having antioxidant potential. This perennial herb greatly aids in digestion also imparts revitalizing effect. The herb tarragon responsible of its soothing effect. The incorporation of tarragon is accountable for anise taste slightly when the herb introduced about to blanching for 10-15 minutes. The citron possess all those natural ingredients which can smoother the harsh reflection of summer as well. The motto of using this herb to introduce a new species of ARTEMESIA in lemonade which is the good alternate of carbonated drinks apart from that; providing all those nutrients which are being killed by carbonated drinks because it is calcium rich lemonade.

Keywords: *Tarragon, Pyto-Nutrient, Antioxidant Potential, Soothing Effect, Calcium Rich.*

BULLYING AND CYBERBULLYING; AN UNSEEN EPIDEMIC

Zarmeena Khan[1], Sadaf Ahmed[1&2] & Yusra Saleem[2]
[1]*Department of Physiology, University of Karachi*
[2]*Advance Educational Institute & Research Centre*

According to the Nation Center of Education Statistics, 2013 the prevalence of bullying has increased rapidly more than 25% over the past 10 years. Bullying, mainly among school-age children, is a major public health problem both nationally and internationally. Previous literature suggest that bullying experiences are mostly associated with a number of behavioral, emotional, and physical adjustment problems. Adolescents who bully others tend to exhibit other disobedient and rebellious behaviors, are more likely to drop-out of school, have poor school performance and are more likely to harm others. The present study was designed to assess the bully victimization in adolescents. To explore the relationship between these types of bullying and mental health among young generation. This cross-sectional-web based study was conducted during March 2019-April 2019. Data was collected randomly from 402 participants of varying age groups through a questionnaire designed collectively using a compendium of assessment tools mainly utilizing the Bullying survey, 2003 & 2008, Cyber-Harassment Student Survey, 2005 & Cyberbullying and Online Aggression Survey, 2009. In addition to the demographic details the questions mainly focused on psychosomatic health. Out of 402 participants there were 71.1% females while only 28.8% were males with a mean age of 22.27+3.316 years. According to our results the most prevalent social site used by the study participants were WhatsApp i.e. (50.2%) and Facebook i.e. (28.1%). Around 50% of the study population confirmed that they had been bullied several times in their lives while 31% weren't sure about it. It was recorded that 94.3% of them used internet on their cellphones for 6-12 hours a day. These subjects were mostly bullied for their body shape and they usually complained regarding catcalling i.e., around 17.16% reported moderate bullying experiences during their everyday life. Around 36.5% reported being bullied by their friends while 18.1% were bullied by their relatives while 45.2% were bullied by strangers or unknown person. The outcome of bullying was mainly blocking/logging off the bully (40.2%) while 20.1% subjects remained silent. All forms of bullying are associated with depressive symptoms in both boys and girls leading to psychosomatic problems. ***Keywords:*** *Bullying, Cyberbullying, Sources, bullying Outcomes, Prevalence.*

INCORPORATION OF WATER CHESTNUT POWDER IN CRACKERS

Haleema Faisal, Areeba Aslam & Doha Ghaffar
Jinnah University for Women

In this research we incorporated water chestnut (Trapabispinosa) powder in crackers. A cracker is a flat, dry baked food product typically made of flour and gives a saltish, savory taste. We added trapabispinosa flour in equal proportions with white flour to make it more nutritious because of the tremendous health benefits of trapabispinosa. Water chestnuts are a great source of fiber and provide 12% of the daily fiber recommendation for women and 8% for men. Research shows that fiber may help promote bowel movements, reduce blood cholesterol levels, regulate blood sugar levels and keep your gut healthy. In our product we particularly focused on the women diseases like osteoporosis, leucorrhea, and treats infertility because of its good nutritional composition that targets particular women deficiencies and also promotes good fetal health.
Keywords: *Trapabispinosa, Crackers, Osteoporosis, Leucorrhea, Bowel movement*

REPLACEMENT OF BUTTER WITH AVOCADO (Persea Americana) OIL IN MUFFINS TARGETING CARDIOVASCULAR DISEASES AND WEIGHT LOSS

Khudaija Inam[1], Fariza Hassan[1], Nida Saud Khan[1], Bahkt Rassa[1], Aiman Afreen[1], Kanza Jameel[1&2] & Rashida Ali[1&2]
[1]*Department of Food Science and Technology, Jinnah University for Women, Nazimabad, Karachi, Pakistan*
[2]*University of Karachi, Department of Food Science and Technology (DFST)*

Avocado (Psersea americana) oil is a palatable and a very healthy, wholesome oil, it is sugar-free, cholesterol- free, sodium-free oil. It shows abundance in mono-unsaturated fats, oleic acid and Vitamin-E content. 1 Tbsp or 14 grams of avocado oil accommodates 124 calories, a total of 21% fats from which 8% saturated fats and the rest of 13% is unsaturated fats (good fats). The smoke point of avocado oil is more than 250°C or 520°F, due to its tremendous benefits and a high smoke point we are incorporating this avocado oil in the baking of muffins which is a very popular product in the market. Muffins are presently one of the most imposing products, so we are making it more nourishing and salubrious as

avocado oil renders you good fats, improves heart diseases by lowering the cholesterol level, it has antioxidant properties on grounds of high vitamin E content, it has high lutein (carotenoid) content, it elevates the absorption of many nutrients, it reduces inflammation, it equalize the free radicals assembled, it low downs the menace of arthritis and osteoarthritis, it also nourishes the skin and what not.

Keywords: *Avocado Oil, Lutein, Muffins, Psersea Americana, Salubrious.*

DOES SECTOR MATTER IN HOUSE OFFICERS PERFORMANCES?

Muhammad Fazal Hussain Qureshi, Sara Sadiq, Danish Mohammad, Mahira Lakhani & Muzna Shah

Ziauddin University

House officers experience monstrous levels of stress during their training period. There is significant variation in level of stress among house officers of public sector hospitals to those of private hospitals because of the OPD input per day, excessive paper work and sample collection for lab investigations. None of the study has been done to find any variation in the stress level of house officers among different hospitals. Objective of current study is to compare the stress levels among house officers working in Public and Private Hospitals of Karachi. A descriptive cross-sectional study was conducted using a self-designed, self-explanatory questionnaire for identification of stress among house officers of government and private tertiary care hospitals of Karachi. Cronbach Alpha was calculated which was found to be 0.804. Multistage non-probability sampling technique was used. The data was analyzed by using SPSS version 22. ANOVA with Post Hoc Tukeys test and a five-point Likert scale was used. The mean age of the participants was 24±1.2 years. The majority of the participants were female that is about ¾ of total sample. Hospital to hospital variation was non-significant in positive attitudes while in negative it was highly significant (p=<0.001). On applying post hoc Tukeys test for the inter hospital variations, significant variation was observed between Altamash Hospital (Private) and Civil (Public) (<0.001) and that of JPMC (Public) was also significant (p=0.027). Other than Altamash only significant variation was reported for Civil (Public) and Baqai (Private) hospital with a p-value of 0.016. Weekly working hours had no significant role in positive attitudes in both Public and Private sector hospitals while in negative attitude it was significant in Public sector (p=0.008). It can be concluded that the house officers of Public sectors are suffering from high

levels of stress, as compared to that of Private sector, but are more confident in making decisions at the workplace. It is important that concern authorities should take action to reduce working hours and emergency calls so that we can control chronic stress which is a risk factor towards depression.

Keywords: *Stress, House Officers, Government vs Private*

ME, MY FRIENDS & OTHERS: AN EXPERIMENTAL STUDY ON UNETHICAL DECISION MAKING

Sidra Shoaib, Yusra Ahmed, Schehrerezade Saadat Syeda Zainab Salam, Rabail Jamal, Ahad Sikandar, Syeda Batool Fatima & Kinza Naseem Elahi

Institute of Professional Psychology, Bahria University, Karachi

It is not only being observed but reported as well that academic dishonesty is increasing on an alarming rate and unethical decision making and academic integrity have found to be one of the major determinants. The current study has been aimed to identify the effect of achievement motivation on the unethical decision making in a position of self, friends or others evaluation. To attain this objective a functional between group field experiments was conducted based on the hypothesis that students will be mostly prone towards unethical decision making when they will be evaluating themselves as compared to their friends and would not be doing unethical decision making when they will be only evaluating others. For this experiment, N =74 university students (Female n=71 & Male n=3) of BS-III were approached through a purposive sampling technique and were randomly divided into three groups and were asked to score either their own, their friends or any other classmates assignment through an objective scoring key (Group I Self Evaluators I n= 39, Group II Friends Evaluator n= 21 & Group III Others Evaluator n= 13).This experiment was conducted with the help of the teacher and 7 students being the confederates in the study. The score of unethical decision making was calculated by subtracting the participant's evaluated score from teacher's evaluated scores. Participants were debriefed after the experiment and all the ethical requirements were fulfilled. The results of the experiments partially supported the hypothesis that participants were found to be more unethical decision makers when they evaluated themselves as compared to their friends or others; but no significant difference was found in the unethical decision making of the participants when they were evaluating only their friends or others. The findings of the current study has important

implications for the ethical and moral development of students of higher education Pakistan.

Keywords: *Unethical decision making, Achievement Motivation, Self-Evaluation, Functional Design, Between Group Field Experiment*

DEPRESSION AMONG MEDICAL STUDENTS OF KARACHI

Ujalla Kumari, Nakeeta Dawani, Joti Devnani, Muhammad Fazal Hussain Qureshi, Fahad Khalid Soleja, Danish Mohammad, Zain Jawed Abubaker, Ayesha Haroon & Sara Sadiq
Ziauddin University

Depression is a mood disorder characterized by loss of interest in daily activity, feeling of hopelessness and helplessness, decreased appetite and anger or irritability. A high prevalence of anxiety and depression 43.89% was found amongst medical students of Pakistan. It was found that approximately 70% of the medical students suffered from anxiety and depression in Karachi, risk factors which leads to depression includes, academic demands, daily habits, sleeping hours, sedentary lifestyle, inability to cope, helplessness, increased psychological pressure, mental tension and too much work load etc. The objective of our study is to find out the prevalence and causes of depression in population of Karachi and its association with age, gender, marital status, life style habits and coping mechanisms among students of medical colleges of Karachi. A descriptive cross-sectional study was conducted using a self-designed, self-explanatory questionnaire which include Public Health Questionnaire (PHQ-9) for identification of depression. The questionnaire was validated by pilot testing on a sample of 20 students. The questionnaire was disseminated personally, names of students were not recorded. Study was conducted in 6 months i.e. April 2018 to September 2018. Students from 3 private medical colleges (Ziauddin University, Bahira University, Jinnah Medical and Dental College) and 3 government medical Colleges (DOW University, Jinnah Sindh Medical University, Karachi Medical and Dental College) were included in study. Students from all years (first, second, third, fourth and fifth) of MBBS were included. Students of BDS, Pharmacy, and Physiotherapy etc. were excluded to avoid bias. The data was analyzed by using Statistical Package for Social Sciences (SPSS-22). About 230 questionnaire were distributed, out of which 200 were fully filled. Response rate was 87%. The coefficient of reliability was 0.839 determined using Cronbach alpha. 41% of the participants were suffering from mild depression. The mean age of participants was 21.43 with

standard deviation of 1.803. Majority of participant about 2/3 were female and marital status of 3/4th of participants was single which has a significant relationship with depression scores (p=0.018). Positive family history of depression also showed a significant relationship with depression (p=0.024). Students from each year were equally included in the study. Depression scores were compared with lifestyle habits of participants, including sleeping hours, exercise, recent trauma and multiple coping mechanisms, showed significant relation with depression scores (p-value 0.01). Symptoms of depression were also compared with depression score which showed strong correlation as p-values were highly significant (p-value 0.01). It was concluded that lifestyle habits, sleeping, physical activities, recent trauma and coping mechanism showed positive association with depression among medical students of Karachi.
Keywords: *Students, Depression, Stress*

PERFORMANCE OF RESEARCH JOURNALS OF PAKISTAN IN TERMS OF THEIR IMPACT FACTOR

Muhammad Saquib Qureshi[1], Irfan Ahmed[1] & Sohail Khan[2]
[1]*Benazir Bhutto Shaheed University Lyari.*
[2]*Ziauddin University*

Impact factor is a tool to identify the quality of research conducted. Research papers published in high impact factor journals shows worth of their work. To summarize the performance of Pakistani Research Journals in terms of their impact factor. Pakistani Research Journals were analyzed for their Impact Factor (IF) from 2011-2017. Journals Citation Report (JCR) published by Thomas Router and Impact Factor list of Journals published by Higher Education Commission Pakistan was used to retrieve data electronically. Study was conducted from June-August 2018. A total of 10 Pakistani Research Journals have their Impact Factor in the year 2013. Highest Impact Factor of any Pakistani Research Journal was 1.365 of Pakistan Veterinary Journal in 2013. Out of 8411 Research Journals published worldwide, only 10 Pakistani Journals have their Impact Factor which shows less participation of Pakistan in terms of Quality research. Pakistani Journals are contributing very low in terms of ISI indexation. Reasons behind the low performance may be lack of resources and awareness among the young graduates. Conferences, Seminars, Symposiums, workshops and such events at undergraduate level to be conducted in order to increase the interest of students towards research and publication.

Keywords: *Thomas Router, ISI Indexation, Journal Citation Report (JCR)*

POOR LEARNING AT OPERATION THEATRES CAUSING BRAIN DRAIN

Sara Sadiq, Muhammad Fazal Hussain Qureshi, Mahira Lakhani, Muzna Shah & Muhammad Hassan Ayub
Ziauddin University

Objective of this study is to identify the perception of residents towards the learning environment in the surgical theatre of a medical school teaching hospital. The difference in perception based on gender will also be determined by this study. A cross-sectional study was conducted at Peoples Medical College, Nawabshah, from May 2018 to October 2018. We included all the surgical and allied trainees and all the registrars and senior registrars were excluded from the study to avoid observation bias. STEEM questionnaire was used and was validated after pilot study for assessing learning environment. The STEEM questionnaire contains 40 statements. The participants' responses were calculated using a five-point Likert scale. A score of at least 120 out of 200 was considered favorable. The STEEM questionnaire was divided into four subscales. Randomized sampling technique was used. The reliability was assessed using Cronbach's alpha for the whole questionnaire. The data was analyzed using SPSS 22. Confidence of interval was set to be 95% with 5% margin of error. Of the 88 participants who completed the questionnaire (Response Rate: 88%) 71.6% (n=63) were females and 28.4% (n=25) were males. The mean overall STEEM score was 108.81 whereas, mean score of males was 115.44 and females was 106.17 which shows there the difference between scores based on gender. Mann-Whitney and one-way analysis of variance (ANOVA) test were used as non-parametric methods for comparative statics for assessing gender differences. The overall reliability of the scale was 0.822, calculated using Cronbach alpha. There were 19 negative statements for which reverse coding were done when data was analyzed. We also conducted factor analysis using a varimax rotation. Kaiser-Mayer-Olkin (KMO) and Bartletts test were applied, results of factor analysis at Eigen value set at 1 revealed 10 factors which showed 84.78% of the variance. The overall reliability and mean scores for Aberdeen surgical trainees, Birmingham Medical Students, Liaquat National Hospital trainees was compared to scores of People Medical College Nawabshah trainee. The most highly rated statement among Men was the nursing staff dislike it when I operate as the operation takes longer

(3.72) and lowest rated was my trainer's surgical skills are very good (1.52), whereas the most highly rated statement among women was the anesthetists put pressure on my trainer to operate him/herself to reduce aesthetic time (3.90) and lowest rated was My trainer's surgical skills are very good (1.37). Male perceived the educational environment more positive than females in each subscale. There were seventeen statements with a statistically significant difference between genders ($p<0.05$). The STEEM was found to be an authentic and reliable tool to assess the operating theatre learning environment for surgical and allied trainees. The overall learning environment of operating theatre of PMC was perceived to be inadequate for learning.
Keywords: *Medical education, Learning environment, operation theatre, postgraduates.*

INFLAMMATORY MARKERS, DYSLIPIDEMIA AND SCHIZOPHRENIA; A CLINICAL UPDATE

Nayab Shah, Hira Munir, Shahana Rasheed & Afshan Zeeshan Wasti
Department of Biochemistry, Jinnah University for Women

Implication of current technologies in investigating the dynamic role and functional character of bio-markers entails in the neuropsychiatric diseases. Targeting the inflammatory component of multi-factorial diseases such as schizophrenia; the current study hypothesized the potential involvement of the peripheral inflammatory markers in schizophrenia. According to reported research the surrogate bio-markers are objectively measured characteristics of a disease, which act as indicators of the underlying pathogenic process responsible for disease progression, including the change in the process following the therapeutic intervention. The present study aims to assess the complete Lipid profile, Peripheral inflammatory markers including Human Inflammatory Cytokines and Chemo-kines such as IL-1, IFN, TNF and GM-CSF, C-Reactive Proteins (hs-CRP) and S100B in schizophrenic patients as compared to the normal control individuals by using the standardized methods. The present study concludes the significant association of the inflammatory markers in anti-psychotic drugs treated schizophrenic patients.
Keywords: *Schizophrenia, inflammation, inflammatory markers, dyslipidemia IL-1, IFN, TNF, GM-CSF, C-Reactive Proteins, S100B*

PREVALENCE AND CORRELATION OF UNDERWEIGHT, OVERWEIGHT AND OBESITY AMONG YOUNG UNIVERSITY FEMALES, KARACHI, PAKISTAN

Nosheen Bashir & Farha Aziz
Department of Biochemistry, Jinnah University for Women

In recent years an increased prevalence of the overweight and obese has been documented worldwide. Obesity is nowadays one of the leading risk factors for cardiovascular diseases, hypertension, stroke, diabetes and certain cancer types. Pakistani females live in urban areas are more susceptible to obesity than males. The aim of this study was to assess eating habits and the occurrence of overweight and obesity in young university girls, age 18-25 years in association with body mass index (BMI) according to WHO classification. A self-reported Questionnaire was prepared to collect information, including age, height, body weight, BMI, Dietary behavior and socioeconomic status of participants. Height and weight were measured using standardized protocols. Students were categorizing into underweight, normal, overweight and obese according to WHO classification. Data was analyzed by using SPSS and presented as Mean±SD. Among 610 girls 17.21% (105) of girls were under weight, 56.06 % (342) were normal, 16.06 % (98) were overweight and 10.65% (65) of girls were obese. The dietary habits and food choices of young female girls have been evaluated by using questionnaire and found majority of students were used to skip breakfast and regular consumption of fast food including burgers, pizzas and fizzy drinks during university hours. The obesity and overweight is prevalent in young university females. University students generally do not follow healthy eating habits due to lack of knowledge on healthy balance diet and health risk of obesity. Healthy living, eating healthy balanced diet and regular exercise help to maintain standard body weight and health.

Keywords: *Prevalence, Overweight, Obesity, BMI, Young University Females*

DEVELOPING A 3-LEAD ECG SYSTEM BASED ON DISCRETE COMPONENTS

Areeba Tariq, Osama Asif
Barrett Hodgson University

The electrocardiograph is a medical instrument that detects and records the electrical activity of the heart. It acquires the signal via electrodes and

isolates the signals originating from the heart as a result of cardiac muscle contractions. Currently, the 12-lead ECG system is the most widely used. Clinically-used electrocardiographs consist of integrated circuits and are interfaced with monitoring systems as well as patient record systems. Generally, the 3-lead ECG system is used for long-term patient monitoring. Therefore, the aim of this study is to develop a 3-lead ECG system using discrete electronic components, such as operational amplifiers and filters, to reduce the complexity of the circuit. The results show that the frequency of the ECG wave detected by the developed 3-lead ECG system matches that of the 3-lead system used in healthcare facilities. Moreover, the amplitude of each wave in the ECG recorded using the discrete component based 3-lead ECG is proportional to the ECG waves detected by a clinically-used 3-lead ECG system. The results of the developed 3-lead ECG system were also compared with the ECG results obtained from PowerLab and there was significant similarity between the frequency and amplitude of both the signals.
Keywords: *Electrocardiograph (ECG), Heart, Membrane Potentials, Action Potentials, Electrodes, Instrumentation Amplifier, Bandpass Filter, Notch Filter*

ISOLATION AND CHARACTERIZATION OF BACTERIA FROM SOLID MUNICIPAL WASTE AND THEIR EXTRACELLULAR ENZYME PRODUCTION

Shiza Khan & Syeda Hira Batool Rizvi
Jinnah University for Women

The present research was conducted to find out the utilization of effective bacteria for the production of industrially important enzymes for the commercial purpose and for the betterment of health and environment. Eight garbage samples were used to isolating bacterial isolates by using Nutrient Agar. Eight different bacteria named as Pseudomonas, Serratia, Providencia, Pseudomonas, Bacillus, Micrococcus, Enterobacter, and Shigella respectively. Characterizations of these bacteria were also studied by visual observation of colony morphology, microscopic observation and biochemical tests identified the specific bacteria by growing on MacConkey Agar, Blood Agar, TSI and Simmons Citrate agar. The optimal cultural conditions, microbiological characterizations, biochemical characterizations and production of extracellular enzymes of the bacterial isolates were documented. In this research, production of enzymes recovered namely as Protease, Amylase, DNAse, Lipase,

Lecithinase, Catalase. The results of enzyme production that produced by bacterial isolates are 80% Amylase, 40% DNAse, 60% Protease, 50% Lipase, 10% Lecithinase and 60% Catalase. Waste degradation was also performed for the betterment of environment. In future, these enzymes increased the scope of finding industrially important bacteria's from municipal waste dump sites and these isolates could be vital source for the finding of industrially useful enzymes. Therefore, it is important to value the waste derived bacteria in ecological terms and also as a resource for biotechnology purposes.
Keywords: *Waste, Bacteria, Medium, Enzymes, Sources*

ISOLATION AND PRELIMINARY SCREENING OF BACTERIA FOR BIOSURFACTANT PRODUCTION FROM OIL CONTAMINATED SOIL

Sidra Zafar, Amna Shafiq, Sayyada Ghufrana Nadeem & Shazia Tabassum Hakim
Jinnah University for women, Karachi, Pakistan.

Microorganisms produce structurally diverse metabolites with wide range of potential applications in many industrial sectors. Among such metabolites, microbial biosurfactants (BSs) are of great importance for their structural and functional diversity and broad-spectrum applications. Oil spill disaster management is one of the applications of biosurfactants. Removal of the thick oil is complicated and, in many cases, ineffective, thus it is a great concern to food chain, ecological balance and environmental health. It also poses physical and mental threats from inhalation or dermal contact with the oil and dispersant chemicals. Following study aims to isolate and screen bacteria for biosurfactant production from oil contaminated soil. For this purpose, soil samples were collected from oil contaminated sites. The isolated bacteria from the soil samples were identified on the basis of phenotypic characteristics. These isolates were further screened for biosurfactant production by hemolytic test, emulsification test (E24), oil spread method (OSM), and modified drop collapse (MDC) method. Among the isolates obtained, 8 isolates showed positive results for biosurfactant production. The screening results demonstrated that 25% of the isolates exhibited hemolytic activity, 87.5% isolates showed emulsification and oil spread activity whereas modified drop collapse activity was displayed by all the isolates. However, the best isolate identified for biosurfactant production was one of the Gram-negative bacteria, as it was observed to be positive for all the screening

tests. The results suggested that these isolates have potential for hydrocarbon degradation and they can further be used in future for bio surfactant extraction, in bioremediation and other applications. However Physicians should be familiar with health effects from such disasters to appropriately advice, diagnose, and treat patients who live wherever such incidents could occur.

Keywords: *Biosurfactants, Oil Spill, Bioremediation, Modified Drop Collapse, Emulsification*

INFLUENCE OF TOFU AS A BUTTER SUBSTITUTE ON NUTRITIONAL AND ORGANOLEPTIC PROPERTIES OF SAUCES AND TARGETING PEOPLE HAVING CHOLESTEROL PROBLEMS AND HEART DISEASES

Syeda Sidra Bukhari[1], Ghunia Fatima[1], Shanza Ahsan[1], Kanza Jameel[1&2] & Rashida Ali[1&2]

[1]*Jinnah University for Women*

[2]*University of Karachi*

This study examined the effects of TOFU in a Fish Lemon Butter Sauce in replacement of butter. As butter accommodates a very high content of fat; saturated or Trans fats mainly, nearly 80-82% fat is present in butter. As Tofu encloses polyunsaturated & mono unsaturated fats and these fats more tremendous beneficial and healthy than saturated and Trans fats so we are substituting this butter in a fish lemon butter sauce with tofu. The aim of our acumen work is to provide a palatable and healthy product for those consumers who can't eat up more amount of butter and that whore lactose intolerant. Tofu is completely made from soy milk, it is abundantly in proteins (essential amino acids), also consists of fats, carbohydrates, wide variety of vitamins and minerals. 100 gm of tofu encloses total 70 calories, 4 gm fats, & minerals, vitamins, proteins, carbs in a different amount, making tofu a highly nutrient-dense-food. It also preventing from different diseases like obesity, heart diseases, breast & prostate cancers, diabetes, kidney problems, bone loss, liver damage & also eases menopause. So, tofu is considered as a wholesome & a nutritive product. As sauces are uses intermittently with many food products, so we are making this sauce more restorative & salutiferous by adding tofu in it, with lowering cholesterol levels, replacing bad fats with food ones & many others. Our sauce is efficiently consumable & can be retailed.

Keywords: *Tofu, butter, saturated/unsaturated/trans fats, consistency, sauce, cholesterol problems, heart diseases.*

USE OF ANTIBIOTICS AMONG KARACHI POPULATION

Masoom Fatima[1], Yasmeen Fatima[2] & Syeda Sabahat Sami[2]
[1]*Abbasi Shaheed hospital, Karachi, Pakistan.*
[2]*Department of Pharmacy, Jinnah University for Women, Pakistan.*

The aim of this study is to investigate the use of antibiotic among Karachi population. This study was carried out by the medical officer of Abbasi Shaheed Hospital and the students of faculty of pharmacy of Jinnah University for women. Antibiotics are the medication that kills or destroy or slow down the growth of bacteria. Antibiotics can't treat viral diseases. Antibiotics are only indicated to treat or prevent bacterial infections. The resistance to antibiotic is defined as the ability or tendency of bacteria or other microorganism to resist themselves from the effects of an antibiotic to which they were once sensitive. A descriptive cross-sectional study was conducted in 250 individual of Karachi population. Both male and female are included. The individual was invited to fill the questionnaire that included the questions related to antibiotics. This study was conducted in 250 people among Karachi population male (17.2%) and female (82.8%) both were included.49.6% sometime, 44% always and 6.4% never take antibiotic on doctors' advice. About 90 respondents take antibiotic for flu and cold, 77 for sore throat, 44 for chest infection, 45.6% people use antibiotic between 3-7 days, 42% less than 3 days, 12.4% more than 7 days. Which antibiotic you take mostly, penicillin 65%. Reason for taking antibiotic were 77.6% quick relief, 15.2% think no need to visit doctor for minor illness. 68.4% people think that it is not acceptable to take antibiotic without doctors' advice 14.4% acceptable. In a nut shell it is concluded that due to the irresponsible behavior and over/under use of antibiotics people are getting resistant to antibiotic. As our study shows that people take antibiotic for the unwanted purposes another thing is that people have lack of knowledge about antibiotic and they don't differentiate between antibiotic and other drugs. Another notable thing that people take antibiotics for less than 3 days which may cause resistance. Our future prospect is to counsel and provide awareness to the people of Karachi about the resistance to antibiotic. Over use and under use of antibiotic should be avoided.

Keywords: Antibiotics, resistance, medication

POST MARKETING PHARMACOVIGILANCE: A REVIEW BASED STUDY ON ANTI-DIABETIC DRUGS

Syeda Nehan Naveed, Kinza Maqsood, Yumna Shafiq & Zehra Ashraf
Jinnah University for Women

Aim of our study is to determine potential harm caused by anti-diabetic drugs so that we can provide better and safer treatment plan for patients. Pharmacovigilance may be referred as Science of detection, assessment, understanding and inhibition of adverse effects. Pharmacovigilance tries to advise physician and pharmacists on how to deal with ADRs and help them to provide a better treatment plan for patients. Thus, pharmacovigilance lead to rational use of medication for benefit of patients. Diabetes mellitus is metabolic illnesses specified by hyperglycemia resulting from defects in insulin production, insulin activity, or both. Prevalence of diabetes in Pakistan is increasing day by day. So, a cure provided to patients ought to be cautiously monitored via pharmacovigilance to make sure safe drug use and to prevent complications in patients due to ADRs. We have carried out a review based study on post marketing pharmacovigilance of anti-diabetic drugs to make sure safety and rational use and to enhance a treatment plan for diabetic patients. We have searched ADRs that were reported and documented in last 10 years. We have found that most of ADRs reported from anti-diabetic drugs were related to pancreas, kidney, liver and heart. We have found more ADRs resulted from mono therapy as compare to the combination therapies. Pharmacists are uniquely positioned to play role in Pharmacovigilance. Efficient participation of pharmacist in pharmacovigilance will bring lot of respect and honor for Pharmacy profession in Pakistan. In Pakistan more policies and procedures need to be established for conduction of pharmacovigilance. Effective pharmacovigilance will bring positive results in our health care system.
Keywords: *pharmacovigilance, Diabetes mellitus, metabolic*

DRUG UTILIZATION REVIEW OF ANTICOAGULANT IN CARDIAC PATIENTS

Sadaf Naeem, Fauzia Israr & Sheikh Muhammad Saad
Institute of pharmaceutical sciences, Jinnah Sindh Medical University

Anticoagulant drugs (ACD) are commonly used for the prevention and treatment of thromboembolism. Drug utilization review (DUR) of anticoagulant drugs are mandatory due to the risk of intra cranial bleeding

or hemorrhage in cardiac compromised patients. Aim of our study was to assess the prescription routine and drug utilization patterns for anti-platelets and oral anticoagulants in cardiac tertiary medical center. Our retrospective observational study included 80 consecutive cardiac compromised patients in tertiary care hospital Karachi from January 2017 to April 2017 during period 1-6 months after the acute treatment for ischemic and valvular heart disease. Patients were divided according to etiology of heart disease and type of acute cardiovascular treatments (conservative, percutaneous coronary interventions (PCI) and surgery). Out of 80 patients 60 patients were male and 40 were female with mean age group of 58.91±12.32. We found 46.21±9.45 patients were with ischemic heart diseases while 34.883Â±6.37 were valvular heart diseases. Dual antiplatelet therapy was the most commonly applied regimen in 56(87.5%) of conservatively treated myocardial infarctions, 47(61.9%) of percutaneous coronary interventions (PCI) and 14(28.9%) of surgically treated group (p>0.05). In 10 (5.8%) cases, anticoagulants has been ordered inappropriately while heparin, clopidogril and rivaroxaban were appropriate in 75%, 53% and 79% of patients, respectively. Drug utilization analyzes can offer improvement in optimizing medical treatments and quality of care. Warfarin, clopidogril and aspirin are most commonly prescribed antithrombotic medications for prevention of stroke in cardiac compromised patients. Physicians and pharmacist should choose most suitable anticoagulant therapy with appropriate dose and monitoring. We concluded that drug utilization evaluation protocols are not followed in most of the hospitals of Karachi which is an alarming situation for health care system. The reason behind this there is no standard setup of anticoagulant centers, INR clinics in most of the hospital. Further research on identification of patient at risk of intra cranial hemorrhage and education on stroke prevention is still required in countries like Pakistan.
Keywords: *Anticoagulant drugs; thromboembolism; Drug utilization review; intracranial hemorrhage*

INCORPORATION OF ORANGE PEEL IN CARROT JAM

Aleeza Rafique, Kinza kanwal, Alina Mehmood & Aiza Ali
Jinnah University for Women

The present study was carried out with the objective to prepare carrot jam by incorporation of orange peel and to assess the acceptability and nutritive value of the product prepared. The aim of our study is to provide awareness of health benefits of carrots. It improved vision, prevent cancer,

heart diseases and also act as a powerful antiseptic. We target the night blindness because carrots contain vitamin A which is required for our body to synthesis rhodopsin, which is the pigment in our eyes that operates in low light conditions if we have vitamin A deficiency we will develop night blindness. Carrot jam was prepared by crushing, grinding and boiling at moderate temperature. We were not use any artificial preservative. We added Lemon and orange juice that was act as a preservative. We were also added the orange peel which was act as a gelling agent and to provide the jamming effect. We were also perform chemical and sensory analysis of this jam. Firstly mature and damaged free carrots were collected from the local market. Carrot was washed thoroughly in running tap water, then peeled using hand peeler. After peeling carrot was boil by using pressure cooker because it soften the structure and easily extracted the pulp. Then obtained pulp is grinned in food processor. Used for preparation of jam then we took water in a cooker and add sugar in it. When sugar dissolved completely then we added lemon juice and orange juice and provide heat. After stirring orange peel was added which was act as a gelling agent in carrot jam. The jam is ready and prepare jam is filled into clean dry wide-mouthed jar or bottle and stored at refrigerator and room temperature also. Then we perform the Ph and brix test to this jam to study the shelf life of this jam.

Keywords: *Jam, Orange, peel, Carrot.*

GENDER AND AGE SPECIFIED PREVALENCE OF OSTEOPOROSIS AND OSTEOPENIA IN AN APPARENTLY HEALTHY PAKISTANI POPULATION – A CROSS-SECTIONAL RETROSPECTIVE STUDY

Zuneera Akram[1], Rehana Perveen[1], Aisha Noreen[2], Sadaf Ibrahim[3], Muzammil Hussain[1] & Mariam Razzak[1]

[1]*Department of Pharmacology, Baqai Institute of Pharmaceutical Sciences, Baqai Medical University, Karachi, Pakistan.*

[2]*Department of Pharmaceutical Chemistry, Baqai Institute of Pharmaceutical Sciences, Baqai Medical University.*

[3]*Department of Pharmacology, Faculty of Pharmacy, Ziauddin University, Karachi, Pakistan*

To prevent and diagnose osteoporosis and to manage its complications in later life, an understanding of the bone mineral density (BMD) pattern in a population is crucial. The aim of this study was to examine the bone health status and osteoporosis factors in an apparently healthy population.

A retrospective examination of medical records was carried out in a tertiary hospital for subjects who had undergone preventive health checks-ups involving BMD measurements by using a Sonost 3000(Ultrasound Bone Densiometer) from Osteosys CO. Ltd. Korea. We assessed 161 subjects (aged 50.0±12.4 years, range, 20-85 years), including 42.23%female and 57.7%male. Osteoporosis occurred in 13.6% of the subjects (female, 17.6%; male, 10.7%) and osteopenia in 22.98% of subjects (female, 30.88%; male, 17.2%). Prevalence of osteoporosis increased with age in female subjects, but not in male subjects. Osteoporosis rates in the age-groups of 20-29,30-39,40-49,50-59,60-69 and 70 years were 12.5%,14.28%, 16.66%,18.75%,23.07%,and 18.18% respectively in female subjects while prevalence in male subjects was 25%,10.5%,10.5%,6.2%,7.69%,and 7.1 % respectively, at peripheral (radius) bone. Height, weight, body mass index, and lifestyle including (smoking, physical activity, and diet) were positively correlated with BMD. These parameters retained significant correlation after controlling for age and sex. Correlation between serum 25-hydroxy-vitamin D and calcium with BMD has not been studied in this study. Osteopenia and osteoporosis are common conditions in elderly patients that can seriously affect their quality of life. Long-term prospective studies are required to clarify the relative importance of nutritional status, activity level, medication usage, and other factors in the causal pathways that connect gender and age specified illnesses to BMD.
Keywords: *Osteopenia, osteoporosis, bone mineral density, body mass index*

EXPLORATION OF GENERAL EFFECTS OF MENTAL HEALTH CAMPAIGN AT BAHRIA UNIVERSITY

Sidra Shoaib
Institute of Professional Psychology, Bahria University Karachi Campus

The current research aimed to find out the general effects of one-week mental health campaigns on the self-concept, self-awareness of university students and their perception regarding psychologists. For that equivalent time series Quasi Experimental Design was used in which data was collected on three domains i.e. self-concept (n=180), self-awareness (n=240), perception about psychologist (n=210). Data was be collected one week before and one week after the mental health campaign from Students of Bahria University- Karachi Campus. Three separate forms were designed to collect the data from the students for each domain. Each

form was comprised of a consent form, demographic information sheet and respective scale measuring each domain. To attain these objectives N=630 university students were be approached through a purposive convenient sampling one week before and one week after the Mental Health Campaign. First Consent Form would be presented to students followed by demographic information sheet and respective scale of each domain. The findings of the current study revealed that there was no significant difference in the self-concept and self-awareness of the students but the mental health campaign have positively affected the perception about the psychologist, where their perception about psychologist was more correct and positive after the mental health campaign. The current study has highlighted the effects of mental health campaigns among university students.

Keywords: *self-concept, self-awareness, perception about psychologist*

NUTRACEUTICAL PRODUCT USING RICE FLOUR (ORYZA SATIVA) AND RICE BRAN OIL TO DEVELOPED THE GLUTEN FREE CUPCAKES (CELIAC PATIENTS)

Ameemah Khan[1], Barirah Nadeem[1], Minhal Rajput[1], Kanza Jamil[1&2] & Rashida Ali[1&2]

[1]*Jinnah University for Women*

[2]*University of Karachi*

A range of human and animal studies have shown that rice bran oil (RBO) is an edible oil of preference for improving serum cholesterol levels and lipoprotein profiles (therapeutic approach to hyper lipoprotein anemias). Rice bran oil and its main components (unsaturated fatty acids, triterpene alcohols, phyto-sterols, tocotrienols, and tocopherol) have an ability to reducing total plasma cholesterol and triglyceride concentration and increasing the high-density lipoprotein cholesterol level. Rice bran oil is popular as Healthy Oil, with balanced amount of saturated, monounsaturated and polyunsaturated fats. Even though it is naturally free from trans-fat. The intensions for using rice bran oil in rice flour is to deliver a healthy agent in body by contributing a new flavor, aroma for all those individuals which are resistant to gluten (targeted the celiac patients). The innovation of RBO in rice flour cupcakes is the substitute for those type of cupcakes which are highly source of gluten protein. Due to the absence of gluten, rice flour cupcakes didn't rise ideally but an egg protein (albumen) is incorporated in cupcakes instead of gluten which is

highly promoting to maintain it network of protein. Hence the consequence of using rice bran oil in rice flour cupcakes to grant several micronutrient, Î³-oryzanol and tocotrienols which could be responsible for the hypo cholesterolemic effect of RBO. Other potential properties of rice bran oil and oryzanol is inhibition of gastric acid secretion, antioxidant action, and inhibition of platelet aggregation.

Keywords: *Rice Bran Oil, Heart Friendly, Hyper Lipoprotein, Gluten Free, Oryzanol, Free Trans-Fat, Antioxidant.*

EFFECTS OF ALTERNATIVE TREATMENTS FOR INSOMNIA: AN ALTERNATIVE PROSPECTIVE

Tabinda Zarreen Mallick, Sadaf Naeem,
Kiran Rafiq & Bushra Abdul Ghafoor
Institute of Pharmaceutical Sciences, Jinnah Sindh Medical University

Around 150 million people worldwide and nearly 17% of the populations in the developing nations are currently suffering from sleep problems. Insomnia can lead to hypertension, heart disease, depression, and even death. Conventional medical treatment for insomnia includes psychological and pharmacological approaches; however, long-term use of frequently prescribed medications can lead to habituation and problematic withdrawal symptoms. This review provided knowledge about herbal and other alternative sleep aids which are gaining popularity with no or lesser side effects, as acupuncture, meditation, exercises and herbs, commonly used for the treatment of insomnia. A MEDLINE and PUBMED search was performed to identify relevant clinical studies, case reports, abstracts, and review articles published between January 2000 and December 2018. Key search terms included insomnia, benzodiazepines, adverse effects, alternative medicines, herbal medicines. Additional references were obtained from the lists of review articles and textbooks. 100 research studies were identified on treatment of insomnia on alternative medicines. Out of which 20 studies supports acupuncture significantly healed insomnia and its related problems ($p<0.05$). 40 studies endorsed yoga, meditation and other exercises helps to reduce sleep problems in older adults ($p<0.01$). 30 research studies supports herbal medication including green tea, chamomile tea, ginseng and valerian helped to relieve sleep disorders. Insomnia is the most common sleep disorder. The inability to attain restful sleep in adequate amounts exacts a heavy toll. Conventional treatment for insomnia includes drugs that exert a depressant effect on the CNS therefore alternative therapies, herbal

products and other techniques can help to reduce risk of insomnia and associated problems. Alternative therapies and herbal medicines are less likely to have the drawbacks of conventional drugs. How the efficacy of alternative therapies compares to conventional therapies warrants further investigation.

Keywords: *Insomnia, Alternative Treatments, Herbal Medication*

NEUROPROTECTIVE EFFECTS OF CURCUMIN AGAINST ISCHEMIC NEURONAL INJURY: A STUDY IN MIDDLE CEREBRAL ARTERY OCCLUSION RAT MODEL OF FOCAL CEREBRAL ISCHEMIA

Amas Nadir, Mufzala Shamim & Nazish Iqbal Khan
University of Karachi

This study aims to evaluate antioxidant and neuroprotective effects of curcumin supplementation against ischemic-reperfusion induced neuronal injury in middle cerebral artery occlusion (MCAO) model of transient ischemic stroke. Thirty-two, Wistar rats were randomly assigned into four groups. Group I (control), Group II (sham), Group III (stroke), Group IV (stroke+CUR) curcumin was intraperitoneally administered daily at dose of 300mg/kg bodyweight for 15 days following stroke induction on 16th day. Transient focal cerebral ischemia was induced via MCAO intraluminal technique. At the end of experimental period plasma and tissue sample were collected and assayed for alteration in plasma glucose, lipid profile (total cholesterol, triglyceride, high density lipoprotein, low density lipoprotein and very low density lipoprotein), liver enzymes (alanine aminotransferase, aspartate aminotransferase & alkaline phosphatase), kidney parameters (urea, creatinine, uric acid & blood urea nitrogen), nitrite, C-reactive protein (CRP), myelin basic protein (MBP), neuron specific enolase (NSE) and caspase-3. Tissue total protein and antioxidants (superoxide dismutase (SOD), catalase (CAT) & glutathione (GSH)) levels were also analyse. We found that MCAO induced ischemic stroke increase plasma caspase-3, NSE, MBP, CRP and nitrite in stroke group however, 15 days curcumin administration attenuates this increase in stroke+CUR treated. Curcumin administration showed significant improvement in tissue antioxidants (SOD, CAT & GSH) status in stroke+CUR treated animals. Other biochemical parameters were also observed to maintain near normal values with curcumin supplementation in stroke+CUR treated animals. Results of present study suggest

antioxidant and anti-inflammation mediated neuroprotective effects of curcumin pre-treatment in MCAO animals.

Keywords: *Curcumin, Ischemia-reperfusion injury, Neuron Specific Enolase, Myelin Basic Protein, Caspase-3, antioxidants*

INCORPORATION OF OATMEAL IN THE MANUFACTURING OF GLUTEN FREE DATES BAR

Ayesha Kiran, Areeba Siddiqui, Fareeha Rafi & Maryam Khan
Jinnah University for Women

Oats are grains from the cereal plant, Avena Sativa, and once harvested are processed for use in animal feed, skin products or food. The benefits of oats are that they can reduce blood sugar and insulin levels. Oats can lower risk of stomach cancer, Oats are high in fiber and in oats vitamin B-3(Niacin) also present, can be used as part of a diet low in fat and cholesterol to prevent heart disease. In this, nutritional value of dates and oats are present in it. We use these oatmeal date bar because we incorporated oats for sweetening of product because oats contain starchy sugar in it. Dates have its own benefits like dates lower the cholesterol level, rich in proteins, iron and vitamins, strengthens the nervous system, promote digestion, improve skin. These dates bar are used for instant source of energy with the incorporation of good carbohydrates in it. The wax coating can have harmful effects, can be unhealthy for babies, and can lead to fructose intolerance. We make these oatmeal date bars because they can control the blood sugar level instantly of low blood pressure patients and decrease or reduce cholesterol level. It is easy to carry (dates bar) and instantly available if need is necessary and provide required nutrients to an individual. Dates and Oats have high content of fiber, containing antioxidant properties; provide benefits to health and natural sweetener.

Keywords: *Fructose Intolerance, Antioxidant, Avena Sativa.*

A COMPARATIVE ANALYSIS OF FAT DEPOSITION AMONG THE PEOPLE LIVING IN URBAN REGIONS OF PAKISTAN

Faizan Mirza & Hafsa Farooq
Department of physiology, University of Karachi

The aim of this study was to compare the occurrence of urbanized obesity in healthy population of Pakistan. In this study subjects were taken from 4 different cities across Pakistan in age groups from 20 years to 70 years. A total 100 subjects were recruited for this study randomly. Data was

collected for body measurements. The individuals height was taken in meters, weight in kg, waist and hip circumference in cm to measure body mass index (BMI),body adiposity index (BAI),waist to hip ratio (W/H) and waist to height ratio (WHtR) in order to determine fat deposition through different tools. The results of this study showed that women of age groups 30-39 and 40-49 have greater amount of fat deposition than men having same age groups in Pakistan, and are predisposed to developing lifestyle diseases in future if the issue is not addressed.

Keywords: *Adiposity, Obesity, lifestyle diseases*

ANTICANCER BERRY JAM

Maha Khan, Kehkashan Matia Omair, Hania Zehra, Javeria Siddiqui
Department of Food Science and Technology, Jinnah University for Women, Nazimabad, Karachi-74600 Pakistan

This nutraceutical product has a great influence on our health by inhibiting the abnormal growth of cells and prevent cancer. When excess number of free radicals stored in our body cause different diseases and cancer is one of them because they have the ability to harm cells by damaging their DNA and cell membranes. The prevalence rate of cancer all over the world is increasing every year, nearly 1 in 6 deaths down to cancer. The product we made is a good source of vitamins, antioxidants and anticancer substances that may help to prevent cancer

Keywords*: Neutraceutical, Product, Prevent, Cancer,Free Radicals, Antioxidants, Berries, Apricot Kernels*

EFFECTIVENESS OF DIABETES THROUGH ACCUPUNTURE THERAPY

Safina Tul Ain, Tooba Arshad, Rabiya Zulfiqar & Sherbano
Jinnah University for women, Karachi

Pharmacotherapeutic drugs and their treatments have more side effects and has been prove hazardous for human life. So, our main is purpose is to minimize the risk of precarious effects and to achieve better health results, that's why we elect an alternate therapy (Acupuncture therapy) to treat diabetes. As their therapy has more potency in managing diabetes plus it has less side effects and more benefits than other drug treatments. Acupuncture is also effective to remove fat deposition in arteries commonly known as atherosclerosis which is one of the critical problem of diabetes. A survey was conducted at different acupuncture plus cupping

centers and data was collected regarding the use of acupuncture therapy in diabetes control. To verify the efficacy blood glucose level were recorded before and after the initiation of therapy. Normally the therapy requires 2-3 months sessions which are approx. 2-3 sessions per week. Before the initiation of therapy, the blood glucose level varies in patient but majorly levels remain up to 250-300 mg\dl and as the therapy initiated the blood glucose somehow decreased up to 120-145 mg\dl. It is concluded that diabetic patients can be treated by this therapy more effectively.IT does not have any harmful effects. Acupuncture is more safe and effective method as compared to normal routine drug treatment. Mostly patients prefer pressure application techniques. Patient having the acupuncture treatment get more positive results than the patient receiving other treatment for the control of diabetes.

Keywords: *Insulin Complementary, TCM (Traditional Chinese Medicine) Therapy, Serum Glucose Level, Electroacupenture, Acupoints, Fbg Level, Insulin Resistance*

GLUTEN FREE PASTA (SORGHUM PASTA) FOR CELIAC PATIENTS

"Bakhtawar Niaz[1], Huda Asghar[1], Iqra Arshad[1], Aisha Yasmeen[1], Kiran Naseer[1], Nida Iqbal[1,2] & Rashida Ali[1,2]

[1]*Department of Food Science and Technology, Jinnah University for Women Nazimabad, Karachi-746000, Pakistan*

[2]*Department of Food Science and Technology, University of Karachi, Karachi-75270, Pakistan.*

Gluten intolerance cover a range of gut problems caused by ingesting proteins founds in wheat, barley, rye and in some cases oats. The three main group affected are those with a direct sensitivity to gluten celiac disease and people who are allergic to wheat. Gluten intolerance is also a permanent condition that damages the small intestine every time gluten is consumed, regardless of whether symptoms are present or not. Common food that regularly contain with gluten in include pasta, breads etc. Our motive to develop this product, gluten free pasta manufactured from sorghum is that people which are gluten intolerant can easily consumed this product. Sorghum has high nutritional value, it enhances stomach related framework, forestall malignant growth, oversee diabetes, calms gluten sensitivity, and enhances bone wellbeing, builds course, support vitality level, secure against osteoporosis and arthritis and additionally helps in heart wellbeing. Neighborhood wellsprings of pasta ought to be

anything but difficult to sort out at stable costs. Likewise, there are few factories and pasta plants in every nation. On the off chance that sorghum pasta is discovered adequate by purchasers at sensible costs, its prevalence will extend slowly since it will be viewed as another item as opposed to a substitute of low social standard. This product is nutritionally beneficial for humans. Sorghum has very low consumption in Pakistan so in small quantity of nutrient deficiency can be fulfilling by Sorghum Pasta if it is available in local markets.

Keywords: *gluten intolerance, celiac disease, gluten free pasta, sorghum, osteoporosis and calms gluten sensitivity.*

SELF-ESTEEM IN SCHIZOPHRENIA PATIENTS WITH AUDITORY HALLUCINATION

Syeda Tooba, Ayesha Nighat & Amber Baloch Bozdar
Department of Psychiatry, Liaquat University of Medical & Health Sciences and Sir Cowasjee Jehangir Institute of Psychiatry, Hyderabad

Knowledge about the subjective aspects of mental disorders is essential if we want to understand how a person adjusts to the illness and to the society. Despite decades of in-depth research on schizophrenia, subjective experiences in schizophrenia are generally understudied. Self-esteem is an aspect of the self-concept and refers to the evaluation of one's own characteristics. It is regarded as the most powerful element in human motivation and thus merits to be investigated in the disease circumstances in detail. To gauge the level of self-esteem among schizophrenia patients with auditory hallucination. This cross-sectional analysis was conducted upon a sample of 100 schizophrenia patients (aged 20 to 60 years) at the study setting (ward 11-A, 11-B, 11-C, 5-B and emergency ward of Sir Cowasjee Jehangir Institute of Psychiatry, Hyd) with auditory hallucinations of either command, commentary or 3rd person type (chosen via non-probability, consecutive sampling). After taking written informed consent from the guardians, basic bio-data and sociodemographic details were recorded using a structured, interview based questionnaire. The Rosenberg Self-Esteem questionnaire was used to gauge the level of Self-Esteem among the study subjects. The data obtained was analyzed using SPSS v. 21. 0. As hypothesized, moderate levels of self-esteem were present among schizophrenia patients and there was no significant difference between self-esteem between patients suffering from different variants of auditory hallucinations. The prevalent belief that patients of schizophrenia have generally low self-esteem and that command type

hallucinations further decrease the level of self-esteem is negated by our research. It also lays to rest, the myth that commentary hallucinations bolster self-esteem.

Keywords: *Auditory Hallucination, Schizophrenia, Self-Esteem, Command Hallucinations and Commentary Hallucinations.*

CYSTIC ECHINOCOCCOSIS: A TEN YEAR EXPERIENCE FROM A DEVELOPING COUNTRY

Ayesha Butt[1] & Javaid Ahmed Khan[2]

[1]*Aga Khan University Medical College, Karachi, Pakistan*

[2]*Section of Pulmonary and Critical Care Medicine, Department of Medicine, Aga Khan University, Karachi, Pakistan*

Cystic echinococcosis (CE) is a neglected tropical disease (NTD) afflicting about one million people globally. Elucidate the clinical presentation, common locations, treatment options and outcomes of the disease in the Pakistani population. Case series involving review of charts of 225 consecutive patients of CE admitted at Aga Khan University Hospital, Karachi from 2007-2017. The median age of patients was 42.3 years. Abdominal pain, including right hypochondrial, epigastric or generalized abdominal pain was present in 34.7% patients while fever was present in 26.2% patients. There were 142(63.1%) cases of hepatic hydatid cysts and 55(24.4%) cases of pulmonary hydatid cysts. ELISA for anti-echinococcus antibodies was greater than 1:16 in 86 (38.2%) patients and less than 1:16 in 28 (12.4%) patients. Combined surgical and medical therapy, was the most common treatment modality, with it being given to 130(57.8%) patients. Surgery only was performed in 23(10.2%) patients, medical therapy only in 35(15.6%) and PAIR procedure plus medical therapy in 15(6.7%) patients. Recurrence occurred in 14(6.2%) and mortality in 7(3.1%) patients. Owing to the non-specific clinical picture of hydatid disease, a high index of suspicion is required to diagnose and treat the disease in a timely manner.

Keywords: *Hydatid disease, Neglected tropical diseases, Echinococcus Granulosus Infection, Parasitic Diseases, Zoonotic Diseases*

A STUDY COMPARING NON-INVASIVE INDICATORS OF AGEING IN POPULATION OF KARACHI

Faizan Mirza & Najia Siddiqui
Department of physiology, university of Karachi

The aim of our study was to compare the non-invasive indicators of ageing in the population of Karachi. To carry out this study, a population of over 100 subjects was taken in which 50 males and 50 females from age groups varying between 20-59 were selected. Subjects were tested using questionnaire. Tests and activities assessing physical activity, cognitive impairment, verbal fluency, short term memory, selective attention and cognitive flexibility were performed. Results indicated that in the age group of 20-29, in the verbal fluency test, collective word scoring of males was less as compared to the females meanwhile in assessing the test for short term memory among the age groups of (20-29) and (50-59), the males were able to remember fewer objects in comparison to the females. Furthermore, results showed that the concept of frailty, memory issues and mild cognitive impairment were more common in older adults as compared to the younger ones due to the factors involving age, education, gender, health and chronic diseases.
Keywords: Cognitive impairment, Verbal fluency, Short term memory, Frailty.

SURAH-E-FATIHA INDUCES AMELIORATION OF BEHAVIORAL DEFICITS IN A CHILD WITH DELAYED MILESTONES

Ammara Rafique & Hajra Naz
Department of Biochemistry, University of Karachi

To evaluate the effect of Quranic verses on the behavioral activities of a child experiencing delayed milestones. Current research evidence the impact of Quranic Ayats in the treatment of various illnesses. Delayed milestones, later on, transformed into Cerebral Palsy, occur due to lesions in the brain during pregnancy, delivery or after a few months /years after birth. After obtaining informed consent from the parents, an 18-month-old child with delayed milestone was made to listen to Surah-e-Fatiha for 5 months, 3 times a day. The complete medical and family history was collected including the child's body weight, height, and head-circumference, temperature, diet, speech, and sleep hours. Pre and Post intervention monitoring was executed with the help of the observer, by

employing tools such as Integrated Management of Childhood Illness (IMCI), Early Childhood Screening Assessment (ECSA) and Self-Generated Behavioral Analysis Form (SGBAF). Integrated Management of Childhood Illness (IMCI) scale showed improvement as the child tried kicking the ball by using his affected leg, building a three-block tower, changing clothes, and identifying pictures. ESCA scoring was ameliorated in the post-intervention as compared to pre-intervention. SGBAF showed an increase in body weight, height, head-circumference, diet, speech, and sleep hours, whereas normalization of body temperature, agitation, crying, biting, and mood swings were observed. Amelioration in behavioral deficits after 5 months help us to suggest that Quranic verses augmented the treatment of a child with delayed milestones.
Keywords: *Quranic Ayats, Delayed Milestones, IMCI, ECSA*

A STUDY OF BMR AND ENERGY EXPENDITURE ON EXERCISING VERSUS NON EXERCISING MALE AND FEMALE SUBJECTS

Faizan Mirza & Khadija Shabbir
Department of physiology, university of Karachi

The present study was aimed to explore the differences in BMR and TDEE of exercising versus non-exercising male and female subjects. To carry out this study a population of 100 subjects were taken in which 50 males and 50 females from age groups 20-29 and 30-39 were selected. Out of 50, 25 from both male and female were exercising and 25 were non-exercising individuals were used as control. The survey research was done through the questionnaire to calculate BMR & TDEE. The individuals were asked about their age, weight in kg, height in meter and activity factor. The results indicated that a significantly higher value of BMR and TDEE was found in exercising males and females as compared to the non- exercising one, which must be compensated with appropriate nutrition.
Keywords: *Energy Expenditure, BMR, Exercising*

KIDNEY BEAN CEREAL AND KIWI

Maheen Shahid & Hafsa nadir khan
Jinnah University for women, Nazimabad, Karachi, Sindh, 74600

To point out the nutritional value of white kidney bean with kiwi in the form of cereal which provide less amount of good carbohydrates and good amount of protein with high amount of fiber and kiwi that provide phenols

that mainly help to prevent many diseases in which more dominantly digestive problems and asthma respectively. Also that kidney beans help to reduce weight, obesity and also reduce the insulin concentration in body. Kiwi is used in the cereal due to its other medicinal values other than treatment of asthma such as bone health, skin health, cardiovascular health, anemia cancer and many more. Intake of kidney bean cereal with kiwi can reduce the health and provide benefits more than other cereals as they are from natural sources

Keywords: *Asthma, Digestive Problems, Anemia, Nutritional Value, Bone Health*

PHENOTYPIC SUBTYPES OF ADHD AMONG CHILDREN PRESENTING TO SIR COWASJEE JEHANGIR INSTITUTE OF PSYCHIATRY, HYDERABAD

Syeda Ambreen Munawar, Aatir H. Rajput & Moin Ahmed Ansari
Department of Psychiatry, Liaquat University of Medical & Health Sciences and Sir Cowasjee Jehangir Institute of Psychiatry, Hyderabad

Attention-Deficit/Hyperactivity Disorder (ADHD) is a brain disorder marked by an ongoing pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development. There are 3 different phenotypic types of ADHD that differ according to predominance of certain symptoms. To identify the phenotypic subtypes of ADHD among children presenting to the study setting with the said disease. This cross-sectional, observational analysis was carried on a sample of 46 children (suffering from ADHD) chosen via non-probability consecutive sampling. The subjects presenting to the outpatient department of Sir Cowasjee Jehangir Institute of Psychiatry, Hyderabad from January 2017 to June 2018 were enrolled into the study after taking written informed consent from their guardians/parents. Children were diagnosed on the basis of DSM-V Criteria. The data obtained was analyzed using MS. Excel 2013 and SPSS v. 19.0. Majority of the sample was boys (82.6%), residing in urban area (65.2%) with this history of parental consanguineous marriages i.e. 76.1%. Mean age of sample was found to be 8.196. 1/4th of the children were non-school going due to illness. The most common type of ADHD disorder was found to be Combine type i.e. 43.5%, followed by Predominantly Hyperactive type i.e. 39.1% and Predominantly Inattentive type i.e. 17.4%. Combine type and Predominantly Hyperactive type are more common among children with

ADHD. This phenotypic presentation of symptoms helps mental health professionals in quick diagnosis of the disorder.

Keywords: *ADHD, Types of ADHD, Sir CJ Institute of Psychiatry, child mental disorders.*

DETERMINANTS OF DELAY IN MENTAL HEALTH SEEKING AMONG PATIENTS PRESENTING WITH BIPOLAR AFFECTIVE DISORDER: A PILOT STUDY

Parveen Channar, Sidra Rehman, Aatir H. Rajput & Moin Ahmed Ansari
Department of Psychiatry, Liaquat University of Medical & Health Sciences and Sir Cowasjee Jehangir Institute of Psychiatry, Hyderabad

To study the relationship of delay in health seeking with socio-demographic and clinical factors. A cross-sectional pilot study was conducted at Sir Cowasjee Jehangir Institute of Psychiatry, Hyderabad (a premier Institute of Psychiatry in Sindh) on patients of bipolar affective disorder. Via convenience sampling 50 patient (20 inpatients & 30 outpatients) were interviewed with help of a pre-formed structured questionnaire. Data were recorded regarding socio-economic, demographic and clinical factors \of the disorder. Patients were diagnosed according to the guidelines of ICD 10 Clinical Manual. Ethical approval was obtained prior to starting study. Duration of the study was 2 months. Data were analyzed by using SPSS v. 19.0 and MS Excel v. 2013. Mean age of the patients was found to be 35.06 + 10.53, with preponderance of male gender i.e. 84%. 20% of the patients were presenting first time. 66% of the patient were financially dependent on the family. 54% of the patients were presented with manic symptoms, 18% with depression, 16% with mixed features of mania and depression and 12% were in remission phase. 86% of the patients had the history of disorder for more than 1 year and 32% patients had the history of untreated illness for more than 6 months. The common course pattern of the illness was found to be mania or hypomania followed by bipolar depression and then euthymic phase i.e. 66%. On the basis of this pilot study, socio- economic, demographic and clinical factors have been identified that which influences the delay of mental health seeking among patients of Bipolar Affective Disorder. Further work on a larger sample is still needed to carry upon.

Keywords: *BAD, socio-demographic factors of BAD, Sir CJ Institute of Psychiatry, Determinants of Delay in help seeking, Mental Health*

STUDY OF RECREATIONAL SITE OF KARACHI BEACH FOR ASSESSMENT OF SANITARY CONDITIONS

Maham Jamil Siddiqui[1], Hamza Muhammad[1], Sadia Khalil[1] & Muhammad Ajmal Shah[2]
[1]*Department of Microbiology, Federal Urdu University of Arts, Science &Technology*
[2]*GC University Faisalabad*

Sea shores are usually the major site of sewage disposal and hence are considered as potential source of contaminants, particularly the fecal contaminants. One of the most widely used indicators of fecal contamination are coliform bacteria. Hence, the current study was conducted with an aim to assess the number of coliforms in Karachi seashore. To envisage this study, marine water samples were taken aseptically from surface (0-30 cm) from 10 different sites (five near sea shore and 5 from sites at an evident distance in sodium thiosulphate containers).The water samples were filtered through a 0.45Î¼m membrane filter using metal vacuum filtering set (Millipore, Germany) and the membrane filter was placed on Nutrient agar and MLS(Membrane Lauryl Sulphate) agar, followed by incubation at 37°C and 44.5°C for 48 hrs and evaluation of total bacterial and coliform count.It was analyzed that the samples collected from shore had higher number of bacteria (>75700 cfu/ml) and fecal coliform (TNTC/100 ml) while the samples collected from distance showed comparatively lower number of bacteria (230 cfu/ml) and fecal coliform (~60 cfu/100 ml).Hence, these results indicate the poor sanitation condition of Karachi sea shore.
Keywords: *Coliforms, sanitation.*

PSYCHIATRIC HELP SEEKING: VIEWS AND BEHAVIOR OF HIGHER EDUCATION SCHOLARS

Sidra Rehman[1], Aatir H. Rajput[1], Muhammad Muneeb[2]
[1]*Department of Psychiatry, Liaquat University of Medical & Health Sciences and Sir Cowasjee Jehangir Institute of Psychiatry, Hyderabad*
[2]*Dept. of Basic Medical Sciences, Indus Medical College, T.M.K*

Psychiatric help seeking, be it for counseling and psychotherapy or for matter requiring serious psychiatric consultations, has often been deemed potentially difficult, embarrassing, and overall risky enterprises that induce fear and avoidance in most individuals. The reservations and fear is regarded to stem from lack of awareness and education regarding

psychiatric help, but whether higher education brings about any change remains a topic of debate. To study the views and behavior of higher education scholars at Jamshoro regarding psychiatric health seeking. This cross-sectional study was conducted upon a sample of 377 higher education scholars (engineering and health sciences) from 2 different public sector universities at Jamshoro from October 2016 to January 2017. Participants were selected from each university via non-probability, purposive sampling. After taking written informed consent, inquiries were made regarding basic sociodemographic details, parental literacy level and views and behavior regarding psychiatric help seeking using an anonymous, standard self-structured, interview based questionnaire. The data obtained was analyzed using SPSS v.19 and MS Excel 2013. The response rate of the subjects was 100%. The sample comprised of 32.9% males 67.1% females with a majority (63%) of the subjects admitting to have felt the need for a psychiatric consultation or a psychological opinion at least once in their life time, while only a mere 3.18% of them acted upon it by actually seeking psychiatric help. Despite nearly all of the research subjects (93.1%) recognizing psychiatric help seeking as a positive activity and admitting to have encouraged others for seeking it, the subjects admitted that they would rather not opt to seek psychiatric help for themselves for a wide array of fears and reservations. Higher education scholars despite recognizing psychiatric help as a genuine need of the people, viewing it positively and even holding it in high regard, worryingly do not exhibit positive practical behavior towards it.
Keywords: *Psychiatric Help, Help Seeking Behavior, Attitude, Practice and Higher Education.*

RELATIONSHIP BETWEEN LOCUS OF CONTROL AND AGGRESSION AMONG MEDICAL STUDENTS

Ammara Ali[1], Ayesha Nighat[1], Abdul Hafeez[2] & Sumaira Qureshi[2]
[1]*Department of Psychiatry, Liaquat University of Medical & Health Sciences and Sir Cowasjee Jehangir Institute of Psychiatry, Hyderabad*
[2]*University of Sindh*

Locus of control, a component of social cognition, refers to the degree to which a person feels that he or she is in control of his or her surroundings. Aggression is correlated with external locus of control in individuals with serious mental health issues while an internal locus of control disposition is known to predict psychological well-being and good self-esteem. To analyze the relationship between locus of control and aggression among

university going medical students. This study was conducted upon 90 students of Ghulam Muhammad Meher Medical College, Sukkar. Convenient Sampling was employed to recruit equal proportion of male and females with age range of 18-25 years. Informed written consent was obtained prior to the study. A structured self-administered questionnaire including socio-demographic information, Rotters Scale of Locus of Control and Buss Perry scale of Aggression, was used as research tool. Pearson moment of Coefficient of correlation was used in order to find out relationship of external locus of control and aggression among students. Independent t-test was used to access gender differences in locus of control and aggression. Data was analyzed via SPSS v. 16 and MS Excel. The results showed a positive correlation between external locus of control and aggression. Gender differences are also found in locus of control ($p < 0.05$) but significant differences are not found in aggression of males and females. The results showed the positive correlation between external locus of control and aggression. The more the locus of control is external in nature, the more it creates aggression.
Keywords: *Locus of Control & Aggression, Gender Differences and Aggression, Locus of Control in Medical Students*

RISK FACTORS AND DIAGNOSTIC CRITERIA FOR ALZHEIMER'S DISEASE

Noor Jahan, Saleeha Israr, Sehej Hussain, Muhammad Adnan Shahid & Javaria Ali Khan.
Dow College of Pharmacy, DUHS.

Alzheimers is the most common cause of dementia among older adults. Dementia is the loss of cognitive functioning thinking, remembering, and reasoning and behavioral abilities to such an extent that it interferes with a person's daily life and activities. Alzheimer's disease is named after Dr. Alois Alzheimer. In 1906, Dr. Alzheimer noticed changes in the brain tissue of a woman who had died of an unusual mental illness. Her symptoms included memory loss, language problems, and unpredictable behavior. After she died, he examined her brain and found many abnormal clumps (now called amyloid plaques) and tangled bundles of fibers (now called neurofibrillary, or tau, tangles). Blood and CSF tests for metal elements and certain bio-markers gives a picture of Alzheimer. Brain imaging as CT, MRI and PET scanning are used to exclude dementia due to tumor, hematoma or stroke. Aim of our study is to highlight the important factors involved in progression of Alzheimer's disease and the

methods to diagnose it at early stages, by summarizing the already existing authentic knowledge. All the data regarding the risk factors and the measures to recognize the sign and symptoms of Alzheimer's disease at early stages, from year 2009 to 2019 was collected and the key points were highlighted during the critical review of the selected articles from authentic resources. All these important highlights are summarized in our review article. Symptoms like mild cognitive impairment, dementia, vascular diseases and factors like blood pressure, cholesterol concentration, and Low levels of amyloid-beta and tau proteins leads to the occurrence of Alzheimer's disease. By monitoring family history and the above mentioned sign and symptoms we can prevent the progression and severity of Alzheimer's disease and can recognize the neglected patients that are unaware of their pathological condition or those that have the risk of developing Alzheimer in later ages.
Keywords: *Alzheimer's disease, risk factors for Alzheimer, diagnostic criteria for Alzheimer, bio markers involved in Alzheimer.*

PREVALANCE OF ANXIETY AMONG MEDICAL & ENGINEERING STUDENTS OF KARACHI

Sarfaraz Ahmed[1], Kiran Abdullah[2] & Abdul Ghani[3]
[1]*Baqai Medical University (BMU)*
[2]*Liaquat National Medical College (LNMC)*
[3]*Sir Syed University of Engineering & Technology (SSUET)*

To determine the ratio of anxiety among medical and engineering students and the cause of anxiety. Anxiety is an emotion characterized by feelings of tension, worried thoughts and physical changes such as palpitations of heart consistent with panic attacks, sweating, dizziness, nausea and sometimes chest pain. Anxiety is different from fear. Anxiety serves as the body's warning system, the brains way of telling the body that something bad could happen. This response relates to but is distinct from fear which alarm us when something actually dangerous is happening or just about to happen. The fear of today can lead to the anxiety of tomorrow. The aim of objective is to determine the causes of anxiety among students. A cross sectional study was carried out among students of different medical & engineering universities of Karachi from August 2018 to Feburary 2019. The participants including both males and females students were composed of 250 medical students and 150 engineering students. A simple stratified sample was used for sampling. Data was collected using questionnaire in written form. The questionnaire was categorized in

demographic pattern. Findings showed that total of 64% medical students suffering from depression/anxiety in which 49% of medical students suffering moderately from depression and 14% suffering from severe depression. On the other hand total of 36% engineering students suffering from depression/anxiety in which 28% from moderate depression and only 8% of them on high rate of severe depression. Medical students (49%) are also more susceptible to higher anxiety then engineering students (28%).The significance relation between depressions was formed including the non-significance relation between anxiety. The results showed that most medical students were depressed and they are suffering from anxiety than those of engineering students. Moreover anxiety can be prevented among medical and engineering students by different psychological therapies and physical activities rather to avoid use of drugs to overcome anxiety. Yoga, physical exercises and other stress management techniques should be taught to students at their younger age and be motivated to follow the same.
Keywords: *Stress, Anxiety, Medical students, Engineering students, Depression.*

IN-SILICO BASED NOVEL INHIBITION OF HIV-1 SUBTYPES BY A LECTIN PHOLIOTA SQUARROSA

Rafia Akhlaq & Syed Abdus Subhan
Microbiology, Microbiology Department, University of Karachi

N-glycosylation of glycoprotein (GP120) is an important event in HIV infection. The study of N-glycosylation has become an area of extensive research in current areas of research in virus biology. HIV infection, a threat to human health, depends on expression of specific oligosaccharides to bypass host immune system. So, blockage of N-glycosylation of HIV glycoprotein can aid in developing therapeutic strategies against HIV. To perform in silico-based evaluation of a lectin that blocks N-glycosylation of HIV-1 glycoprotein (GP120). Molecular docking of GP120 of HIV-1 clades and the lectin pholiota squarrosa (PhoSI) was performed by using Patch Dock and Swiss-Model. Interactions between PhoSl and HIV-1 GP120 were analyzed by PLIP (Protein-Ligand Interaction Profiler) server. The molecular docking results showed that the lectin pholiota squarrosa (PhoSI) can form metal complexes along with non-covalent interactions with GP120 of HIV-1. It can be concluded that the lectin pholiota squarossa may serve as a potential anti-HIV-1 peptide, however, empirical data is required to confirm its antiviral potential. Further

laboratory experiments are required to evaluate the lectin Pholiota squarossa as a potential anti-HIV-1 agent and then can be used to synthesize a therapeutic peptide drug for HIV-1.

Keywords: *HIV-1 subtypes, lectin, N-glycosylation, Pholiota squarrosa*

UV DRYER: AN APPROACH TOWARDS HEALTH AND COMFORT

Muzna Khursheed & Somia Gul

Faculty of Pharmacy, Jinnah University for Women

To develop and manufacture portable dryer and to optimize the customer satisfaction by accomplish consistency in the service offered. UV DRYER is Pakistan's first portable device of its kind. The invention relates to Ultraviolent (UV) light & Lamp, a miniature turbine engine which generate warm air that can dry clothes, towel, also disinfect them and maintain the freshness for a longer time. It's a detachable design, very efficient and convenient to use. Anti-over heating system is available. The device uses a miniature turbine engine to direct hot air towards the things and maintain the temperature for allow easy drying. An Ultraviolent light disinfects the material and make them fresh and fluffy. The switch control option may allow the apparatus to have at least three modes of operation that is, standby mode, active mode and curing mode. The apparatus UV dryer include a battery, UV light & Lamp a rotatable turbine enclosed within the portable device that having an anti-overheating system. UV rays used for sterilization purpose. It performs strong sterilizing power (253.7 nm) and can sterilize 99.9% of various pathogenic bacteria. The appearance of the product is beautiful and operating the product is simple and convenient by applying touch switch. It will amazingly beneficial in cold season, trips & to avoid unnecessary laundry in hotels.

Keywords: *UV Dryer, Portable Dryer, Ultraviolent Light, Miniature Turbine Engine, Disinfectant*

miRNA AS A KEY FACTOR IN NEUROLOGICAL DISEASES

Rabia Malik, Saleeha Israr & Saima Mahmood Malhi

Dow College of Pharmacy, Dow University of Health Sciences

Role of miRNA as a biomarker for the awareness among the health professionals for diagnostic purposes. Neurological disorders are disease of the brain, spine & the nerves that connect them. There are number of diseases & we have searched for epilepsy. Epilepsy is characterized by

synchronized unprovoked seizure. Clinical examination, history taking, and EEG are established conventional methods to diagnose epilepsy, but unfortunately, EEG cannot be done initially to screen the population. To support clinical examinations of epileptic patient's diagnostic markers can be searched. miRNA (a non-coding RNA molecule) regulates protein levels post transcriptionally and play a vital role in diagnosis of various diseases. We started with extensive literature survey and have seen a number of articles published during 2005-2018 However, we focused and selected only 55 articles that described miRNA and their role as biomarker of epilepsy. We found that evidences are available that report miRNAs are playing roles in regulatory mechanisms including cell differentiation, proliferation, apoptosis & host pathogen interactions. There are many types of miRNAs which may be upregulated or downregulated during SE including miR-14a, miR196b, miR34a, -22, -125a ,-132, -146a, -106b-5p, -130a-3p & 21 that we have highlighted based on our critical review. MiR-194-5p, -301a-3p, -30b-5p, -342-5p and -4446-3p were significantly deregulated in drug-resistant group compared to drug-responsive group during SE in a study. A unique miRNA (miR-146a) control dendritic morphology as well as ion channel levels, neural migration & glial function in brain. Analysis of miRNA expression in human epilepsy has also been reported, where neuroinflammatory processes were prominent. We concluded that specifically miR-132 and miR-146a reported by Jung Wang. et al. 2015 and Lan Tan. et al. 2015 can be marked as important indicators for epilepsy.

Keywords: *Neurological disease, Epilepsy, miRNA & miRNA as a biomarker.*

POSITIVE ENERGY..... A STRONG LINK BETWEEN BRAIN AND BODY TO REGULATE MENTAL AND PHYSICAL STATE

Sumaira Naz, Sana Khalid & Shazia Tariq
Dow University of Health Sciences

In the light of literature reports the concept of brain and body connection, fostering the researcher to focus in this field and speculate its usefulness against various ailments. Brain is the complex system of body which connects and interacts with body. Brain execute planning and construct new thoughts that travels in the body in the form of energy, this energy has either beneficial or deleterious effects on body. Thoughts and emotions have impact at biochemical, cellular, and molecular level. Positive, kind, and inspiring thoughts can motivate the person and generate positive

waves that has similar frequency as body's cells thus body perform its function optimally. Contrary, emotions like anger, fear, guilt, sadness, jealousy, stress can contribute to imbalance the body's function and participate in the induction of various diseases including anxiety, depression, anxiety induce GERDs, pain, cancers and various psychological disorders. Conclusion: Therefore, it is concluded that the different ailments can be manage by positive energy, the health care professionals can contribute by focusing and enlightened their role in counseling of patient to calm and relax them to regulate their healthy mental and physical state.

Keywords: *Positive energy, Mental and physical state, Patient counseling*

TO PORTRAY AN OVERVIEW OF OVERACTIVE BLADDER AND ITS PREVALENCE IN YOUNG POPULATION

Tahreem us sama[1], Ramsha Tariq[1], Sobia Razzaq[1], Faiza Kausar[1], Faizan Mirza[1], Sadaf Ahmed[1&2] & Yursa Saleem[2]

[1]*Department of Physiology, University of Karachi*

[2]*Advance Educational Institute & Research Centre*

Overactive Bladder (OAB) is often the result of spasms in detrusor muscles and is characterized by a sudden urge to urinate, which may or may not be associated with incontinence depending on the functionality of sphincters and pelvic floor muscles, and high frequency of urination (> 8times/day) as well as nocturia (2-3 times at night). According to BJUI, around 10.7% of the worldwide population is suffering from OAB. To evaluate the prevalence of OAB in young population, a pilot study was carried out during 10th March 2019-23rd March 2019. A total of 100 participants, 50 males and 50 females aged between 18-23 years were recruited. Data collection was accomplished through web survey and structured questionnaire comprising of the demographic details along with the subjects' age, BMI, voiding frequency, nocturia, urgency and incontinence. All patients with neurological or pathophysiological conditions that may affect normal bladder functioning were excluded e.g. Diabetes, Stroke, MS etc. The collected data was analyzed using Microsoft excel version 2013. According to the results, 51% of the population exhibited OAB symptoms i.e., 34 out of 50 males (67%) and 17 out of 50 females (33%) exhibited symptoms of OAB. In contrast the data provided by WHO shows slightly higher prevalence of OAB in females as compared to females. One of the reason for this deviation might be the increase consumption of caffeinated, carbonated beverages, smoking, excessive

use of NSAIDs, risk of BPH and predisposition of psychological factors related to stress management, depression and anxiety that may lead to neurogenic bladder over activity. However, it leaves room for further research for more accurate factors results.

Keywords: *OAB, bladder overactivity, risk factors, young age, gender*

REDUCE AGGRESSION SIMPLY BY OMEGA-3 SUPPLEMENTS: A STUDY ANALYZING THE EFFECT OF OMEGA-3 SUPPLEMENTATION ON CHILD AGGRESSION AND DEPRESSIVE BEHAVIOUR

Atchaya Arulchelvan[1], Ayesha Siddiqua[2], Arooj Malik[3], Ruqiya Afroz[3] & Muhammad Akhter Hamid[1]

[1] University of Toronto; Toronto, Canada

[2] Dow Medical College; Karachi, Pakistan

[3]Scarborough Health Network; Toronto, Canada

To examine reasons as to how omega 3 can be used to decrease depressive and aggressive symptoms and whether omega 3 supplements should be used as a treatment for some psychiatric disorders or problem behaviors in children. A literature search was conducted through PubMed, MEDLINE, EMBASE, UofT Library, and Cochrane Library with no publication date restrictions, with the MeSH terms adolescent, youth, children, omega 3, aggression, behavior, and depression. In recent studies, omega-3 supplements are showing promising results for aggressive and depressive behaviors in children. Omega-3 fatty acids have been found to interfere with the normal neural function of brain especially associated with dopaminergic and serotoninergic neurotransmitters, as well as influence heart rate, metabolism, and weight gain. It has been found that the omega-3 fatty acid EPA causes a rise in the release of serotonin by the presynaptic neurons. Furthermore, both EPA and DHA are known to be highly unsaturated and thus they influence cell membrane fluidity. Evidence also suggests that omega-3 supplementation can cause changes in the relationships of aggression, heart rate, metabolic rate. Many adolescents who had lower resting heart rates tended to display increased aggressive behavior in comparison to adolescents who had normal heart rates. The intake of polyunsaturated fatty acids greatly increases the release of dopamine and serotonin in the frontal cortex. Omega-3 supplements can act as a substitute for anti-psychotic medications for children as it tends to decrease metabolic rate, heart rate and aggressive behavior. Besides this,

it can also aid in reduction of development of criminal psychology in children.

Keywords: *Omega-3, Fatty acids, Aggression, Depression, Children, Supplementation*

CONTRACEPTIVES AND BREAST CANCER... IS THERE ANY LINK?

Sumaira Naz, Sana Khalid, Shazia Tariq,
JahanAra Hassan & Saima Mahmood Malhi
Faculty of Pharmaceutical Sciences, Dow College of Pharmacy,
Dow University of Health Sciences

The number of breast cancer patients is increasing day by day in the world. There are 192000 people with breast cancer and 40,000 die annually in Asia. One of the major observations that could contribute to disease is excessive/prolonged use of contraceptives. The purpose of study is to find is there any link between the use of contraceptives with the development of breast cancer or not? For this purpose, we did literature review for the last ten years (2008-2018), using various websites such as PubMed, google scholar, WHO, cancer websites etc. The search terms were multiple but not limited to contraceptives, breast cancer, etc. Relative risk estimates were obtained from the most relevant and recent epidemiological literature. Previous studies convincingly showed an increase in risk of breast cancer associated with oral contraceptives use. The women who took birth control pills have 20-30% higher risk of breast cancer than women who had never taken the pill. The risk increases if the use exceeds more than 5 years. Estradiol is one such example. However, the question, Levonorgestrel use linked to breast-cancer development? Gives paradoxical results. Women above 50 years of age/ near to menopause have high risk (8 out of 10) to develop breast cancer. Estrogen is present in our body and estrogen based contraceptives increase the expression of estrogen ER receptors which increases breast tenderness and induces breast cancer. Human epidermal growth factor receptor-2 (HER2) and Hormone receptor (HR) are two main types of receptors showing positive screening at molecular level. ER-alpha promotes growth of cells by targeting expression of signaling component like insulin growth factor. There is a strong link between hormonal contraceptives and increase risk of breast cancer as reported in literature. But Pakistan's data needs to be evaluated and reported. ***Keywords:*** *Contraceptives, Estrogen, Progestin, Menopause, Breast Cancer*

INCORPORATION OF BEETROOT PULP IN THE MANUFACTURING OF ALL PURPOSES FLOUR CAKE

Saifuddin.F, Azam.K & Arshad.H
Jinnah University for Women

Our project was to make a nutraceutical product, we decided to make Beetroot cake. The purpose of making beetroot cake was that as most of the people don't like to eat beetroot in raw form as its flavor and aroma is not very alluring. We altered its form so that the one gets same amount of nutrients. Beetroot is a taproot vegetable is loaded with the goodness of nature and is a perfect mix of antioxidant, vitamins and minerals. Enriched with the goodness of nature, beetroot are essential for the proper functioning of human body. Beetroot is a rich source of fiber, folate, vitamin B9, manganese, iron and potassium. Main target of this product was to treat anemia. Results were that the texture, taste and appearance were alluring and good. Aroma was light that was not getting much under notice.

Keywords: *Taproot, Neutraceutical, Anemia, Alluring.*

FACTOR ASSOCIATED WITH UNMET NEED FOR FAMILY PLANNING: AN ANALYSIS OF PAKISTAN DEMOGRAPHIC HEALTH SURVEY 2012-13

Rehana Yasmeen & Muhammad Imran
Shaheed Zulfikar Ali Bhutto Institute of Science and Technology - Karachi Campus

In 2017, Population of Pakistan was 207.774 million with a population growth rate of 2.4 percent. If the current rate of growth persists, Pakistan would rank even higher in terms of population by 2050. Unmet need informs us that the demand is already present and ensuring universal access will help us realize the FP2020 target of increasing the national CPR from 26.1% to 55%. This study will allow us to identify significant factors associated with unmet need for family planning. The PDHS 2012-13 uses cross sectional survey design. The sample size of PDHS 2012-13 represents the population of Pakistan except Azad Jammu and Kashmir, FATA and restricted military areas. The sample consists of four provinces of Pakistan, Gilgit Baltistan and Islamabad as per population census of 1998. The predictor contextual level variables includes place of residence, region and visited by family planning worker in last 12 months. The

predictor of individual level determinants included women's age, household wealth index and education. The adjusted analysis showed that women of age group 25-29 years have 47% less unmet need (OR 0.53; 95% CI: 0.32 â€“ 0.88) as compared to women 15-20 years of age. Women with primary education have 22% less unmet need as compared to women with no education (OR 0.78 95% CI 0.62-0.98). Unmet need was 48% less in poorer women as compared to women who belongs to middle class (Middle OR 0.52; 95% CI 0.39-0.71). Women in Baluchistan have almost 1.5 times high unmet need as compared to women in Punjab and the results were statistically significant (OR 2.59; 95% CI 1.87-3.61). In our study lower level of education, poor wealth index and women who have never visited by a family planning worker most important predictors that effects unmet need. Women should be given more access to education and health facilities, as it helps them make informed decisions about contraceptives. Priority should be given to those region where unmet is high as compared to other region such as Baluchistan.

Keywords: *Unmet need for family planning, Contraceptive Prevalence Rate (CPR), Pakistan Demographic Health Survey (PDHS), Family Planning (FP)*

EVALUATION OF ANTI-INFLAMMATORY, ANALGESIC AND ANTIPYRETIC ACTIVITY OF FRAGARIA ANANASSA AND ACTINIDIA DELICIOSA

Tabbassum Zehra[1], Sameeta Maalik[1], Shadab Ahmed[1], Sadaf Zehra[2] & Mohteshem ul Hassan[3]

[1]*Department of Pharmacology, Faculty of Pharmacy and Pharmaceutical Sciences, University of Karachi.*

[2]*Department of Pharmaceutics, Faculty of Pharmacy and Pharmaceutical Sciences, University of Karachi.*

[3]*Department of Pharmacognosy, Faculty of Pharmacy and Pharmaceutical Sciences, University of Karachi*

The fruits of Fragaria ananassa (Rosaceae) and Actinidia deliciosa (Actinidiaceae) commonly known as garden strawberry and chinese gooseberry or kiwi are mainly cultivated all over the world however their massive production is also cultivated in Pakistan as well. They are widely consumed due to their pleasant taste and remarkable nutritious properties. To the best of our knowledge the anti-inflammatory, analgesic and antipyretic activities of both fruits are not much studied yet. To assess the anti-inflammatory, analgesic and antipyretic activity of ethanol extract of

Fragaria ananassa, Actinidia deliciosa and their combinations. Animals were divided into five groups in each model allocated as distilled water (control), aspirin (100 mg/kg) and paracetamol (100 mg/kg) as reference standard in anti-inflammatory, analgesic and antipyretic models, ethanol extract of Fragaria ananassa, EEFA (800 mg/kg), ethanol extract of Actinidia deliciosa, EEAD (800 mg/kg), combination of EEFA (400 mg/kg) and EEAD (400 mg/kg). Carrageenan-induced rat paw edema was performed to assess the anti-inflammatory activity whereas hot plate method and boiled milk-induced hyperpyrexia in experimental rats were performed to evaluate analgesic and antipyretic activities respectively. The results showed that the ethanol extracts of Fragaria ananassa and Actinidia deliciosa fruits and their combination possessed significant anti-inflammatory, analgesic and antipyretic activity. The ethanol extract of Fragaria ananassa and Actinidia deliciosa fruits clearly show significant anti-inflammatory, analgesic and antipyretic activities in experimental rats indicating their remarkable role in treating the maladies related to inflammation, pain and fever. Further studies are required to elucidate the exact mechanism.
Keywords: *Fragaria ananassa, Actinidia deliciosa, anti-inflammatory, analgesic and antipyretic activity*

MORINGA CUPCAKES INCORPORATED WITH SEMOLINA FLOUR, COCONUT FLOUR AND HONEY

Ramisha Munawar, Tasneem Moiz, Ridah Khan & Shanzay Khan
Department of Food Science and Technology, Jinnah University for Women

Nutritional enhancement to improve the functionality of food products has gained momentum over the years. Therefore, incorporation of inexpensive, easily available food sources with rich nutrients, antioxidants and medicinal benefits into different food products would serve as a big boon to the food industry. The present study involved the incorporation of dried Moringa oleifera leaf powder with semolina flour, coconut flour and honey to extract their hidden benefits. Â The main targeted component is Moringa oleifera. A plant that is often called the drumstickÂ tree, and the miracleÂ tree. Researchers show it treat around 300 diseases like cancer,Â asthma, cardiovascular disease,Â diabetes.Â Studies have shown that Moringa leaf powder has an exceptionally highÂ iron content; due to this factor, we targeted an iron deficiency disease ANEMIA. Moringa supplies a host of vitamins and minerals that aid in iron retention

Vitamin C, Folic Acid and Vitamin B12. For exploring its potential, we transformed it into a cupcake, which provides both Flavor and Nutraceutical benefits.

Keywords: *Moringa, Iron, Anemia, Semolina, Coconut, Honey, Cupcakes.*

NEUROPATHIC TREMOR SECONDARY TO GULLIAN BARRE SYNDROME-A CASE STUDY

Syeda Sarah Rizvi[1], Syeda Masooma Rizvi[1] & Naveed Uddin[2]

[1]*Dow university of Health Sciences, Karachi, Pakistan*

[2]*Neurology department, Liaquat National Hospital, Karachi Pakistan.*

Neuropathic tremor (NT) is a movement disorder typified by tremor occurring in the isolated context of peripheral neuropathy. Its phenomenology consists of a postural and/or kinetic tremor affecting the distal upper extremities. The mechanism underlying neuropathic tremor is not well characterized and the etiology is broad, but there has been no clear relationship between neuropathy and tremor severity. Guillain-Barr syndrome (GBS) is an acquired heterogeneous group of disorders due to an immune-mediated inflammation and demyelination of the peripheral nervous system. A tremor occurring in the recovery phase of Gullian Barre Syndrome is a rare finding. To our knowledge, this is the first case report of neuropathic tremor following Gullian Barre Syndrome. We reported a case of young girl presented with the kinetic tremors following Gullian-Barre Syndrome after 6 months. Detailed clinical evaluation revealed a tremor of both distal upper extremities of frequency 6 hertz making it difficult for her to read, write and drink, thereby we reached to the diagnosis of Neuropathic tremor. She showed no significant difference on therapeutic trials of propranolol, although tremor improved spontaneously over the course of 3 months. Since the cause of neuropathic tremor is not known to the scientific world, its occurrence secondary to GBS can help finding its pathology and can give a valuable clue of its true etiology. Tremor in the recovery phase of Gullian Barre syndrome is uncommon, its etiology is unknown and yet it does not respond to treatment.

Keywords: *Neuropathic tremor, Gullian Barre syndrome*

ADOLESCENT VACCINATIONS: PREVENT WHAT'S PREVENTABLE

Ayesha Noor & Sadaf Ahmed
University of Karachi

The National Human Development Report (NHDR) issued for Pakistan (May, 2018) states that Pakistan has currently the largest population of youth of its history with 29% of the total population being in the age bracket of 15-29 years. Unfortunately, even after constituting such a major portion, the adolescents & youth are among the most neglected groups, particularly in terms of health. Adolescence (10-19 years) is a period of dynamic development which has long lasting effects on life, therefore vaccination during adolescence is crucial for preventing the morbidity & mortality caused by VPDs & to ensure healthy adulthood. Centers for Disease Controls & Prevention (CDC) recommends following vaccines for adolescents, at the age of 11-12; Meningococcal, HPV, TDAP & Influenza. Moreover, catch-up vaccines like MMR, Varicella, Polio, Hepatitis A & B are also recommended, if missed during childhood. Pakistan lacks adolescent vaccination policies. Adolescents usually visit physicians only when they are ill. Previous researches indicate that the most common barriers to adolescent vaccination include lack of awareness about VPDs & vaccines, negative attitudes towards vaccination from parents & adolescents, financial constraints, absence of government programs, orthodox religious misconceptions, consent to get vaccinated depends solely on parents, shortcomings in healthcare providers' recommendations & misleading campaigns on internet concerning vaccine safety. These barriers can be overcome by combined efforts of NGOs, healthcare providers & government. It can be done by handing out pamphlets & conducting sessions to provide information, tailored specifically to cater the needs of our society, overcoming vaccine hesitancy among parents visiting healthcare providers through discussion, starting mass campaigns, school-based immunization programs, raising awareness through TV advertisements & granting vaccination allowances. Conclusively, to improve the adolescent vaccination rates there is a dire need to recognize the barriers to adolescent vaccination & then to take effective steps to overcome them.

Keywords: *Adolescent, Vaccination*

VISUAL AND REFRACTIVE OUTCOMES OF LASER IN SITU KERATOMILEUSIS (LASIK) IN A TERTIARY CARE CENTRE IN PAKISTAN

Ayesha Butt, Irfan Kabiruddin Jeeva[2] & Sidra Masud[2]
[1]*Aga Khan University Medical College*
[2]*Aga Khan University Hospital*

Laser in situ keratomileusis (LASIK) is one the most popular elective procedures performed worldwide and is used for the correction of refractive abnormalities. Our aim was to evaluate the efficacy of LASIK at a tertiary care centre in Karachi. Our study was carried out at Aga Khan University Hospital Karachi, Pakistan including patients from September 2016 to February 2018, treated by a single surgeon. The results were tabulated on Microsoft Excel and data was analyzed using SPSS version 23. A total of 234 eyes of 118 patients were included. 71.2% of these patients were females. The mean age of patients was 27.9±5.4 years. Preoperatively, the mean spherical values were-3.47±2.01 D (range 0 to -9.50 DS). The mean cylindrical value was, -2.01±0.74 DS (range 0 to -4.75 DS). The mean spherical equivalent value was -3.80±2.10 DS. The average corneal thickness was 544.78 micrometers (standard deviation 30.5, range 460 micrometers -631 micrometers). On post-operative day 1, the refractive outcome was 0Â±0.5 for both spherical and cylindrical values. This improved to 0±0 for both, 1 week post-operatively. These results were maintained on all subsequent follow ups. The mean preoperative manifest spherical equivalent significantly decreased in the first postoperative day. Thereafter, the spherical equivalent refraction remained stable at 0.0±0. At the one day follow-up, the uncorrected visual acuity (UCVA) was 20/25 in only 4 eyes (1.73%), 20/20 in 59 eyes (25.4%), 20/15 in 157 eyes (67.7%) and 20/10 in 12 eyes (5.17%). This improved at 1 week of follow up: 5.98% had 20/10, 77.35% had 20/15 and 22.65% had 20/20 UCVA. The results remained stable thereafter. Our study demonstrates good efficacy, predictability, and stability of eyes undergoing LASIK.

Keywords: *Lasik, Refractive Surgery, Cornea, Corneal Surgery*

INOVATING PROTEIN RICH BAR BY CHICKPEA

Rabeea Aqeel, Rukhsar Ramiz, Syeda Palwashah Wasti & Yusra Hassan
Jinnah University for Women, Nazimabad

We make protein bar by chickpea and other rich protein ingredients. A lot of diseases are cured by this product but the main disease is the chronic disease which is condition of a group named inflammatory bowel disease. In other words it prevents inflammation. Chickpea is a rich source of vitamins, minerals and fiber. It helps in improving digestion, aiding weight management and reducing the risk of several diseases. Additionally, chickpeas are high in protein and make an excellent replacement for meat in vegetarian and vegan diets. Other than that we add an ingredient which is flex seeds which helps in menstrual problems and PCOS. The nutrients in flaxseed may help lower the risk of diabetes, cancer, and heart disease.
Keywords: *Chronic Disease, protein, chickpea*

CHARACTERISTICS OF RETINOBLASTOMA PRESENTING AT A TERTIARY CARE REFERRAL CENTER IN PAKISTAN- A TWO YEAR STUDY

Ayesha Butt[1], Irfan Kabiruddin Jeeva[1], Sidra Masud[2] & Zehra Fadoo[2]
[1]*Aga Khan University Medical College*
[2]*Aga Khan University Hospital*

Retinoblastoma is the most common intraocular malignancy of childhood. Study the clinical presentation and treatment modalities of retinoblastoma patients presenting at a tertiary care hospital in Pakistan. Retrospective review of all cases with retinoblastoma from May 2016 to April 2018 at Aga Khan University Hospital. Demographics were collected form case files that included age, gender and socioeconomic background. Clinical data collected were laterality, intraocular stage (in accordance with ICRB), main symptom and clinical sign on presentation as well as treatment given. A total of 35 eyes of 26 patients were studied with 9 presenting with bilateral retinoblastoma. 57.7% (n=15) of the population were males. The age range was 1 - 84 months (median: 14.5 months). The children presented from 3 different countries with most (76.9%, n=20) belonging to medium, upper medium or upper socioeconomic class. The most prevalent symptom was leucocoria (38.5%, n=10) followed by decreased visual response (15.4%, n=4), squint (15.4%, n=4) and positive family history (15.4%, n=4). Most of the eyes (57.1%, n=20) were Group E on presentation, followed by Group D (20%, n=7) and 17.1% (n=6) Group B.

One eye each presented with Group C and A. All the eyes that presented with Group A or B were of patients who had bilateral disease with advanced stage in the other eye. 54.3% (n=19) of the eyes were treated with a combination therapy including enucleation, focal lasers and systemic chemotherapy, 20% (n=7) with only focal lasers and 17% (n=6) with only enucleation. 42.3% (n=11) of the children presented with heritable traits. One patient (3.8%) did not survive. At our center we see Retinoblastoma in children with diverse background and majority presented with advanced disease. Multimodal therapy improved outcome. Awareness needs to be created for early detection and referral.

Keywords: *Eye Cancer, Retinoblasstoma.*

STRESS INDUCED EPIGENETIC MODIFICATIONS LEAD TOWARDS NEURODEGENERATION: IT'S NOT IN YOUR GENES, IT'S MARKED!

Anna Askari[1], Shamoon Noushad[2], Ujala Sajid[1], Umme-Hani[1], Farah Batool[1], Faiza Batool[1], Minhal Akbar[1] & Sadaf Ahmed[1&2]

[1]Psychophysiology Research Lab, University of Karachi

[2]Advance Educational Institute & Research Centre

One of the major factors involved in Neurodegeneration is stress; due to its ability to epigenetically alter the neuronal cell genes that affects the cognition and causes neuronal damage that can influence mutation which ultimately lead towards neurodegenerative diseases. To assess stress induced epigenetic modifications and regulations that switches "on" & "off" the genes associated with neurons that lead towards neurodegeneration in human. The literature search will be led by indexed literature using the PubMed search engine and it will not contain any grey literature source. Duration of publication date will be from January,1, 1999 to February,1, 2019, using the following terms: "genes" (e.g. BDNF or SLC family or COMT or neurodegenerative genes and 29 sets of neurodegenerative genes), "Stress" (e.g. stress or stresser or post-traumatic stress or stressful or ROS and stress genes) "Neurodegeneration" (e.g. Neurodegeneration or neurodegenerative diseases or genetic neurodegeneration or Alzheimer's disease or Parkinson's or dementia or ALS or Huntington's disease or Hereditary spastic paraplegia or Neuronal cell death) "Epigenetic mechanisms" (e.g. methylation HistoneH3 or acetylation HistoneH4 or pospholyration HistoneH2B or genomic imprinting or euchormatin regulation or MeCP2 or HTM or HDAC or heterochromatin regulation or nucleosome

regulation or chromatin modification or histone tail modification or CpG island or epigenetic modifications or epigenetic alterations or histoneH2A and HAT). Additional information will be selected from primary publications and direct suggestions from neuroscience experts and geneticists. The data will be synthesized quantitatively and qualitatively by producing a planned summary measure, will be assessed by a prior decision rules for assigning the risk of bias for each individual study, critical appraisal tool to evaluate the risk of bias in included studies, extracting and screening the citations and studies and combining them according to the methods will be given by PRISMA guidelines, furthermore, jaded score scale and RevMan 5.3 will be used as well. This review will disclose the significant substantiations about the intense connection between stress and neurodegeneration and how the stress induced Epigenetic alterations at genetic level of neurons can interrupt the normal epigenetic regulation and causes neurodegeneration. Furthermore, it will also shed the light on other epigenetic mechanisms corresponding gene silencing resulting in mutation, and neurodegenerative diseases, the traumatic stress and other stressors leading towards neurodegeneration through epigenetic modifications.

Keywords*: Epigenetic, Neurodegeneration, Stress*

CARDIOPROTECTIVE AND NEUROPROTECTIVE EFFECTS OF PANAX GINSENG IN HYPERLIPIDEMIC ANIMAL MODEL

Bismah nadeem & Nazish Iqbal

Department of Physiology, University of Karachi

Cardiovascular diseases is most concerned worldwide issue. Major type of cardiovascular disease caused by the phenomena of atherosclerosis. Ginseng has various benefits and considered as king of herbs. Our purpose of study was to determine atherosclerotic protective effects of aqueous extract of Panax ginseng. Age matched female Wistar albino rats (n=18) were used in the study that were divided into four groups: Group I (control), group II (hyperlipidemic) that were given High Fat Diet (12gms) , Group III (hyperlipidemic+ginseng) that received High Fat Diet together with extract and group IV (ginseng only), received ginseng extract only. At the end of experimental methods blood samples were collected for biochemical analysis of lipid profile, Atherogenic index of plasma (AIP), liver enzymes, nitric oxide, C-reactive protein (CRP), NSE (Neuron specific enolase), MBP (Myelin basic protein), caspase 3 and tissue homogenate for analysis of antioxidant enzyme levels. Results of our

present study showed that after taking aqueous ginseng extract for four weeks there is a non-significant decrease in plasma total cholesterol, nitric oxide(NO)levels and C-reactive protein (p> 0.05). However, increase in HDL levels (p> 0.05). Neuron specific enolase (NSE), Myelin basic protein (MBP) and Caspase 3 levels significantly decreases (p> 0.05). Antioxidant enzymes in heart and aorta homogenate increases significantly but GSH (Glutathione) in aorta increases non-significantly. These results suggest that 10ml Panax ginseng extract per day is effective in lowering hyperlipidemia and other risk factors and Therefore, Ginseng is effective in preventing coronary artery disease or atherosclerosis
Keywords: *Coronary Artery Disease, Hyperlipidemia, Myelin Basic Protein, Caspases 3, Neuron Specific Enolase, Ginseng*

HEMATOLOGY RANDOM POSITIONING MACHINE PROTOTYPE WITH VARIABLE SPEED

Mehwish Faiz, Taha Mushtaque & Nazia Ejaz
Ziauddin University

In Hematology labs, different tests are performed on blood sample to gather information regarding different diseases. Separation of cellular components of blood and blood from plasma is one of the most promising test performed in labs which is not only used for diagnostic purpose but also help in saving separated blood components which can be further used for blood transfusion. This separation is based on difference of densities b/w different components. However during this process of centrifugation temperature of the sample is increased which may affect the properties of biological sample. The methodology of the proposed Hematology Random Positioning Machine is based on some key components including 9V DC motor, switches, Arduino UNO, centrifuge tubes, Thermistor, IR Sensor, buzzer, 16x2 LCD Display and 12V battery. This prototype utilizes high torque geared 12V DC Motor to initiate the process of centrifugation with output speed of 5000 RPM. The speed of the rotar can be varied according to three set levels depending on the application. This variation can be controlled by three switches used in the circuitry along with other components. Level 1 produces the output speed till 1000 rpm, Level 2 produces output speed to 3000 rpm & level 3 produces output speed to 5000 rpm. The heavy particles with greater density settled down at the bottom on the basis of principle of sedimentation. However the lighter particles will remain at the top layer. The heart of the circuit is Controller Arduino UNO. This controller has 14 digital input/output pins.

6 analog inputs, a 16 MHz resonator, a USB connection, a power jack, and a reset button with operating voltage of 5 V. The pins of Infrared Obstacle Sensor is connected to the digital pins of Arduino UNO with detection range of 2cm-30cm which counts the rotation. PTC NTC thermistor is placed within the centrifugation tube to monitor the temperature of the sample. We tested the prototype with different samples including tang solution, sand solution & chalk solution. Result shows that the sample were separated into residual & supernatant. Moreover the temperature & rotations was displayed on the display device.
Keywords: *Hematology, Random Positioning Machine, temperature*

USES AND ABUSES OF DRUGS

Sumyya Rafi
Federal Urdu University of Arts and Science and Technology, Karachi

Drugs are chemicals that affect the body and brain. Different drugs can have different affects. Some effects of drugs include health consequences that are long lasting and permanent. They can even continue after a person has stopped taking the substance. There are a few ways a person can take drugs including injection, inhalation, and ingestion. The effects of the drug on the body can depend on how the drug is delivered. The injection of drugs directly into the bloodstream has an immediate impact, while ingestion has a delayed effect. All misused drugs affect the brain they cause large amounts of dopamine, a neurotransmitter that helps regulate our emotions, motivation and feelings of pleasure to flood the brain and produce a 'high'. Eventually drugs can change how the brain works and interfere with a person's ability to make choices leading to intense cravings and compulsive drug use. Over time this behavior can turn into a substance dependency, or drug addiction. The effects of drugs abuse on health, misuse of drugs can lead to multiple problems and can risk our health. Injected drugs cause a great increase in heart attacks and collapsed veins and blood vessels infection. 2- Continuous intake of drugs weakened our immune system. 3-Nausea and abdominal pain which can also lead to changes in appetite and weight loss. 4- Risk of liver damage 5- Increase in drugs cause lungs diseases. 6- Drugs also cause problem with memory, attention and decision making which make daily living more difficult. Excess use of drugs can not only cause diseases or immune problems but also affects our mode swings and behavior. Drugs make people aggressive, loss of self-control and make people addicted to them. We must avoid unnecessary use of drugs and make people aware about their

side effects. Addicted persons must go to rehabilitation centres where they try to quit using drugs. These centres help them to know what they are doing is a crime and that they are destroying their life physically and socially and bring them back to healthy life.

Keywords: *Drugs, Drug Abuse, Side-Effects*

USING COCONUT OIL AND MAKING FIBER RICH CHOCOLATE CHIP COOKIES BY INCORPORATING APPLE PEEL POWDER TO TARGET OBESITY

Rabiya Fatima[1], Wajeeha Absar[1], Tooba Ilyas[1], Rafia Arshad[1], Rida Hussain[1], Rashida ali[1&2] & Kanza Jamil[1&2]

[1]*Jinnah University for women*

[2]*University of Karachi*

This research is directed on the preparation of chocolate chip cookies in which coconut oil is used as a fat replace and the assimilation of an apple peel powder to improve nutritional value of overall product and targeting obesity. Obesity is becoming a main cause of deathincluding men, women and children's all over the world. It is a condition in which excess fats accumulate to an extent and have adverse effect on health and can be responsible for cardiovascular diseases. The overall purpose of this study is to generate a value added and nourishing product in market. To check the overall quality we did chemical, physical and sensory evaluation of the cookies. In chemical testing moisture content and ash content was measured. The moisture content was 3.13% and ash content was found to be 2.92 gm. The moisture content was measured by the moisture analyzer and ash content was measured using muffle furnace. The physical tests included the measurement of diameter and thickness of the sample using vernier calliper. The thickness of the cookies was 8.26 mm and diameter was found to be 47.19 mm. The sensory evaluation was conducted and was evaluated by 20 panelists. The efforts consumed in accomplishing our targets and attaining the desired results was appreciated and esteemed by most panelists and they escalated this innovative cookie idea. According to the results the product was much acceptable and can be introduced as a healthy product in the market to reduce the obesity and reduce the rate of cardiovascular diseases.

Keywords: *fat replacer, obesity, fat and fiber.*

EFFECT OF FATHER-DAUGHTER SECURE ATTACHMENT ON DAUGHTERS PERSONAL GROWTH

Sidra Shahid, Muntaha Zia ul Haque, Kiran Arshad Baig & Fizza Hasan
Institute of Professional Psychology, Bahria University, Karachi

The influence of the mother-daughter relationship on the well-being of daughters is a well-researched area of study, the impact of the father-daughter relationship is still poorly understood. This study aims to find why daughter's personal growth is affected by their level of secure attachment to their father. A theoretical model was developed, measuring personal growth with the Ryff Scale of Well-Being and measuring security of attachment with the IPPA-R scale as a combination of trust, communication and alienation. The theoretical model was tested with a convenience sample of 50 female students (M=20.62, SD=1.244) from two Universities in Karachi, Pakistan. Among the three components of secure attachment, only alienation correlated significantly with personal growth, $r(48)= .35$, $p < .05$.On the other hand, trust, $r(48)= .27$, $p < .10$, and communication $r(48)= .27$, $p <.10$ were found to correlate insignificantly with personal growth. These results indicate that further research with larger sample sizes is necessary to investigate the proposed theoretical model.

Keywords: *father-daughter relationship, attachment, secure attachment, alienation, trust, communication, subjective well-being, personal growth*

FREQUENCY OF HEPATITIS B AND C- INFECTION AND AWARENESS IN GENERAL POPULATION OF TANDOADAM, SINDH.

Abdul Qayoom Rakhshani[1], Nazish Jawaid Chohan[2], Sarfaraz Ahmed[3] & Kiran Abdullah.
[1]*Department of Physiology, University of Sindh Jamshoro.*
[2]*Physiology Lab Technologist at Roshan Suleman Medical College Tandoadam.*
[3]*Department of Physiotherapy, Baqai Medical University Karachi.*

Viral hepatitis is mainly caused by hepatitis A, B, C, D, and E Viruses and occurs worldwide. Hepatitis B, C, and D virus (HBV, HCV, and HDV) infection can become chronic, often associated with chronic liver injury, leading to cirrhosis and Hepatocellular carcinoma and Pakistan carries one of the world's highest burdens of chronic hepatitis and mortality due to liver failure and hepatocellular carcinomas. To determine the Frequency

of Hepatitis B and C-Infection and awareness Level about Hepatitis General Population of Tandoadam City distt Sanghar, Sindh. The hepatitis Camp was conducted in Tandoadam City by NGM Foundation. A total 660 samples collected, all the selected subjects were tested for HBsAg and for anti-HCV antibodies with Immuno-chromatographic test kit. Total population Tandoadam City approximately 3.5(±). A total of 660 who participated in Hepatitis B and C Screening and Awareness Camp. Out of 660 male are 388 (58%) and female are 272 (41%). Total Frequency of Positive 123 (18%) Out of 123 positive patients, the ratio HCV is greater than HBV. The number of HCV infected patient 86 (69%) and HBV infected 37 (30%). The ratio of Positive Male participators greater than female. Out of 388 Male 81 (20%) are positive including HBV and HCV, and out of 272 Females 42(15%) are infected. Out of 388 Male 81 (20%) are positive including HBV and HCV, and out of 272 Females 42(15%) are infected. Majority peoples were unknown from HBV Vaccination only 18(2%) are already Vaccinated. The main cause of spreading hepatitis is that mostly peoples were unaware from hepatitis and its risk factors, according to our study 640 (97%) Participators were unaware. Our results indicate highest Frequency of Hepatitis C- infection than hepatitis-B. In Hostler students, Mostly peoples found unaware from cause of spread of HBV and HCV infection and also unknown from hepatitis-B Vaccination.
Keywords: *HBV = Hepatitis B Virus HCV= Hepatitis C Virus.*

PREVALENCE OF PREMENSTRUAL SYNDROME AMONG FEMALE STUDENTS OF KARACHI

Sonya Arshad, Farah Deeba , Muhammad Faisal Qureshi, Maria Aleem, Mehrunnisa, Mehjabeen Naz, Mazna Nadeem, Midha Furqan & Muniza Rohaila
Liaquat National School of Physiotherapy

Premenstrual syndrome (PMS) is a common disorder with an unknown etiology experienced by women in their reproductive age influencing their physical and psychosocial well-being. Recent study reported that up to 75% to 85% of women of reproductive age experiences some symptoms include anxiety, muscle/joint pain, bloating, backache and headache, fatigue, mood disruption. PMS affects quality of life; increases work absentees, affects jobs and educational performance. The objective of this study was to investigate the prevalence of PMS among female physiotherapy students and its impact on their daily life. A cross-sectional study was conducted among 220 unmarried female physiotherapy students

between ages of 18-25. After taking consent, pre-menstrual symptom screening tool (PSST) is used as a measuring tool. Diagnosis of PMS was made by American College of Obstetrician and Gynecologist (ACOG) criteria. SPSS version 22 used to analyze data. Results showed that mean age is 22.8 ± 2.44 and 57.81% prevalence of premenstrual syndrome was found. Anger (32.7%), fatigue (34.1%), joint and muscle pain (35.5%) were the most common symptoms affecting (33.6%) work performance , (30.3%) home activities and (31.8%) of social life all these factors significantly associated with the prevalence of PMS. The present study concluded that PMS significantly affects the physical and psychosocial well-being and decrease interest in work and social activities. However, aerobic exercises are considered to be an effective treatment in reducing the symptoms

Keywords: *Pre-Menstrual Syndrome, Pre-Menstrual Symptom Screening Tool (PSST), Mood Disruption, American College of Obstetrician and Gynecologist (ACOG)*

PREVALENCE OF ANGER AMONG MEDICAL STUDENTS OF KARACHI, PAKISTAN

Sonya Arshad, Muhammad Faisal Qureshi,
Fatima Bibi & Ayesha Asghar
Liaquat National School of Physiotherapy

Anger is an emotion that effects on mental and physical health. WHO reported that depression affects 44% with higher findings of anger in the entire population of Pakistan. If it is not managed properly it can lead to heart attack, stroke, high blood pressure and digestion problem. Anger can be associated with suicidal behavior or can be lethal as it can trigger potentially deadly heart rhythms in certain vulnerable people. The purpose of this study was to find out the prevalence of anger among medical students of Karachi, Pakistan. This cross sectional study was conducted on 200 medical students (ages between 19- 25 years) of both gender recruited by Convenience based sampling a Clinical Anger Scale (CAS) was used to measure the psychological, physiological, cognitive, motoric, and behavioral symptoms. CAS is a precise and a valid tool with r=0.94 as calculated by Snell, 2002. Gathered data was statistically analyzed on SPSS version 21. Results showed that data was normally distributed having 32% males 68% females of mean age 21.62 ±1.03 years .The pervasiveness of clinical anger is categorized in 19% minimal, 27% mild, 33% moderate and 21% severe in medical students. Female gender is

significantly associated with moderate and mild level of clinical anger with the p-value 0.042. It was concluded that moderate level of clinical Anger is mostly observed among medical students and female gender is significantly associated so need to work up on early interventional strategies and offer them assistance in reducing anger.
Keywords: *Clinical anger, Cognitive, psychological, CAS*

PREVALENCE OF COMPUTER VISION SYNDROME AMONG UNDERGRADUATE PHYSIOTHERAPY STUDENTS

Sonya Arshad, Muhammad Ali, Muhammad Faisal Qureshi, Komal Piryani, Komal Shafqat, Madiha Mateen, Mahnoor Waheed, Mahnoor Rohaila & Manal Amin
Liaquat National School of Physiotherapy

Computer Vision Syndrome also known as Digital Eye Strain is a group of eye and vision-related problems that result from prolonged computer, tablet, e-reader and cell phone use. Globally, 60 million people are suffering from Computer Vision Syndrome. Viewing a digital screen often makes eyes to work harder and it can lead to eye strain and vision related problems which are caused by poor lighting, glare on digital screen, improper viewing distance, poor sitting posture, uncorrected vision problems and combination of all these. To find out the prevalence of Computer Vision Syndrome and it's most common symptoms among undergraduate physiotherapy students. This cross sectional study was conducted on 195 undergraduate physiotherapy students between ages of 18-24 years through a standardized CVS questionnaire by Segui and Colleagues. Those who have been using computer or any other digital electronic device daily from at least 1 year or more were included in the study. Data was analyzed by SPSS version 21. The mean age was 21.04 + 0.8, 86.8% were females and 13.2% were males. Out of 195 respondents 86 (44.1%) were diagnosed with CVS. The most common symptoms are headache (63.1%), increased sensitivity to light (43.6%), feeling of foreign body (39.5), tearing (39.0%) and burning (35.9%). Computer Vision Syndrome is becoming very high among physiotherapy students which can be avoided and relieved by simple modifications during digital screen use.
Keywords: *Computer vision syndrome, CVS, digital eye strain, physiotherapy students*

ASSOCIATION OF HARMFUL ORAL HABITS AND TEMPOROMENDIBULAR JIONT DISORDER AMONG ADULTS

Muhammad Faisal Qureshi, Sonya Arshad, Areeba Khan, Bilquees Ismail, Hafiza Qudsia, Narjis Fatima, Shareena Mehboob, Syeda Javeria & Yumna Iqbal
Liaquat National School of Physiotherapy

Tempo-Mandibular joint is an important part of masticatory system. Temporomandibular disorder is the second most musculoskeletal pain with lower back being first. About 33% of population has at least one symptom of TMD. Its causes include trauma, systemic and occlusal. These are heterogeneous group of psychophysiological disorders characterized by orofacial pain and chewing dysfunction. The study was proposed to find out the prevalence of temporomandibular disorder and its association with harmful oral habits. This is a cross-sectional study in which 250 adults (19-25 years) were recruited of both genders by convenience based sampling. Participants with traumatic, systemic and occlusal injury are excluded. After taking consent a self-administered questionnaire was used to collect the data. SPSS version 22 software used to analyze the data. The result showed that headache 36.5%, tooth pain 27.4%, neck pain 21.3 % were most frequently reported signs and symptoms of TMD. Moreover, the most leading non nutritional habit was biting nail (55%) ,second and third being nail-biting and chewing up (46%)and (42%) respectively. A statistically significant association has been observed between harmful oral habits and signs and symptoms of temporo mandibular disorder with the p value of > 0.05. To decrease the prevalence of temporomandibular disorder we need to provide awareness about preventive strategies as well as bad consequences related to TMD, which could benefit in preventing further complication.

Keywords: *Temporomandibular disorder, Oral habits, Headache, Occlusal*

PREVALENCE OF TRAPEZIUS TRIGGER POINT AMONG RIGHT SIDED BAG HOLDERS

Muhammad Faisal Qureshi, Syed Hasan Abbas Rizvi,Nida Rizvi, Naila Nabi, Neha Sami, Nadia Rehman, Narmeen Ali & Nida Fatima.
Liaquat National School of Physiotherapy

Myofascial Trigger Point is common with prevalence of 30% to 50% worldwide. The use of handbags is increasingly popular at workplaces.

The habit of carrying heavy bag puts excessive pressure on shoulder and neck muscles which can lead to pain, spasm and development of trigger point. The study proposed to find out the Prevalence of Trapezius Trigger Point among Right Sided Bag Holders. This was a cross-sectional study in which 156 participants of age group between 18 to 32 was recruited of both genders. The data was collected through a self-administered questionnaire consisting of 9 questions. Data was analyzed using SPSS 22.0 version. The result showed that mean age of participant is 26.3 ± 2.5, 66% were right side bag holders, 24% were left side bag holders and 10% were carrying bag on both sides. The prevalence of Trapezius Trigger point among right sided bag holders is 58.3 % in which 93% were females and 7% were males who have experienced neck pain, headache along with localized pain over trapezius anatomical location with restricted overhead activities. This study concluded that right sided bag holders has high prevalence of trapezius trigger point and has a negative impact on trapezius activity. Correcting posture, designing bag according to body weight, stretching, trigger releasing techniques, modalities including ultrasound, cryotherapy are found to be effective in treating and preventing trapezius trigger point.
Keywords: *Trapezius Muscle, Trapezius Trigger Point, Right Sided Bag holders, shoulder pain, neck pain.*

LIFE SATISFACTION, COMMON MOOD DISORERS AND COPING STRATEGIES AMONG MOUTH CANCER AND HIV PATIENTS

Saria Rafiq, Nazmeen Ibrahim & Saba Bawa
Institute of Professional Psychology, Bahria University Karachi Campus

The aim of study was to examine the life satisfaction, mood changes and the coping strategies in patients with oral cancer and HIV/AIDS. It was hypothesized that the life satisfaction will be low in HIV/AIDS patients as compared to mouth cancer patients, secondly the symptoms of anxiety and depression will be higher in HIV participants as compared to oral cancer participants, and thirdly that the problem focused coping strategy used by the cancer patients and HIV/AIDS will be higher than emotion focused coping strategy. A sample of 50 patients was recruited from which 25 were oral cancer patients and the other 25 were HIV patients. All of the participants completed 3 self-report questionnaires: Satisfaction with Life Scale (SWLS), Agha Khan University Anxiety Depression Scale (AKUADS), and Brief COPE. The results were analyzed using SPSS. The

results indicate that the life satisfaction was significantly higher among mouth cancer patients as compared to HIV/AIDS patients ($p < 0.05$, $t = 2.958$). Also, that anxiety and depressive symptoms are high among patients of HIV/AIDS as compared to mouth cancer patients ($p<0.05$, $t = 3.850$), and thirdly that a significant difference on problem focused coping in both HIV/AIDS and mouth cancer which depicts that problem focused coping is high among both mouth cancer and HIV/AIDS patients as compared to emotion focused coping ($p<0.05$, $t = 4.859$ and $p<0.05$, $t = 4.084$). Thus the implication of this study suggests that patients of HIV/AIDS need more psychological care to live a healthy and satisfied life.
Keywords: *Oral Cancer, HIV/AIDS, Life Satisfaction, Anxiety, Depression, Coping Strategies*

INCORPORATION OF SALIVA HISPONICA WITHIN NOODLES TO CURE IBS

Mizna Shahab, Ramsha Tahir, Nabiha Aijaz & Mehak Ahsan
Jinnah University for Women

The suitability of Chia Seeds (Saliva Hisponica), similar to flax seeds was investigated for the cure of constipation which was a leading factor for IBS because of high content of dietary fiber present in it. It is also rich in omega-3 fatty acid, certain antioxidant and minerals. It has 64% more potassium than banana, 41% of daily fiber, 32% of your daily magnesium and 20% protein. We here are manufacturing noodles incorporated with chia seeds. In Pakistani population the prevalence of IBS has been reported to be 34%.
Keywords: *Saliva Hisponica, IBS (Irritable Bowel Syndrome).*

NEUTRACEUTICAL GRAIN JAM

Rida Asif, Ramsha Shakeel, Summaiya Fawad,
Tanzila Eijaz & Mahek Ahsan
Jinnah University for women, Nazimabad, Karachi

Our aim of study is to produce neutraceutical grain based jam with natural preservative and sugar substitute. Corn has antioxidants which protect our skin and retina of eye. Natural preservative help to prevent cancer and cardiovascular disease because it has antioxidants which reduce oxidative stress.
Keywords: *Antioxidant, Neutraceutical, Oxidative Stress, Sugar Substitute*

LIMOINGER TABLETS FOR CURING GIT (GASTROINTESTINAL DISEASES)

Rameen arif, Neha Musharraf & Shaikh Parneeya Abbas
Jinnah University for women

The suitability of Citrus limon (lemon) and Zingiber officinale (ginger) was investigated for the production of tablets. The large amount of gingerol and shogaol compounds in Zingiber officinale and malic acid, citric acid in citrus Limon were found suitable to cure GIT disorders. GIT disorders refers disease related to GIT tract. Zingiber officinale has no cholesterol but contains Na (1.5 mg), Ca (6.2mg). K (71.3mg), Mg (11.6mg),vitamin A(0.1microgram), Vitamin D(0 microgram), vitamin C(0 microgram),vitamin B6(0 microgram). Citrus limon contains flavanoids and antioxidants. According to PIMS 87,790 patients suffers from GIT disorders in a year.
Keywords: *Zingiber Officinale, Citrus Limon, GIT, Shogaol, Gingerol.*

HEALTH RELATED MYTHS AND THEIR ACCEPTANCE

Abeer Nomani, Ayesha Chaudhary,
Mehwish Ashfaque & Sadaf Ahmed
Department of Physiology, University of Karachi

Myth is a folklore genre consisting of narratives and stories that play a fundamental role in society. The term mythology may either refer to the study of myths in general, or a body of myths regarding a particular subject. So, the term myth is widely used to imply that a story is not objectively true. Health related myths are common and arise for a variety of reasons some may be “old wives’ tales” that have been passed from generation to generation which somehow escape being challenged outside scientific and medical professions. In this study we conducted a short survey on some most common health related myths that are considered true in our society. We conduct the survey questions through google form via online way in which 102 participants were involved in which we find the following acceptions ratio of the following statements (myths) in our study: Skipping breakfast bad for you (96.1%), Drink 8 glass of water daily (92.2%), Using olive oil in cooking is best for health (89.2%), Spicy foods can cause ulcer (80.4%), Eating carrots will help you see better in dark (73.5%), An apple a day keeps a doctor away (73.5%), Drinking milk after eating fish is harmful (61.8%), Cracking joints can lead to arthritis (55.9), Sunblock prevents skin darkening (55.9%), You can catch cold by

being cold (46.1%) & Eating eggs are bad for heart (14.7%). The motive of this study it to put an end to these alluring myths, misconceptions and inaccuracies passed down through ages which may be harmful to us in any aspect.

Keywords: *Health, Myths, Misconceptions*

DEVELOPMENT OF AN INNOVATIVE CANDY BASED ON BEETROOT

Aisha Zubair

Jinnah University for Women, Nazimabad, Karachi. 74600

The objective of the present work was to develop an innovative food product with nutritional properties as well as appealing organoleptic qualities. For this a beetroot candy was prepared on a basis of an increasing demand to develop food product that can help to reduce the risk and combat diseases to maintain good health. The Beetroot is the taproot portion of the beet plant. It is an excellent food which impart very important role for the development and growth of human body. It also act as fruits as well as vegetables. Beetroot is considered a complementary treatment for hypertension because of its high content of inorganic NO3 and beetroot is rich in antioxidants, these two main highlighted benefits of beetroot given us the interest to utilizing the beetroot to produce a candy which is good for hypertensive patients and enriched with antioxidants.

Keywords: *Beetroot, organoleptic qualities, hypertension, antioxidants*

A COMPARATIVE STUDY OF NOOTROPIC AGENTS ON THE BEHAVIORAL AND MEMORY IMPROVEMENT IN RODENTS

Humera Anser, Sarah Khan, Tooba Usman, Asma Kulsoom Nawaid, Maria Hasan & Huma Qureshi

Jinnah Sindh Medical University -Institute of Pharmaceutical Sciences

The aim of this study was to compare the effect of nootropic drugs (Intellan and cyanocobalamin syrup) on cognition, behavior, memory and gross behavior and exploratory activity in rodents. Memory is the ability of the brain to store, retain, and subsequently recall information. There are various factors which affect memory like age, change in hormonal or neurotransmitter levels, stress, disease state etc. The Acetylcholine is considered to be the most important neurotransmitter involved in the regulation of cognitive functions. Other neurotransmitters such as catecholamines may also have effects on memory. Bacopa monniera (BM)

and Centella asiatica (CA) are two important ingredients in the intellan syrup which possess antioxidant activity by enhancing antioxidant enzymes. Bacopa monniera indirectly, modify Acetyl choline concentration and also lowers nor-epinephrine and increase 5-hydroxy-tryptamine levels in the hippocampus, hypothalamus and cerebral cortex. While on other hand Vit B12 also has an important role in cognition. The dosing of intellan and cytacon syrups were done daily in normal doses according to their body weight. Animals were divided in three groups, one served as control, two groups received Intellan and Cyanocobalamin (Cytacon) orally. Control group received distilled water, Group 2 received 0.25 mg of Centella asiatica/ Bacopa Monniera present in 0.05 ml of Intellan (diluted with distilled water), Group 3 received 0.3µg of vitamin B12present in 0.04 ml of Cytacon liquid. After 30 days the mice were sacrificed and their brains were stored at temperature below 4°c in deep freezer. Behavioral Studies were done during the dosing period including Head dip test (learning ability),Stationary rod test, Cage crossing test (movement in an environment),Open field activity (locomotor activity) and Gross behavior test. After interpretation, it showed that Cyanocobalamin increased head dip activity indicates increased alertness while its effect on cage crossing was decreased which shows its memory enhancing activity. On the other hand, intellan syrup reduced head dips, cage crossings, stationary rod activity and open field activity indicating its association with increased learning and anxiolytic effect. The brain sizes of the treated groups were found increased non significantly in comparison with control. We conclude that Cyanocobalamin could prove as a good memory enhancer. Intellan has shown good memory boosting effects, but it also has certain anti-anxiety activity possessing constituents which can affect the overall performance.

Keywords: *Centella asiatica, Bacopa monniera, neurotransmitter, acetylcholine*

INTENSIVE CARE UNIT BURDEN IN A TERTIARY CARE HOSPITAL IN PAKISTAN; A DESCRIPTIVE ANALYSIS

Anjli Tara & Peer Asad Aziz
Civil Hospital Hyderabad

Intensive care unit (ICU) acts as a station for critically ill patients referred form different medical disciplines for rigorous observation and intervention for a potentially curable disease. In Pakistan, a previous study showed the mortality to be 16.1% in one year. We conducted this study to

record the data of patients admitted to our ICU regarding the medical conditions requiring such admission, and the outcome. As a descriptive study, the data were collected from main ICU of Liaquat University Hospital Hyderabad. Every patient referred from different medical disciplines for admission in the ICU, for a period of four months, from July to October 2018, was included in the study. The data were taken from the registration logs of ICU and were entered into a specially prepared data sheet. Statistical analysis was done and the results given as means, percentages or ranges, as appropriate. A total of 503 patients were admitted, with a female preponderance of 52%; 45% of the patients being younger than 30 years; and a mortality of 55%. Regarding the flow, medicine department seems to have the highest flow. Neurosurgery and gyne & obs disciplines seem to have the highest mortality i.e. 73% and 66% respectively. CVA, hepatobiliary disease, meningitis, lung problems, road traffic accidents (RTA), eclampsia, puerperal sepsis, postpartum hemorrhage and gut perforations were some of the important causes with worst outcome. The concept of calculating ICU mortality is still obscure. The management of patients' needs to be based upon a multidisciplinary approach. Early identification of the most common diseases associated with the highest morbidity and mortality at basic as well as critical level is utterly important. The burden of ICU should be reduced by filtering the patients through a combined approach, and The ICU should not be considered as a lone samurai in the battle of mortality.
Keywords: *Intensive care; Mortality; Burden*

BARLEY RICE BREAD TO CURE COLON CANCER

Wajiha Nasir, Rija Faliq, Shumaila Kamal, Rabiya Irfan & Mehak Ahsan
Jinnah university for women 5-C, Nazimabad, Karachi.

Inflammatory bowel disease (Crohn's disease and ulcerative colitis) increases the risk of colon cancer, also called colorectal cancer. Dietary fiber and resistant starch have protective effect against colon cancer. Dietary administration of wheat bran in the diet decreased the formation of putative metabolites such as secondary bile acids and diacylglycerol in the colon that have been shown to act as tumor promotes in the colon. Consumption of dietary fiber and resistant starch may promote colon health by adding bulk to stool. Because dietary fiber has a component called beta-glucan that add bulk to stool and resistant starch instead of being digest in the intestine, it passes to the colon and fermented by

bacteria present in colon and then converted into short chain fatty acids (SCFA) that passes from the colon by making colon healthy.

Keywords: *Crohn's Disease, Ulcerative Colitis, Putative Metabolites, Short Chain Fatty Acids (SCFA), Bile Acids, Diacylglycerol.*

PAPAYA PUNCH FOR OLIGOMENORRHEA

Maira Ansari, Midhhat Rehmani, Maryam Mujahid,
Sadia Raheem & Mehak Ahsan
Jinnah University for Women, Nazimabad Karachi

Irregular menstruation is caused by polycystic ovary syndrome, obesity, stress and eating habits. The drink consist of carom seed, jaggery and papaya was prepared for curing oligomenorrhea by preventing menstrual cramps, cleaning stomach and uterus, helps in circulating blood and regulating menstrual flow. Endorphins hormone also released which helps in maintaining happy mood. Bromelain soft the uterus lining thus ease the menstrual flow.

Keywords: *Oligomenorrhea, endorphins and bromelain.*

IN-VITRO SUSCEPTIBILITY PATTERN OF FLUOROQUINOLONES AGAINST STAPHYLOCOCCUS AUREUS

Shagufta Nesar[1], Kiran Rafiq[2] & Tooba Usman[2]
[1]*Faculty of Pharmacy, Hamdard University*
[2]*Institute of Pharmaceutical sciences, Jinnah Sindh Medical University*

In present era Quinolones are widely and mostly prescribed antibiotics and consequently their irrational use has increased the bacterial resistance. The objective of the present study is to evaluate current sensitivity and resistance pattern of Staphylococcus aureus. Total of 108 specimens of Staphylococcus aureus were studied from different clinical specimens that were collected from different laboratories of Karachi and results were analyzed. The antibiotics tested for sensitivity and resistance were Ciprofloxacin, Levofloxacin, Pefloxacin, ofloxacin, Enoxacin and Norfloxacin. The agar dilution susceptibility test of the bacterial isolates was performed. Out of 108 samples 50% samples showed sensitivity against ciprofloxacin and 50% showed resistant towards the ciprofloxacin. Same resistance pattern (57.6%) was observed in another study. For levofloxacin the sensitivity percentage was 55%, and resistant was 45%. In case of Pefloxacin the resistance was 56%. Enoxacin had almost similar

resistance pattern to that of Norfloxacin i.e. 70%. Resistance showed against Ofloxacin was 40%. The current study clearly reflecting that antibiotics resistance is increasing day by day and that refers for urgent antibiotic sensitivity screening before prescribing of any Quinolone antibiotic for treatment of staphylococcus aureus infections in Karachi, Pakistan.

Keywords: *Susceptibility Pattern, Fluoroquinolones, Staphylococcus Aureus*

PHYSIOLOGICAL AND GENETIC BIOMARKERS OF CHRONIC STRESS

Umm-e-Hanni Mustafa[1], Shamoon Noushad[2] , Anna Askari[1], Ujala Sajid[1], Miinhal Akbar[1], Faiza Batool[1], Farah Batool[1] & Sadaf Ahmed[1&2]

[1]*University of Karachi*

[2]*Advance Educational Institute & Research Centre*

It has been assumed that the autonomous nervous system (ANS) and the hypothalamus–pituitary–adrenal axis (HPA axis) are involved as potential targets to respond to stress. However, most studies have been conducted focused on acute stress and its impacts on physiological systems. While chronic stress has been known to produce much serious changes and contributing towards many health maladies due to involvement of physiological and genetic alterations. These are revealed in several studies based on relevant biomarkers involved in the immune responses, genetic changes, and metabolic alterations etc. as a part of complex biological stress systems with a diverse array of potential mechanisms. We found the necessity have to make a selection, focusing on those physiological and genetic biomarkers that have been used most in stress research during the observation period for this review. Our aim was to study the vital physiological and genetic biomarkers in response to chronic stress. To focus on the salient verdicts on common stress biomarkers regarding alternated physiological states and genetic changes due to stress as well as to discuss selected findings on intervention-induced changes of these biomarkers. Systematic review of studies comparing physiological and genetic biomarkers in individuals with chronic stress. We will select those biomarkers on which at least two studies were available on pubmed. The data will be synthesized quantitatively and qualitatively by producing a planned summary measure, assessed a prior decision rules for assigning the risk of bias for each individual study, critical appraisal tool to evaluate the risk of bias in included studies, extracting and screening the citations

and studies and combining them according to the methods will be given by PRISMA guidelines, Critical appraisals and jaded score scale. The Study will be able to highlight the physiological and genetic biomarkers concerned the HPA axis, hormones other than stress hormones, the ANS, the immune system, metabolic processes, antioxidant defense system etc. The study will help to identify the relevance for biomarkers in chronic that can be helpful as biological predecessor of disease, prognosticator of disease progression, and a potential target for behavioural interferences in chronic disease.

Keywords: *PRISMA Guidelines, Physiological, Genetic Biomarkers*

CHRONIC STRESS SIGNATURES ON ELECTROCARDIOGRAPHY; A STUDY ON HEART RATE, BLOOD PRESSURE AND HEART RATE VARIABILITY

Minhal Akbar[1], Shamoon Noushad[2], Ujala Sajid[1], Umme-Hani[1], Farah Batool[1], Faiza Batool[1], Anna Askari[1]& Sadaf Ahmed[1&2]

[1]Psychophysiology Research Lab, University of Karachi

[2]Advance Educational Institute & Research Centre

Previously studies have utilized wide range of stress measurement methods. Research on chronic stress and its relation with electrocardiography, heart rate, blood pressure and heart rate variability (HRV) contributed to significant information about these non-invasive methods used for assessment of stress impacts on health. This review is designed to inspect studies providing a rationale for selecting electrocardiography, heart rate, blood pressure and heart rate variability as a chronic stress indicator. The only electronic database involved in this study is the PubMed which follows the MEDLINE record management. The study contains PICOs (participants/problems, interventions, comparisons and outcomes). The years of consideration for this review are from January 1st 2008 to December 31st 2018. All the full text original articles published in English language are included. The inclusion criteria were involvement of human participants, heart rate, blood pressure and heart rate variability as an objective chronic stress measure. The screening eligibility, inclusions and extraction in meta- analysis of this review is done by four independent reviewers. The data is extracted and screened in pilot forms and then investigated by the reviewers for any exclusions and errors, to confirm the study authenticity. The study will be significant contribution to the current psychophysiological evidence in suggesting the potential indicators like B.P., HRV and HR impacted by chronic stress and

will supports the use of ECG as well for the objective assessment of psychological health and stress.

Keywords: *Electrocardiography, Heart Rate Variability, Chronic Stress*

SIGNIFICANCE OF ELECTROENCEPHALOGRAM FOR ASSESSMENT OF ACUTE & CHRONIC STRESS; A SYSTEMATIC REVIEW AND META-ANALYSIS

Farah Batool[1], Shamoon Noushad, Faiza Batool, Anna Askari, Minhal Akbar, Umme-Hani, Ujala Sajid, Yusra Saleem & Sadaf Ahmed

[1]*Psychophysiology Research Lab, University of Karachi*

[2]*Advance Educational Institute & Research Centre*

It has been noticed that the chronic and acute stress effects the balance between sympathetic and parasympathetic nervous system that alter the brain wave pattern. Acute stress applied to alter brain wave pattern can be generated through words, examination, noise and mental task. The alteration in brain wave pattern due to chronic and acute stress can be analyzed by electroencephalogram. To determine use of electroencephalogram in observing acute and chronic. To assess/ study the impact of acute and chronic stress on brain waves by analyzing Electroencephalogram. This systematic review protocols are based on PRISMA guidelines. The only electronic database involved in this study is the PubMed which follows the MEDLINE record management, no grey literature sources are the part of this study, to find association between change inn brain waves pattern due to chronic and acute stress analyze by electroencephalogram (EEG). The year of consideration for this review are from January 1st 2000 to February 28th 2019. All the full text original articles published in English language will be included. The search strategy will include the combination of the search terms related to or synonym of Stressor, stress, stress recognition, mental activity, Neural oscillation, brain waves, brain oscillation, alpha frequency, alpha oscillation, alpha wave, beta frequency, beta oscillation, beta wave, gamma frequency, gamma oscillation, gamma wave, theta frequency, theta oscillation, theta wave, delta frequency, deltaoscillation, delta wave, resting state electroencephalogram, Electroencephalography, Electroencephalogram, monitoring, brain stimulation, spectral analysis, control, brain wave pattern, brain activity. The data synthesized qualitatively and qualitatively by producing a planned summary measure, reviewing original articles in same aspects, extracting and screening the citation and studies, handling the studies, screening them and combining

them according to the methods gives by PRISMA flow diagram, critical appraisals, an jaded score card is used as a medium for extractions and simplification of the combined data and rate it in its quality and quantity. The expected outcome of the study is to presents data showing that there are significant correlations between EEG measures and indices of stress, Our study will suggest that inter-individual differences in acute and chronic stress that can be reliably assessed by EEG.

Keywords: *PRISMA, Electroencephalogram, Chronic Stress*

DIETARY APPROACHES TO REDUCE HYPERTENSION AND DEPRESSION

Ifrah Afaq

Department of Physiology, University of Karachi

Coronary heart disease is one of the leading causes of morbidity and mortality in the developed countries. The burden of coronary heart disease is enormous and nutritional approaches that optimize the cardiovascular health are essential. Dietary interventions and therapeutic lifestyle are the first line of intention to cure the disorder. A healthy diet is beneficial not only for reducing the risk of chronic diseases, but also for improving mood and overall quality of life. In the Annual diet ranking, the Mediterranean Diet has earned the top spot as the best overall diet in the 2019. What the Mediterranean diet does for health? Just remember that "It's what inside that count." The nutrients and phytonutrients in the food, beverages, herbs and seasoning are responsible for the health benefits. These nutrients have benefits ranging from anti-inflammatory, antiviral, antimutagenic, antioxidant, antithrombic and vasodilatory effects. So, what does the Med Diet have that it edges out all other previous diets? Here are the sources of some of the health benefits, it contains an abundance of vegetables, fruits and fibers with a reduction in saturated fats and comprise potentially helpful fats such as olive oil (as opposed to butter), moderate dairy products and fish with a rare red meat. The Med Diet is anti-inflammatory in nature because it includes nutrients dense plant foods and avoids processed foods and meats. Cardioprotective effect of this diet: It affects blood pressure and total cholesterol in particular for HDL level which is supposed the good cholesterol as well as reducing the triglyceride. Neuroprotective effect of this diet: Med Diet also fosters a healthier functioning brain. It is linked to improve sleep quality, also improves depression by producing dopamine. It may slow cognitive decline. The Bottom Line: The credence to the common expression that "You are what

you eat" has been modified to "You are healthy if you eat healthy". Eating a Med Diet is not really dieting at all, but eating a variety of fresh foods that taste good and prevent from obesity and its health consequences. The health benefits of the Med Diet range from a lower risk of Heart disease, certain cancers, diabetes, Alzheimer's, osteoporosis and stroke; lower blood pressure and LDL levels; improved brain function, eye health and fertility; healthy body weight and increased lifespan.

DESIGNING AND EXECUTION OF EEG WAVEFORM DETECTOR

Yasha Fatima, Tehreem Khan, Herman Fatima & Midhat Biag
Sir Syed University of Engineering & Technology

Biomedical signals are widely used for observation and analysis of body functions and diagnosis of diseases. One of the bio signals is EEG. An electroencephalogram (EEG) is a test used to diagnose problems related to electrical activity of the brain. It tracks and records brain wave patterns. Small metal discs with thin wires (electrodes) are placed on the scalp, and then send signals to a pc to record the results. The signal pick from the scalp falls in the range of 1-40HZ. Hence wave forms are subdivided into bandwidths known as alpha, beta, theta, and delta to signify the majority of the EEG. In this paper an EEG stimulator has been developed using LABVIEW software. All waveforms are separated according to their bandwidth which is being further used in clinical practice. Delta is the frequency range up to 4 Hz which is seen normally in adults in slow-wave sleep. Theta is the frequency range from 4 Hz to 8 Hz which is seen normally in young children. Alpha is the frequency range from 8 Hz to 12 Hz. while the Beta is the frequency range from 13 Hz to about 40 Hz. Beta activity is closely linked to motor behavior and is generally attenuated during active movements. EEG is most often used to diagnose epilepsy, which causes abnormalities in EEG readings. It is also used to diagnose sleep disorders, depth of anesthesia, coma, and brain death.

DETECTION OF LEFT BUNDLE BRANCH BLOCK (LBBB) VIRTUALLY BY USING LABVIEW SOFTWARE

Tehreem Khan, Yasha Fatima, Herman Fatima & Samina
Sir Syed University of Engineering & Technology

The heart is a hollow muscular organ which pumps blood through the blood vessels of the circulatory system. The heart is located between the

lungs, in the middle of the chest. There are many problems related to the abnormal rhythm of the heart from which some are normal and some are dangerous. Examples of abnormal heart rhythm include supra-ventricular trachycardia, cardiomyopathy, atrial fluttering, left bundle branch block etc. Left bundle branch block (LBBB) is a cardiac conduction abnormality seen on the electrocardiogram (ECG), in this condition, activation of the left ventricle of the heart is delayed, which causes the left ventricle to contract later than the right ventricle. Due to the delay in activation of the ventricle inverted R-waves are formed on ECG. In this research, the virtual device is created on the labview software to detect the LBBB disease and to reduce the inaccurate reading factor.

STRESS AS A LEADING CAUSE OF NEURODEGENERATION

Ujala Sajid, Shamoon Noushad[2], Umme-Hani[1], Farah Batool[1], Anna Askari[1], Minha[l] Akbar[1], Faiza Batool & Sadaf Ahmed[1&2]
[1]Psychophysiology Research Lab, University of Karachi
[2]Advance Educational Institute & Research Centre

There are numerous environmental toxins, nutritional discrepencies, genetic predispositions and changes in lifestyle that induces variety of stresses on brain and body. Such chronic stressors can influence the onset and progression of neurodegeneration via Cellular Alterations. There is a dire need to understand the mechanism and significance of such factors that are leading stress towards neurodegeneration. Though many studies show a link between oxidative stress and mitochondrial dysfunction and cellular modification but what factor causes/lead to oxidative stress is not thoroughly studied. The review focus on the cellular factors leading stress towards neurodegeneration. A search strategy will be employed on electronic databases including PubMed, Google scholar to find associations between neurodegenerative conditions, mitochondrial dysfunction, cellular modifications and oxidative stress. The search strategy will include a combination of search terms related to or synonyms of Oxidative stress, mitochondrial dysfunction, cellular modification, neurodegeneration, Cell stress response. Titles of all articles resulting from the search will be examined for potential relevance to the research question. Furthermore, reference lists of the journal articles that will result from the searches will be thoroughly screened to identify additional studies that are relevant. Experts in the field and authors of the identified studies will be contacted as necessary for further identification of journal articles. Time duration taken is January 1st 2000 to march 31st 2019. The

data will be synthesized quantitatively and qualitatively by producing a planned summary measure, assessed a prior decision rules for assigning the risk of bias for each individual study, critical appraisal tool to evaluate the risk of bias in included studies, extracting and screening the citations and studies and combining them according to the methods will be given by PRISMA guidelines, Critical appraisals and jaded score scale. This review will provide substantial evidence about potential stress targets at cellular level and how alterations in these mechanisms leads towards neurodegeneration. It will also add information regarding oxidative stress mediated mitochondrial dysfunction. depict considerable deleterious effects in various cell components, leading to cellular damage and cell death that will be able to establish links among stress and neurodegeneration.

DETECTION OF SUPRA-VENTRICULAR TACHYCARDIA USING LABVIEW

Maryam Fareed, Aliya Ali & Maryum Nadeem
Biomedical Engineering Department, Sir Syed University Of Engineering & Technology, Karachi, Pakistan

Abstract- The heart is the life-giving, ever-beating muscle in your chest, without it we cannot live in. Willem Einthoven developed an instrument to record traces of the heart's activity. There are a variety of abnormal electrical rhythms, some are normal and mostly are potentially dangerous, Problems of heart rate include myocardial ischemias and bradycardia, tachycardia, atrial flutter, supraventricular tachycardia and so on. Supraventricular tachycardia (SVT) is an abnormally fast heart rhythm arising from improper electrical activity in the upper part of the heart. Virtually it is easy to explain the atria escape or absences, produces a P wave that has abnormal axis and looks different from the P wave produced by the sinus beat on lab-view. Some of the most complex medical conditions are understandable through virtual reality. This virtual model have successfully created to interact with actuations from medical software devices, the main purpose for designing the virtual supraventricular tachycardia detection device is that it will reduce the incidence of inaccurate recording and is used to learn about heart diseases. Therefore, when it was implemented on LabVIEW it has observed that it detect the supraventricular tachycardia successfully by using simulated arbitrary signal.

FREQUENTLY USED STRESS INSTRUMENTS AMONG ASIAN POPULATION

Faiza Batool[1], Shamoon Noushad[2], Farah Batool[1], Umme-Hani[1], Anna Askari[1], Minhal Akbar[1], Ujala Sajid[1] & Sadaf Ahmed[1&2]
[1]*University of Karachi*
[2]*Advance Educational Institute & Research Centre*

This review aims to explore the research available relating to frequently used stress scales among Asian population and provides facts required to understand the main properties of the scales. A search strategy will be working on electronic databases including PubMed, to find studies focusing on stress computation by questionnaire, published between the years (1979-2019). The search strategy will include a combination of search and MeSH terms: stress scales, stress rating scales, stress assessment questionnaire. Titles of all articles resulting from the search will be examined for potential relevance to the research question. Furthermore, reference lists of the journal articles that will result from the searches will be carefully selected to identify additional studies that are relevant. The data will be synthesized quantitatively and qualitatively by producing a planned summary measure, assessed a prior decision rules for assigning the risk of bias for each individual study, critical appraisal tool to evaluate the risk of bias in included studies, extracting and screening the citations and studies and combining them according to the methods will be given by PRISMA guidelines, Critical appraisals and jaded score scale. There are several potential characteristics making these stress instruments attractive to professionals. the most widely used stress instruments represent a mix of those in the public domain and those requiring purchase.

3 GOOD HEALTH AND WELL-BEING

HEALTH FOR ALL BY ALL

a call for solidarity and action