



ES2021
— EMERGING SCIENTIST —



Asian
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Science Editors
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**CONFERENCE
PROCEEDING**

**EMERGING
SCIENTIST**

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February 13-14, 2021

SEASON - II
2021

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Welcome Message

by ACSE's Secretary



Muhammad Sarwar
Secretary & Treasurer
Asian Council of Science
Editors, Dubai, UAE

On behalf of ES-2021 organizing committee, I am honored and delighted to welcome you all to the Emerging Scientist, Season II. Adopting a profession as an Academic Research Scientist in Asia is not an easy choice. In today's world, the “Researchers” – who are responsible for shaping the future of scientific discovery – face numerous challenges which include, both, the ones which are similar to and different than those faced by their predecessors. Not only are they the newest modern wave of 'Emerging Researchers' but are also the largest.

Considering the shifting landscape of research and publication, especially in Asian regions, I believe that philanthropic initiatives have become ever more essential along with a growing appreciation for the importance of the advancement in scientific research, and academic publications.

Emerging Scientist is one of the Initiatives of the Asian Council of Science Editors to outset this venture by concentrating precisely on the next generation of scientists. I am delighted, working with seasoned professionals and colleagues at ACSE in planning a strategic program that addresses the local needs of the scientific community and help them learn, network and collaborate with their research peers.

With a record number of active participants expected this year, I am overjoyed to see that the Emerging Scientist is becoming larger and more substantial every year. I would like to thank all of the organizing committee members, conference chair and our technical support team for their wise advice and brilliant suggestion for making this conference a success story. Recognition must go to our Local-host “Asian Digital Library” and their active team members who have provided us an excellent venue & services for conducting Emerging Scientist Season II. Moreover, I thank all of the distinguished speakers, presenters, and participants, for enriching the conferences by their presence. As is a tradition with ACSE events and conferences – I hope you enjoyed the content, share and exchanged new ideas, built new and foster old connections, and above all, had a good time.

We look forward to meeting you at our upcoming events and conference of ACSE, and working with you to strengthen academic research and publishing in the Asian region.

01 Conference Track

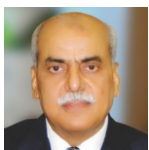
Health Sciences

Page 01 - 25

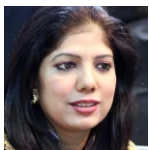
Session Chairs:



Prof. Zabta Khan Shinwari
Prof. Emeritus, Quaid-i-Azam University, Islamabad



Maj Gen [Retd] Prof. Muhammad Aslam
National University of Medical Sciences, Rawalpindi



Dr. Syma Ghayas
Hamdard University, Karachi



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PROCEEDING Emerging Scientist 2021



Research Career in Pakistan: Landscape & Horizons

Presenter

Zabta Khan Shinwari
Prof. Emeritus, Quaid-i-
Azam University,
Islamabad



Live DNA
92.91

Type

Keynote Speaker

Track

Health Sciences

Zabta Khan Shinwari

Quaid-i-Azam University, Islamabad, Pakistan

Abstract

Education is the backbone of the nation as we all know education helps the people to grow socially, economically, religiously and morally. The educational system should be well organized and modernized as required by need of time. But unfortunately, the education system in Pakistan has deteriorated and ruined completely. One of the most important tools of education is research. Research helps the individual to express and discuss new ideas; it gives rise to curiosity and urges the researcher to find out better explanations for whatever happens around us. Research also helps to clear up the ambiguity and to crystallize our ideas of incorrect assumptions but unfortunately, Pakistan lags behind in research. There are many shortcomings faced by researchers in the current educational system are lack of adequate facilities, lack of research funds in national funding agencies, lack of critical mass of researchers, poor research infrastructure, incentives for research, lack of scientific training in the methodology of research, politics in education, large number of students and less availability of resources, no availability of well furnished and modern laboratories, heaps of books, gender discrimination, no career counseling, unemployment, unhealthy environment and no appreciation of innovation and creativity. N. A. Jafarey said, 'Pakistan's low level of scientific research is due to a culture that discourages independent and critical thinking'. Students and researchers must be encouraged to think independently. It is the responsibility of seniors and teachers to provide a healthy environment to students, arrange different seminars, engage students in discussions and setting up journal clubs for students so they can voice their opinion without any second thought and clear their ambiguities. Problems can be sorted out with proper planning and proper management at an individual and national level. Academic and research collaboration is a valuable tool that has been used in many developed countries and it can play a key role in improving the quality of research in Pakistan. HEC and Pakistan Science Foundation (PSF) are two major funding agencies in Pakistan that provide scholarships to researchers. HEC has also started to provide essential equipment for laboratories. Young researchers and technicians should be trained fully about research ethics. Politics and corruption must be eradicated from education. The policymakers and academic leadership should overcome their weaknesses, provide all the facilities and resources to researchers and organized a sophisticated educational setup. The crux of the matter is no institute is perfect; you have to strive hard to make it perfect.

Keywords: Education; Policymakers; Funding agencies; HEC; PSF; Strategic planning



PROCEEDING Emerging Scientist 2021



Feminization of Medical Profession - A Strategic Dilemma

Presenter

Muhammad Aslam
National University of
Medical Sciences,
Rawalpindi



Live DNA
92.24040

Type

Keynote Speaker

Track

Health Sciences

Muhammad Aslam

Pro Vice-Chancellor, National University of Medical Sciences, Rawalpindi, Pakistan

Abstract

In a patriarchal society where men dominate in every field and have the primary power and women are meant for domestic work, feminization has become the elephant in the room. The medical profession has always been dominated by men. In recent times, an increased number of women have been inducted in the medical field and in developed and developing countries females have outnumbered male colleagues which is often referred to as 'feminization of medical profession'. In 2017, According to the Association of American Medical Colleges (AAMC) more women enrolled in U.S. medical institutes than men. In Southeast Asian countries 50% of the total number of registered physicians is females and in Canada, there has been observed a significant increase in the number of women in the medical field. Factors which are responsible for feminization of medical profession are the entry of more women in medical institutes, the humanistic appeal of medicine, socioeconomic status, liberal family environment, early inspiration from a family role model (doctor), parental expectations, a cultural preference for female doctors in a conservative community and financial prospects. Gender disparity has manifested in our society, role conflicts occur because it is thought that one cannot be an ideal mother and an ideal physician at the same time. Contrary to that, people thought that women would drop out of the workplace after she gets married. However, this has not proven true. It is true that some women work part-time in clinical practices or in salaried jobs while raising their children, but they often return to full-time practice and involvement in organized medicine once their children are raised. The career of women is as important as a career of man because career development plays a fundamental role for women in creating her self-identity. It has been studied that female doctors have a more humanistic and personalized approach to patient care and more women become role models for medical students, their approach will influence the education of the doctors of the future. Dr. Ruth Katherina Martha Pfau has become a role model for all the young girls because of her services to fighting leprosy in Pakistan. Pakistan honored DR. Ruth Pfau with Hilal-i-Pakistan, Hilal-i-Imtiaz, Nishan-i-Quaid-i-Azam and the Sitara-i-Quaid-i-Azam. The crux of the matter is that getting an education and pursuing a career is the fundamental right of a woman. Women can be a mother, a homemaker and a doctor, it's just about striking the healthy balance between personal and professional life. Last but not the least, the medical profession is a noble service which gives a chance to serve the humanity, It is suggested that there should be no gender disparities, both men and women should get equal opportunities to follow their dreams and to showcase their talent and abilities because 'careers have no gender'.

Keywords: Feminization; Medical profession; Gender disparities; Female education




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Anti-Proliferative Potential of Plant Bioactive Compounds Against Human Cervical Carcinoma (Hela) Cell Line

Presenter

Farkhanda Manzoor
Dugal
Lahore College for
Women University,
Lahore

 **Live DNA**
92.10095

Type

Distinguished Speaker

Track

Health Sciences

Farkhanda Manzoor

Department of Zoology, Lahore College for Women University, Lahore, Pakistan

Abstract

Cancer is the second most common cause of deaths worldwide and until today is regarded as a social health burden. The development of anticancer drugs from natural products is being paid increasing interest owing to the side effects of synthetic therapeutical agents. Cancer is among the most common cause of deaths globally and is regarded as a social health burden [WHO, 2015], influenced by several environmental as well as genetic factors. Among the two fundamental therapies of cancer surgery is effective against benign tumors, while chemotherapy may collapse the internal systems; as with the cancerous cells, the normal cells may also die. Human Epithelial Carcinoma Cells (HeLa cells) are grown in an immortal cell line, used for cancer research. The HeLa cell line was derived from cervical cells by Henrietta Lacks, a patient who died of cancer on October 4, 1951. The development of HeLa cell lines has contributed majorly to scientific research. The use of HeLa cells has proven to be a good candidate for anti-proliferative, anticancer assays as they are a human cell line and have been derived from cervical cancer. Asian countries are rich in plants having strong pharmaceutical backgrounds. They are the sole source of numerous life-saving medicines and some of them have anti-cancerous or anti-proliferative potential. In Pakistan, still, there is little work done concerning the anti-proliferative and anti-cancerous potential of indigenous plants. The present study deals with identifying the significant anti-cancerous potentials of plant extracts, isolating the bioactive materials both from the edible and wild plants which are later purified to synthesize anti-cancerous drugs that are used against bioassays to determine their efficacy. The present study was conducted with following objectives to optimize the bioassay condition of natural extracts isolated from *Citrus limon* (lemon peel); *Citrus sinensis* (orange peel); *Thapsia garganica* and *Vinca rosea* and to determine the inhibitory concentration (LC 50) of given methanolic and water extracts by using human cervical carcinoma (HeLa) cell line.

Keywords: Cancer; Anticancer drugs; Chemotherapy; *Thapsia garganica*; *Vinca rosea*



PROCEEDING Emerging Scientist 2021



Patient-Centered Evidences for Health Resource Allocation: Health Equity a Priority for Pakistan

Presenter

Madeeha Malik
Hamdard University,
Islamabad



Type

Oral Presentation

Track

Health Sciences

Madeeha Malik,¹ Ning Yan Gu,² Azhar Hussain,¹ Saniya Saleem,³ Fredrick Dermawan Purba⁴ and Fatima Al Sayah⁵

¹Hamdard Institute of Pharmaceutical Sciences, Hamdard University, Islamabad, Pakistan

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³Global Health Directorate, Indus Health Network, Karachi, Pakistan

⁴Faculty of Psychology, Universitas Padjadjaran, Bandung, Indonesia

⁵School of Public Health, University of Alberta, Edmonton, Canada

Abstract

The allocation of very limited healthcare resources in Pakistan led to issues of equity, accessibility and fairness. To date, population preferences for health states described by the EQ-5D (3L or 5L) are not available for Pakistan, health outcome measurement in Pakistan has almost exclusively relied on clinical end-points. The primary objectives of the present study were to examine the acceptability and feasibility of using the preference elicitation methods that are part of the EQ-5D-3L valuation studies protocol (TTO and DCE) with the Pakistani population. A total sample of 105 respondents, 75 literate and 30 illiterate adults aged between 18 and 65 years were selected using a convenience sampling technique to participate in this pilot study. Urdu version of EQ-5D is already available and was used for the present study. The EQ- PVT components including instructions and health state descriptions were translated to Urdu. The quantitative component involved piloting the EuroQol valuation studies protocol using the EuroQol Portable Valuation Technology (EQ-PVT) including Time-Trade-Off (TTO) and Discrete Choice Experiment (DCE) without duration techniques. The EQ-5D-3L, the demographic questionnaires were verbally administered by the interviewers and the TTO and DCE questions were illustrated using PPT graphical presentations to the illiterate respondents. Choice models were conducted on DCE and TTO data to evaluate the impact of health domains on the choice outcomes. Overall, quality control indicators were similar between literate and illiterate respondents. Although not significantly different, a number of non-traders (those who do not trade any years for any health state irrespective of severity) were slightly higher in illiterate respondents. DCE estimates suggested that the impact of health impairment on usual activities imposed the highest influences on how respondents made their choices. The range of TTO values for the two groups was somewhat similar. The results of this pilot study indicate that using the preference elicitation methods (TTO and DCE) is feasible, practical and acceptable with the Pakistani population.

Keywords: Health equity; Time trade-off; Discrete choice; Value set



PROCEEDING Emerging Scientist 2021



Efficacy of Dietary Interventions in End-Stage Renal Disease Patients; A Systematic Review

Presenter

Chaudhary
Muhammad Junaid
Nazar
Maroof International
Hospital, Islamabad



Type

Oral Presentation

Track

Health Sciences

Chaudhary Muhammad Junaid Nazar,¹ Micheal Mauton Bojerenu,² Muhammad Safdar,³ Armughan Ahmed,³ Muhammad Hammad Akhtar³ and Tiffany Billmeier Kindratt⁴

¹Department of Nephrology, Maroof International Hospital, Islamabad, Pakistan

²Department of Internal Medicine, Harvard University Hospital, Washington DC, USA

³Department of Nephrology, Pakistan Institute of Medical Sciences, Islamabad, Pakistan

⁴Department of Family and Community Medicine, University of Texas Southwestern Medical Center, Dallas, USA

Abstract

Cardiovascular disease (CVD) and Chronic Kidney Disease (CKD) are common comorbid conditions. Lifestyle, particularly diet is a critical component of treatment for these conditions. Register dietitians play a key role in bridging the gap between the science of nutrition and the empowerment of individuals to alter their lifestyles in a healthy manner. A range of dietary manipulations has been reported to reduce risk factors and decrease the risk of CVD and CKD outcomes. However, many studies provided food to participants or were limited to the adjustment of a few specific nutrients. Diet intervention in relation to End-Stage Renal Disease (ESRD) is a really complicated topic. As multiple comorbid conditions such as hypertension, CVD, CKD, and Diabetes Mellitus (DM) are associated with ESRD, which made the scenario really worse while fixing the dose of any diet. Still, a lot of research work is required to understand this topic.

Keywords: Cardiovascular disease; Chronic kidney disease; End-stage renal disease; Diabetes mellitus; Diabetic nephropathy



PROCEEDING Emerging Scientist 2021



Assessment of District Health Information System in Pakistan: Problems, Barriers and Challenges to Effective Implementation

Presenter

Ahmad Furqan Kazi
Hamdard University,
Islamabad

Ahmad Furqan Kazi, Madeeha Malik and Azhar Hussain

Hamdard Institute of Pharmaceutical Science, Hamdard University, Islamabad, Pakistan

 **Live DNA**
92.31966

Type

Oral Presentation

Track

Health Sciences

Abstract

Health information technology systems have the capacity to improve the health outcomes for the patient thus ensuring quality and efficient services. Health information systems are important tools in guidance towards patient safety and better outcomes. However, still, morbidity and mortality ascribed with medical errors remain an important issue that needs to be addressed. The objective of the study was to assess the health information system regarding technological, environmental, organizational and human factors affecting the adoption as well as the perceptions of stakeholders and barriers and constraints to successful implementation. A descriptive cross-sectional study design was used. Prospective data were collected from primary sources by self-administering the questionnaires. Pre-validated tools were used. After data collection, data was cleaned, coded and analyzed. The results of the study showed that the health information system in Pakistan is not well established. The equipment was mostly unavailable at the primary healthcare facilities. Also, the staff was unsatisfied with the available services. The administrative, financial and human constraints were identified as the significant barriers to successful implementation and management. The present study concluded that the health information system was not up to the mark. Health information management system partially existed at district and sub-district offices, while was completely absent at tertiary, secondary and primary healthcare levels. The poor adoption of health information technology systems at healthcare facilities can largely be attributed to insufficient human resources with limited resources and budget allocation on health. Effective and timely strategies involving all the stakeholders and healthcare professionals must be designed and implemented on the national level to build an affordable, resilient and quality healthcare system.

Keywords: Health information systems; District health information management systems; Electronic medical record; Information technology in healthcare; Health surveillance systems



PROCEEDING Emerging Scientist 2021



Project CPAT: Cardiopulmonary Assessment Tool

Presenter

Syma Ghayas
Hamdard University,
Karachi

Ahmad Yar Sukhera and Syma Ghayas

Faculty of Eastern Medicine, Hamdard University Karachi, Karachi, Pakistan



Live DNA
92.32374

Type

Oral Presentation

Track

Health Sciences

Abstract

Diagnosis is the heart of medical art; based on history taking and physical examination. It is what separates medicine as a definite, rational science from medical magic and superstition. Diagnosis is also the central, golden link in the chain of medical knowledge that brings together all its theoretical aspects to provide the practical key to treatment. Clinical examination of the cardiovascular system not only central to cotemporary technique but also ancient physician-scientists like Avicenna was a pioneer in taking history and performing vertex to toe examination of the cardiovascular patient. Our objective is to develop a Clinical History Taking & Physical Examination Manual which contains. (1) The four methods of physical examination (inspection, palpation, percussion, and auscultation), including their philosophical justifications according to Avicenna and Hakeem Said also where and when to use them, their purposes, and the clinical findings they elicit. (2) The physiologic mechanisms that explain key findings in the history and physical exam justified under the light of the traditional philosophy of 'temperamentology'. Although many other hospitals and medical research centers across the world have also developed their own history taking manuals our aim is to build a bridge between modern medicine and Avicenna's & Hakeem said the art of disease diagnosis. So we not just reviewed the modern books of clinical examination but also done a critical analysis of canon of medicine by Avicenna and 'Tajurbat a Tabib' by Hakeem Said Shaheed. Each medical student wheatear he/she belongs to the modern medical system of the traditional medical system must recognize the essential contribution of the pertinent history and physical examination to the patient's care by continuously working to improve these skills. A good physician always endures gaining knowledge, either through observation or from experiments. But a great physician knows that philosophy is also necessary to make helpful generalization and to elucidate the phenomenon in the human body (little cosmos) which defy direct observation.

Key Words: History taking manual; Physical examination of the cardiovascular system; Hakeem said insight; Avicenna cannon of medicine



PROCEEDING Emerging Scientist 2021



Antibiotic Resistance and Herbal Chemotherapeutic Potentials

Presenter

Syed Zahoor ul
Hassan Zaidi
Hamdard University,
Karachi



Live DNA
92.31306

Type

Oral Presentation

Track

Health Sciences

Syed Zahoor ul Hassan Zaidi, S. Tajalli Zehra and Rukhsar Javed

Faculty of Eastern Medicine, Hamdard University, Karachi, Pakistan

Abstract

The antibiotic era started in the 1940s and changed the profile of infectious diseases. Resistance can appear spontaneously because of random medication. The development and spread of antibiotic resistance is a serious growing phenomenon in contemporary medicine and has emerged as one of the pre-eminent public health concerns in the 21st century. There is an urgent need for novel compounds that can supplement the current collection of antibiotics and that nature is still providing a rich source of antimicrobial substances, which can either be used as such or as scaffolds for novel drug development. Medicinal plants have played a very important role in the rejuvenation of worse situations created by the infection of microorganisms. According to estimation more than two-thirds of the world's population relies on plant-derived drugs. The purpose of our research work is to study and classify the herbal drugs with respect to their temperament, mechanism of action, adverse effects, drug resistance, contraindication and anti-microbial spectrum. No such evidence-based classification of herbal medicine has been done before so such approach will benefit the medical community and pharmaceutical industries for easy understanding of the herbal antibiotics. The outcome of our research work is a reference guide for physicians to use in their routine clinical practices for treating and preventing infectious diseases.

Keywords: Infectious diseases; Antibiotic resistance; Herbal chemotherapeutic potentials



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Evaluation of Nano ZnO as Ointment in Surgical Wounds Healing

Presenter

Syed Ashar Mahfooz
University of Agriculture,
Faisalabad



Type

Poster Presentation

Track

Health Sciences

Syed Ashar Mahfooz,¹ Ambreen Ashar,² Zeeshan Ahmad Bhutta,³ Muhammad Jalil,¹ Imad Rasheed,¹ Asad Manzoor,¹ Iqra Sarwar,¹ Imran Khan Sohrani¹ and Muhammad Umer Anwar³

¹Department of Clinical Medicine and Surgery, University of Agriculture, Faisalabad, Pakistan

²Department of Chemistry, Government College Women University, Faisalabad, Pakistan

³Department of Clinical Sciences, Bahauddin Zakariya University, Multan, Pakistan

Abstract

The integumentary system acts as the most important barrier to defend a living body from its surrounding atmosphere. When skin exposes to any violence, the wound is produced. Zinc is an essential element to promote wound healing process. The topical application of zinc oxide nanoparticles is considered to be suitable for the healing of the full-thickness of the surgical wound. The present study has been designed to evaluate the healing effect of different concentrations of zinc oxide nanoparticles ointment (0.25, 0.5, 0.75 and 1%) upon surgical wounds. A total of 10 rabbits were used to minimize the error in results. Each rabbit is considered as single experimental model. Each rabbit was inflicted with 5 wounds on the lateral side of the body. The first wound was treated with 1.00% concentration of zinc oxide NPs, second with 0.75% NPs, third with 0.5% NPs, fourth with 0.25% of zinc oxide NPs and fifth wound was treated with normal saline as control. The efficacy of healing was assessed by several parameters including wound contraction rate, duration of healing and histopathology of tissue was assessed by randomized recording method on days 4, 8, 12, 16, 20, 24 and 28. Data obtained by these trials were analyzed by ANOVA.

Keywords: Integumentary system; Zinc; Wound healing; zinc oxide nanoparticles ointment



PROCEEDING Emerging Scientist 2021



Public Health Response to HIV Epidemics among Injecting Drug Users in South Asia: A Systematic Review

Presenter

Chaudhary
Muhammad Junaid
Nazar
Maroof International
Hospital, Islamabad

Chaudhary Muhammad Junaid Nazar,¹ Syed Muhammad Ahtizaz Ahmad,²
Saba Izhar³ and Dev Katarey⁴

¹Department of Nephrology, Maroof International Hospital, Islamabad, Pakistan

²Community Medicine Department, Nawaz Sharif Medical City, Gujrat, Pakistan

³Allama Iqbal Memorial Teaching Hospital, Sialkot, Pakistan

⁴Kingston Hospital, NHS Trust, London, United Kingdom



Type

Poster Presentation

Track

Health Sciences

Abstract

World Health Organization (WHO) has defined Harm Reduction (HR) programs specifically in relation to Injection Drug Users (IDUs) which states that the comprehensive intervention included in HR package aims to prevent the propagation of blood-borne infections including HIV that occurs through sharing of contaminated injecting equipments and drug preparations. In the present systematic review, we aim to describe HR programs targeted towards IDUs in South Asia (SA) and to explore the trend of HIV infection and risk behaviors among IDUs in these countries. Online search was done using electronic databases including PubMed (Medline), Psycinfo, SCIRUS Studies (Elsevier and Google Scholar). Studies that described the HR program, HIV infection and risk behaviors among IDUs were included in the review. The authors selected the original articles in the English language, extracted the data and performed narrative analyses based on WHO's comprehensive intervention criteria evaluating the prevention and treatment of HIV among IDUs. Search resulted in 76 peer-reviewed and 78 grey literature manuscripts from 1991 to 2010. HIV among IDUs has been reported in all countries of SA except in Bhutan and Maldives. The problem is concentrated (>5%) in India, Nepal, and Pakistan. HR interventions are implemented in all countries where HIV among IDUs exists, but the coverage is low. The access of IDUs to the HR program ranged from 17% in Afghanistan to 50% in India. None of the countries had all elements of the WHO's comprehensive intervention package. Considerable decline in HIV prevalence and risk behaviors among IDUs is observed in Nepal and India (north-eastern states). The initiation of the HR program in Bangladesh has maintained low HIV prevalence among IDUs, but HIV prevalence in Pakistan and other areas of India continues to increase. The decrease in risk behaviors and HIV prevalence among IDUs have been found in areas with good coverage of the HR program. Hence, the SA countries should continue HR interventions with an emphasis on increasing the comprehensive coverage. However, the inconsistent results from the region and the lack of effectiveness studies make it difficult to reach a general conclusion about the role of HR program in reducing HIV infection and risk behaviors among IDUs in SA. Therefore, there is a need for effectiveness studies of available HR programs in SA.

Keywords: Intravenous/Injecting drug use; Harm reduction; Syringe exchange; Opioid substitution; Injecting risk behaviors; HIV/AIDS



PROCEEDING Emerging Scientist 2021



Avicenna MUST Kit (Macroscopic Urine and Stool Test Kit)

Presenter

Ahmad Yar Sukhera
Hamdard University,
Karachi

Ahmad Yar Sukhera and Syma Ghayas

Faculty of Eastern Medicine, Hamdard University, Karachi, Pakistan



Type

Poster Presentation

Track

Health Sciences

Abstract

In 2010 Global Burden of Disease study was conducted in which chronic kidney disease was ranked 27th in the list of causes of the total number of deaths worldwide in 1990, but rose to 18th in 2010 because they do not have access to affordable treatment. Many physicians and their patients remain unaware of the diversity of clinical characteristics of renal disease. That's why it is termed as Silent Killer. Though the early diagnosis is the only way to prevent CKD and it can be possible only by physical examination of urine. The aim of this study was to develop a new diagnostic tool that can detect this silent killer in the early stages. An extensive literature review regarding ancient diagnostic techniques and evidence of Uroscopy with special focus on Ibn-Sina's idea on the methods for collecting and examinations of the characteristics of urine in healthy and sick individuals was compiled along with the methods described in the Campbell Walsh's Textbook of Urology. After two years of research work the world's first 'Avicenna MUST KIT' was designed which consisting of Avicenna Must Chart (comprises of urine and stool color charts and other physical examination parameters of urine and stool), an Illuminator, a flat bottom flask and literature for using KIT. This preventive medicine method is one of the main approaches used by Avicenna in the diagnosis of kidney diseases. By using this KIT a person can make a habit to self-examine urine & stool so that a little change can be detected at the early stages of disease development. So the Keep an Eye on the silent killer can play a pivot role in prevention from CKD.

Keywords: Avicenna MUST Kit; CKD a silent killer; Urine color chart



PROCEEDING Emerging Scientist 2021



Healing Efficacy of Nano Turmeric in Healing of Third Degree Burn Wound

Presenter

Zeeshan Ahmad
Bhutta
Bahauddin Zakariya
University, Multan



Type

Poster Presentation

Track

Health Sciences

Zeeshan Ahmad Bhutta,¹ Syed Ashar Mahfooz,² Ambreen Ashar,³ Imran Khan Sohrani,² Ijaz Saleem,² Misbah Ijaz,² Iqra Sarwar² and Muhammad Umer Anwar¹

¹Department of Clinical Sciences, Bahauddin Zakariya University, Multan, Pakistan

²Department of Clinical Medicine and Surgery, University of Agriculture, Faisalabad, Pakistan

³Department of Chemistry, Government College Women University, Faisalabad, Pakistan

Abstract

The wound occurs with the tear in the continuity of the skin with or without muscle damage because of any agony. In extreme cases of burn, there is plasma loss due to increased capillary permeability leading to shock because of blood loss. In this study, 14 rabbits were used and divided into 7 groups having two in each. These rabbits were branded with the red hot iron bar having a diameter of 10 mm for 15 sec to create two burn wounds on each rabbit after induction of anesthesia. The current study was carried out to evaluate the healing efficacy of 1% Curcuma longa Nps-6hr, 1% Curcuma longa Nps-4hr, 1% Curcuma longa Nps-2hr, 1% Silver Sulfadiazine (SSD), 1% raw Curcumin and typical normal saline on third-degree burn wounds. As a result, the data were evaluated by ANOVA, LSD at 5% probability followed, represents the significant results of the complete study. The efficacy of healing was assessed by several considerations containing wound contraction rate, duration of healing at day 7th, 14th, 21st, 28th after wound infliction and histopathology examination of healed tissue was performed at 28th day post wound infliction. Wounds healed on day 27th±1.414 (Cur-Nps-6hr), 29.5th±0.707 (Cur-Nps-4hr), 32.5th±0.707 (Cur-Nps-2hr), 32.5th±0.707 (SSD), 34th±1.414 (raw curcumin) and 36.5th±0.707 (Normal Saline). Histopathological evaluation (epithelialization, fibrosis, and angiogenesis) revealed better burn healing in group Cur-Nps-6hr, Cur-Nps-4hr, Cur-Nps-2hr, raw curcumin. In conclusion, the application of Cur-Nps-6hr has rapid recovery as compared to other treatments.

Keywords: Muscle damage; Plasma loss; Capillary permeability, Healing efficacy; Third-degree burn wounds; Nano Turmeric



Frequent Use of Beverages and its Impact on Menstrual Disorders

Presenter

Sanam Rafaqat Ali
Hamdard University,
Karachi

Sanam Rafaqat Ali, Syed Zahoor-ul-Hassan and Hira Shakeel

Faculty of Eastern Medicine, Hamdard University Karachi, Karachi, Pakistan



Type

Poster Presentation

Track

Health Sciences

Abstract

The main objective of this study was to determine whether there is an association between drinking carbonated and energy beverages and menstruation among Pakistan. During the 2019 academic year, a cross sectional study was conducted by administering a questionnaire about menstruation and self reported habitual use of beverages to 200 premenopausal women with known medical disease who were working or studying. Most women (51.5%) were aged 13-20 years, had a Muslim religion (99%) and were single (91%). Regular menstruation was reported by 74% an average duration (3-7 days) by 91.5% and average volume by 61.5%. The prevalence of menstrual symptoms are abdominal bloating 53%, mood swings 75%, back pain 77% and dizziness 54%. The commonest source of caffeine use was tea 72%. Temperamental Assessment on the Basis of General, Physical and Psychological characteristics:

Phlegmatic Temperament: soft and moist skin texture 72.5%, thin and smooth hair texture 36%, brownish hair 47%, less appetite 35%, excess of sleep 34%, feeling of hesitation in taking decision 37.5%, snow and fire in dreams 51.5%. **Bilious:** Pale complexion 67%, moderate body built 53%, moderate hair growth 47.5%, well tolerate coldness 50.5%, increased thirst 36%, bravely response in adverse conditions 41.5%. **Sanguineous:** Moderate quantity of urine 42.5%, average digestion 40%, average physical activities 44.5%, feeling of anger and enjoy easily comes and easily lost 44.5%. The present study concluded that the habitual use of carbonated drinks can be considered a risk factor for most menstrual abnormalities.

Keywords: Carbonated drinks; Energy Beverages; Menstrual disorder; Mood Swings; Dizziness



PROCEEDING Emerging Scientist 2021



Aloe Capsules for Gaining the Most Intriguing Health Benefits of Aloe Barbadensis Miller

Presenter

Maryam Mahmood
Zahrah Khan
Jinnah University for
Women, Karachi



Type

Poster Presentation

Track

Health Sciences

Maryam Mahmood and Zahrah Khan

Department of Eastern Medicine and Surgery, Jinnah University for Women, Karachi, Pakistan

Abstract

Aloe barbadensis Linn. from the family Liliaceae is an herbal plant which contains many active compounds such as vitamins, minerals, enzymes, hormones, fatty acid, sugars and anthraquinone that are known to treat diseases when taken orally, aloe vera in the form of capsules provide these health benefit to the concerned without triggering the consumers of the bitter taste and the hassle of extracting the gel from the plant. Aloe capsules in certain dosages can treat obesity, constipation, skin disorders, diabetes, revitalizes and alkalize the body, detoxify the body, reduces inflammation and boost immunity when taken in specified dosages. It is contraindicated to use in children, pregnant women, nursing mothers, if any allergic reaction occurs or if there is any past history of allergy with the Liliaceae family and some other conditions such as obstruction, ulcerative colitis, intestinal disorders and before surgery aloe intake should be avoided before 2 weeks.

Keywords: Herbal plants; Vitamin; Minerals; Alo vera



PROCEEDING Emerging Scientist 2021



Knowledge, Attitude and Prevention Regarding Leucorrhoea in Females

Presenter

Anum Aslam
Hamdard University,
Karachi

Anum Aslam, Nadia Shameem and Hakeem Zahoor ul Hassan Zaidi

Faculty of Eastern Medicine and Surgery, Hamdard University, Karachi, Pakistan



Type

Poster Presentation

Abstract

Leucorrhoea is defined as excessive production of normal vaginal secretion. There are many causes of leucorrhoea, the commonest one is due to estrogen imbalance. The amount of discharge may increase due to vaginal infection or it may disappear or reappear from time to time. More than 75% of women experience leucorrhoea during their lifetime and 45% of them having recurrent conditions. Women still have less awareness regarding measures to be taken for preventing leucorrhoea. clinically leucorrhoea is a symptom, not a disease. The problem of leucorrhoea is a growing concern worldwide and approximately 24.4% of the female population in Pakistan is affected. For this study purpose, a cross-sectional study is conducted in Gadap town with a sample size (n=100) and age group between 13 to 45 years present at 'Shifa ul Mulk Memorial Hospital Madinatul Hikmah Karachi. The cases were registered and recorded through protest performa. Patients with chronic illness are excluded from the study. The research focuses on the respondent's knowledge about leucorrhoea and to find out all possible causes which are the leading factors of leucorrhoea in Gadap town. Base on the results, the researcher will be able to educate the females regarding the prevention of leucorrhoea to improve Female healths.

Track

Health Sciences

Keywords: Infectious leucorrhoea; Vaginal discharge; Gadap town



PROCEEDING Emerging Scientist 2021



Qualitative, Comparative and Unani Thematic Analysis of *Trachyspermum ammi* in Dysmenorrhea

Presenter

Ayesha Iqbal
Hamdard University,
Karachi

Ayesha Iqbal, Hakim Qalb e Saleem and Hakim Zahoor ul Hassan

Faculty of Eastern Medicine, Hamdard University, Karachi, Pakistan



Type

Poster Presentation

Track

Health Sciences

Abstract

Dysmenorrhea refers to the uterine pain which affects the normal daily activity and quality of life depending on its duration and severity. There are various traditional home remedies, kitchen spices used in menstrual pain management by eastern women. This study conducted to evaluate the effects of *T. ammi* in the patient suffering from dysmenorrhea and compared with the other medications used by the patients such as Ibuprofen, paracetamol. This study also estimates the figure of married females uses *Trachyspermum ammi* as medicine. The 5 grams of *T. ammi* dry seeds weighted, boiled in 200 ml of R.O water at 80°C temperature while it reduced to 150 mL, sieved by 100 sized mesh and delivered decoction to the patients. Twenty nine out of 30 patients get relief from the decoction of *T. ammi* on average 8 mins. While the time duration of other medicines used by patients gives relief after half an hour. *T. ammi* seeds have a potent effect on dysmenorrhea, it gives quick relief to the patient, due to its hot and dry temperament relaxes the uterine muscles and decreases the uterine ischemic condition by enhancing the blood flow. According to modern pharmacological actions, it is alpha-1blocker, calcium channel blocker inhibits the vasoconstriction, uterine muscle spasm respectively. Its phytoestrogen content of dry seeds also responsible to overcome this condition.

Keywords: Dysmenorrhea; *Trachyspermum ammi*; Unani Thematic Analysis



PROCEEDING Emerging Scientist 2021



Effects of ASZWGZ Chart and Khamira-e-Abraisham Sada in the Maintenance of Cognitive Ability of Brain

Presenter

Anum Mohiuddin
Kulsoom Mohiuddin
Hamdard University,
Karachi



Type

Poster Presentation

Track

Health Sciences

Anum Mohiuddin, Kulsoom Mohiuddin and Tabiba Syma Ghayas

Faculty of Eastern Medicine, Hamdard University, Karachi, Pakistan

Abstract

Peoples are suffering from more than 600 neurological disorders, in which the most common disorder are Chronic Stress, Depression, Dementia, Schizophrenia, Parkinson, Alzheimer e.t.c. which ultimately decrease the cognitive abilities of brain and if it is not treated then it may lead to uremic encephalopathy, dialysis dementia, cerebrovascular disease, carpal tunnel syndrome e.t.c. Asbab-e-Sitta Zaruria Wa Gair Zaruria Chart (ASZWGZ chart) is research-based chart whose stated mission is 'to retain the cognitive functions of the brain' by maintaining its environment, dietetics, movement and rest of body, psyche, sleep and Wakefulness, elimination and retention, Turkish bath, exercise, and massage. The purpose of this study is to maintain and retain the cognitive functions of brain by ASZWGZ Chart and prevent the people from existing neurological disorder by Khamira-e-Abraisham sada. A cross-sectional multi-center study being conducted from Aug 1 to Dec 1, 2019. Minimum 500 people of both gender (male and female) ages between 15 to 50 years are included in this study. We divided 500 people into two groups; Group A which includes 250 people and Group B which also contains 250 people. We apply ASZWGZ Chart on both groups but Group B was also treated with Khamira-e-Abraisham sada a product of Hamdard laboratory at the dose of 5-gram per day. Results showed that 208 people of Group A improved their brain health with a great increment of memorizing abilities within three months and Group B showed a similar effect within one month. Brain health can be retained in the early stage of the neurological disorder by using the ASZWGZ chart and Khamira-e-Abraisham sada. This is the greatest opportunity for a new generation to maintain their brain health by using this cheapest source to cure the commonly occurring disease like depression, Dementia, migraine e.t.c. whereas in chronic disorder, Khamira-e-Abraisham sada is the best and effective medicine to retain the brain health.

Keywords: Neurological disorders; Khamira-e-Abraisham sada; Cognitive functions; Dementia



PROCEEDING Emerging Scientist 2021



Rauwolfia serpentina in the Treatment of Hypertension

Presenter

Bushra Mukhtar
Jinnah University for
Women, Karachi

Bushra Mukhtar

Eastern Medicine and Surgery, Jinnah University for Women, Karachi, Pakistan



Type

Poster Presentation

Track

Health Sciences

Abstract

The root of Sarpagandha is a species of flowering plant in the family Apocynaceae has been traditionally used in Ayurveda for many years to treat a variety of diseases that at first thought appear to bear little similarity to one another. *Rauwolfia serpentina* is an herbal plant which contains many different phytochemicals, including alcohols, sugars and glycosides, fatty acids, flavonoids, phytosterols, oleoresins, steroids, tannins, and alkaloids. *Rauwolfia serpentina* is a safe and effective treatment for hypertension. The plant was used by many physicians throughout India in the 1940s and then was used throughout the world in the 1950s, including in the United States and Canada. However, these various diseases could have a common denominator if they were all relieved symptomatically by a sedative or a 'relaxing' drug such as Rauwolfia. Special emphasis on the plant's role in treating high blood pressure, the medical uses of the plant, critically examining its adverse side effects, toxicology, and carcinogenicity. Recommendation of use of low dose Rauwolfia (LDR) for suitable patients with hypertension. The plant provides clinicians with a safe and effective adjunct to pharmaceuticals in the treatment of high blood pressure.

Keywords: Hypertension; Sarpagandha; Reserpine; *Rauwolfia serpentina*; Sedative



PROCEEDING Emerging Scientist 2021



Factors Associated with Precocious Puberty in Children of Karachi

Presenter

Tayyaba Siddiqui
Muazzam Jahangir
Hamdard University,
Karachi

Tayyaba Siddiqui, Sana Qasim, Hafsa Abbasi, Muazzam Jahangir, Syed Zahoor-ul-Hassan and Leena Hameed

Affiliated to Al-Majeed collage of Eastern Medicine, Faculty of Eastern Medicine, Hamdard University, Karachi, Pakistan



Type

Poster Presentation

Track

Health Sciences

Abstract

Puberty is a developmental change during which a child's body progresses through a sequential stage to reach mature reproductive age, Timing of puberty has altered due to environmental, dietary and psychological factors. The study was aimed to evaluate causes and factors that are affecting the puberty age. The survey included children from schools of different social classes in Karachi. A total of n=475 participants were selected through convenience sampling, included both genders between 8-18 years, an interview-based validated questionnaire was filled by the researchers for data collection. The mean age of girls and boys was 14.3 + 1.5years and the mean puberty age was 12.4 + 2 years in both genders, the majority were Females (60%). About 28% of the children developed puberty at the age of 10+2 which considered precocious puberty. factors that could be associated with precocious puberty are as follows: 79% of children consume carbonated drinks daily, 64% use plastic crockery, 43% consume farm chicken in their daily diet, 37% prefer indoor activities in leisure time and 32% use microwave oven for warming the food. The most common factors associated with precocious puberty in both genders were lack of outdoor activities and their dietary pattern, consuming carbonated drinks, and farm chicken, which causes mood swings in children along with precocious puberty. This study will find the factors associated with precocious puberty and will help in the prevention of precocious puberty by avoiding the factors.

Keywords: Puberty; Farm-Chicken; Precocious Puberty



PROCEEDING Emerging Scientist 2021



Clinical Evaluation of Poly Herbal Formulation for Increasing Platelet Count in Dengue Fever Patients

Presenter

Mushtaq Ahmed
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Karachi

Mushtaq Ahmed and Syed Zahoor Ul Hassan Zaidi

Faculty of Eastern Medicine, Hamdard University, Karachi, Pakistan



Type

Poster Presentation

Abstract

Currently Pakistan is facing an abundant incidence of dengue fever. Luckily *Carica papaya* L. is cultivated over the country up to a greater extent, it belongs to family Caricaceae. Papaya leaves are known to be used to increase platelet count and benefit dengue fever patients. The objective of this study was to determine the platelet increasing property of *Carica papaya* leaves aqueous extract on dengue fever patients. This Open-label single-arm randomized clinical trial study was conducted at Herbicure Clinic & Hijama Centre, which serves the population surrounding Gulshan-e-Iqbal as well as other areas of Karachi. A data of 50 patients were collected who reported in Herbicure Clinic, between October to November 2019. In the test group, there were 56% of males while females were 44%. The average increase in platelets seen in the test group was up to 1,11,100/ μ L. The result shows a significant increase in platelet count in patients with dengue fever.

Track

Health Sciences

Keywords: Dengue fever; Polyherbal formulation; *Carica papaya* L.



PROCEEDING Emerging Scientist 2021



Antimicrobial Resistance in Food Animals and Public Health

Presenter

Muhammad Hasnain Haider
Islamia University of Bahawalpur

Muhammad Hasnain Haider and Hamza Jawad

University College of Veterinary and Animal Sciences, Islamia University of Bahawalpur, Bahawalpur, Pakistan



Type

Poster Presentation

Track

Health Sciences

Abstract

Anti-Microbial resistance is a serious issue nowadays. Extensive use of Antimicrobial drugs in food animals and their abuses in human health is causing disastrous effects due to the cross-resistance phenomenon. Many classes of the Antimicrobial agents that are used in humans are also used in food animals nowadays for Treatment, Prevention, and control of microbial diseases. People using meat, milk and milk products of such animals that are previously treated with such drugs are more prone to the resistance of drugs. Due to diversity in food chains involving man, food animals and environment; bacteria carrying resistance genes are widely being transmitted within the food chain. The presence of such bacteria in food is a major risk factor in public health. Farm animals are a major constituent of the drug resistance phenomena because of the use of large quantities of antibiotics in them. Due to a lack of awareness about withdrawal effects and withdrawal periods of drugs people get resistance.

Keywords: Antimicrobial resistance; Microbial disease; Antimicrobial use; Food animals; Public health



PROCEEDING Emerging Scientist 2021



E-cigarette A Dangerous Trend Damaging Vital Organs

Presenter

Shahid Ul Islam
Hamdard University,
Karachi

Shahid ul Islam and Syma Ghayas

Faculty of Eastern Medicine, Hamdard University, Karachi, Pakistan



Live DNA

Type

Poster Presentation

Track

Health Sciences

Abstract

A destructive disorder, Ignored by people and mostly undiagnosed (50%-80%) by physicians is 'DEMENTIA'. It is a diffused deterioration in brain neuronal function produced by a number of pathological processes and characterized by disturbance of memory, thinking, orientation, comprehension, learning, language, and judgment. Neurodegenerative diseases, trauma, cerebrovascular diseases, intracranial space-occupying lesions, infections, toxicity are the common causes of Dementia. It is continuously depriving the world to be acknowledged by the great scientists, artists, physicians, singers, authors as many of great people were affected of Dementia in their elder age but no one could recognize it and unrecognized disease is never treated. Its overall prevalence is 5% of the population in 65 years aged people and 20% in 80 years aged people and it is also going to be the most leading cause of death worldwide. In 2015 WHO reported that someone in the world develops Dementia in every 3 seconds. At that time 46.8 million people were living with Dementia. In 2017 WHO reported that World wide around 50 million people have Dementia, with shocking figures that nearly 60% living in low- and middle-income countries. Every year, there are nearly 10 million new cases. This report was more shocking that Dementia could reach to 82 million in 2030 and 152 in 2050. The estimated number of people living with Dementia in Pakistan is one million. So, in Pakistan near about 10% of 65 years aged people are affected of Dementia, it means that 10 out of every 100 aged people are suffering from Dementia. The number can increase by triple in 2050. This research work is on philosophy and modern medicine concept about Dementia. According to conventional medicine, there is no complete cure for Dementia, it can only help to reduce the symptoms having a lot of side effects. Avicenna's theory about causes of Dementia and its treatment is more scientific and on to constitutional parameters. It has a good way of treatment and management according to natural laws. With the help of the government, We can develop 'IDEAL MATABBs' having natural methods of treatment. Avicenna mentioned 'Aromatherapy' for the cure of these patients, which is very easy, less expensive, natural and every time available, a lot of work is needed on 'AROMATHERAPY'. And now there has been a lot of research works on aromatherapy against Dementia and its main cause (Alzheimer). It was concluded that doing research in this era of medicine will not just come up with better solutions but also will provide holistic treatment for the neglected patients of Dementia.

Keywords: Dementia; Prevalence; Future hazards; Avicenna; Modern medicine



PROCEEDING Emerging Scientist 2021



Acid Neutralizing Activity of Polyherbal Formulation

Presenter

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Women, Karachi

Shayan Fatima Azad

Department of Eastern Medicine and Surgery, Jinnah University for Women Karachi,
Karachi, Pakistan



Live DNA

Type

Poster Presentation

Track

Health Sciences

Abstract

Herbal antacids are one of the major classes of over the counter drugs used by patients considering for its safety. There are multiple herbal formulations in practice for the treatment of acidity, heart burn and dyspepsia. Hence, in the present study four traditional herbs *Punica granatum*, *Tinospora cordifolia*, *Emblica officinalis*, *Glycyrrhiza glabra* were selected. The concentration of these herb used in this formulation described here: Punica (400 mg/day), tinospora (350 mg/day), emblica (250 mg/day) and liquorice (250 mg/day). Those are well known for their acid-neutralizing and anti-ulcer activities. In this polyherbal composition, in which some herbs may be acting synergistically. The use of herbal antacid preparations comprised of medicinal plants becoming more popular due to the adverse effects of Allopathic antacid.

Keywords: Acid-neutralizing; Anti-ulcer; Traditional herbs



PROCEEDING Emerging Scientist 2021



Smokeless Tobacco: A Tough Nut to Track

Presenter

Bilal Ahmad
Hamdard University,
Karachi

Bilal Ahmad, Syma Ghayas and Ahmad Yar Sukhera

Faculty of Eastern Medicine, Hamdard University, Karachi, Pakistan



Live DNA

Type

Poster Presentation

Track

Health Sciences

Abstract

Smokeless tobacco is used worldwide especially in Asian countries. It is the major addiction that is leading all the Asians towards health miseries. It is the major cause of oral cancer. Oral cancer is the third largest occurrence of cancer, especially, in Asian countries. About 33% of males and 18% of females are affected by it in India. In the same way, about 21.3% of males and 19% of females are affected by this in Pakistan particularly, in Karachi. Smokeless tobacco not only cause oral cancer but also causes dysfunction of cardiovascular system and infertility. A person can not quit it's addiction because no scientific remedial drug has been invented, yet. The most frequent users of this consumption are: local market workers and drivers. In herbal medication the usage of Anti Smokeless Tobacco (AST) could be the remedy to cure the side effects of smokeless tobacco. It will help the victims of tobacco and work as an enemy to omit the hazardous affects of it. The withdrawal patients of tobacco can overcome their inner desires by AST.

Keywords: Smokeless tobacco; Oral cancer; Infertility; Cardiovascular system



PROCEEDING Emerging Scientist 2021



Health Related Quality of Life among Patients of Chronic Kidney Disease in Pakistan: A Threat to Public Health

Presenter

Iter un Nisha
Hamdard University,
Islamabad

Iter un Nisha, Madeeha Malik, Azhar Hussain and Ayisha Hashmi

Hamdard Institute of Pharmaceutical Sciences, Hamdard University, Islamabad, Pakistan



Type

Poster Presentation

Track

Health Sciences

Abstract

During the past few decades, health-related quality of life is being considered an important predictor for positive health outcomes. Health-related quality of life assessment assesses the impact of the disease on the everyday life of patients. Health-related quality of life is largely compromised in patients with chronic kidney disease. The objective of this study was to assess Health-Related Quality of Life among patients with chronic kidney diseases in Pakistan. Descriptive cross-sectional study design was used. Study respondents included CKD pre-dialysis and dialysis patients with or without comorbidities visiting tertiary care facilities located in twin cities of Pakistan. The sample size was calculated to be 386 pharmacists to achieve a 95% confidence level with a 5% margin of error. A convenient sampling technique was used to select respondents. A pre-validated questionnaire, Kidney Disease Quality of Life questionnaire (KDQoL-36) was used. Data were coded and analyzed statistically. The results of the current study showed lowest scores for HRQoL in the domain of physical health composite (30.77 ± 11.16) followed by the domain of symptoms and problems associated with CKD whereas daily life had the highest scores. The results highlighted that females had better HRQoL in all domains mental health (46.30 ± 8.73), the burden of kidney disease (69.47 ± 32.35), symptoms (29.79 ± 31.22) and effect of disease on daily activities (40.96 ± 32.11) while the lowest score for physical health (30.90 ± 10.34). Younger patients had better physical scores (38.30 ± 9.5) but along with more reported symptoms (48.47 ± 35.35) and effect of daily activities of life (60.84 ± 30.79) while mental health score and burden on kidney disease was found better among older patients. The present study concluded that patients with CKD had poor HRQoL regardless of novel treatments availability. A negative impact was observed across all domains of health-related quality of life among chronic kidney disease patients with a significant likelihood of depression. Necessary programs focusing on health education for patients with low literacy levels should be initiated to increase health awareness and improve mental health among CKD patients.

Keywords: Health-related quality of life; Chronic kidney disease; Physical health; Mental health



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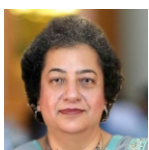
Social Science

Page 01 - 23

Session Chairs:



Dr. Rubina Hanif
Quaid-i-Azam University, Islamabad



Dr. Iffat Rohail
Foundation University, Islamabad Campus



Dr. Najma Malik
University of Sargodha, Sargodha



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PROCEEDING Emerging Scientist 2021



Positive Youth Development: A Framework to Meet the Challenges

Presenter

Rubina Hanif
Quaid-i-Azam University,
Islamabad

 **Live DNA**
92.11364

Type

Keynote Speaker

Track

Social Sciences

Rubina Hanif

National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan

Abstract

From decades researchers are striving to establish various theoretical models to make young people full functioning individuals of society. The current paradigm of youth development focuses on building positive outcomes by thriving the full potentials of youth instead of preventing and fixing problems. The major objective of the present Positive Youth Development framework is to build skills and competencies. This framework is based on Bronfenbrenner's ecological model of human development. we describe development as a reciprocal process. In their interaction with various social groups and institutions, young people are influenced and directed by them; at the same time, young people have an impact on these social environments. Agency is an important factor in development. Creating opportunities for youth to make decisions, take on responsibilities, and contribute to improving outcomes for themselves and others. Firstly, some empirical data-based findings are shared to find out the status of the developmental assets of our young people e.g., (Hanif & Noureen, 2019; Hanif & Haroon, 2020; and Hanif & Abbassi, 2021)., secondly, a framework is proposed to meet the challenges to make them fully functioning individuals. This indigenous Positive Youth Development Model (PYDM) comprised of three components i.e., individual-environmental Factors, Personal Skills, and Healthy Outcomes. She presented the conceptualization, design, and action modes for this PYDM. Concluding, if we want to see healthy young people contributing to a flourishing productive society, we need to focus on their positive development.

Keywords: Theoretical models; Positive youth development; Competencies; Bronfenbrenner's ecological model



PROCEEDING Emerging Scientist 2021




Mental Health Issues: A Threat to Sustainable Community

Presenter

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University of Sargodha

Najma Iqbal Malik

Department of Psychology, University of Sargodha, Sargodha, Pakistan

 **Live DNA**
92.27270

Type

Distinguished Speaker

Track

Social Sciences

Abstract

WHO since 1978 has identified Mental health and psychosocial wellbeing as an integral part of health. However, recently it has been included on the unified global agenda of Sustainable Development Goals (SDGs) in 2015; committed to prioritizing 'Prevention and treatment of non-communicable diseases, including behavioral development and neurological disorders'. SDG agenda aimed to eradicate poverty and hunger; promote inclusion, human dignity and equality; promote growth, and foster peace and justice with its 17 goals and 169 targets where mental health and substance abuse comes under goal 3. Target 3.4 on premature mortality from non-communicable diseases aims for a reduction by 'one third through prevention and treatment and promotion of mental health', and target 3.5 addresses the prevention and treatment of substance abuse. Moreover, Izutsu et al. (2015), postulates that the rights of people with disabilities comes under goals i.e., 4, 8, 10, and 11; relevant for people with diverse disabilities. The SDGs provide a rationalized framework to address mental health with renewed urgency. Currently, mental health has become globally essential to attain sustainable society unlike the past; when it was an 'invisible problem' and a major obstacle to development resulting in its recent inclusion in the UN Sustainable Development Goals (SDGs). Pakistan being a developing nation is all time struggling to sustain the quality of life of masses. Pakistan and Afghanistan are witnessing a higher number of mental illnesses. In Pakistan, mental disorders account for more than 4% of the total disease burden, higher among women. It is estimated that 24 million people in Pakistan need psychiatric assistance where one in four individuals suffers from mental illnesses by 2020, and depression will become a leading cause of death across the globe. However, allocated resources for the treatment of mental health disorders are not enough to meet the increasing needs. According to WHO data, Pakistan has only 0.19 psychiatrists per 100,000 inhabitants, one of the lowest numbers in WHO Eastern Mediterranean Region, and in the whole world (WHO, 2019). WHO mental health action plan 2013 suggested a multisectoral strategy, which combines universal and targeted interventions for promoting mental health, preventing mental disorders, and reducing stigmatization, discrimination, and human rights violations. Key to this approach are dedicated mental health legislation and regulations for promotion and prevention; reducing the use of alcohol; restricting access to means of suicide; multisectoral legislation to address cross-links; strengthening the workforce for primary and community care, and including people with lived experience of mental illness.

Keywords: Multisectoral legislation; Suicide; Mental illness; Community care



PROCEEDING Emerging Scientist 2021



Turning Deficits into Strengths: A Way to Move Forward with Autism Spectrum Disorder (ASD)

Presenter

Nelofar Kiran Rauf
Quaid-i-Azam University,
Islamabad

Nelofar Kiran Rauf

National Institute of Psychology, Center of Excellence, Quaid-i-Azam University, Islamabad, Pakistan



Type

Oral Presentation

Track

Social Sciences

Abstract

It is a common belief that people with Autism Spectrum Disorder (ASD) usually do not understand other people's points of view, referred to as Mindblindness and they also have difficulties related to social interactions. This notion needs a paradigm shift from ASD as a defect or deficit to autism as a different way of being. Neurodiversity is that shift to understanding that conditions like autism a neurodevelopmental disorder is a naturally occurring cognitive variation with distinctive strengths that have contributed to the evolution of technology and culture rather than mere checklists of deficits and dysfunctions. To create significant social change there is a need to create neurodiversity in our culture, this brings in the hope that people on the spectrum are not disabled in fact they are differently-abled.

Keywords: Mindblindness; Autism Spectrum Disorder; Paradigm shift; Neurodiversity



PROCEEDING Emerging Scientist 2021



Factor Analysis of Altruism Scale Associated with Pakistani Perspective

Presenter

Raumish Masud Khan
Kinnaird College for
Women, Lahore

Raumish Masud Khan

Kinnaird College for Women, Lahore, Pakistan

 **Live DNA**
92.32437

Type

Oral Presentation

Track

Social Sciences

Abstract

Unfortunately, there is a scarcity of empirical research in the field of altruism in Pakistan. The reason could be that there are no culturally fair measures available according to the norms of our Pakistani society. The present research work was planned to develop an indigenous scale of altruism and to explore the Pakistani perspective toward the phenomenon in a society that is surrounded by social, economical psychological hazards. In all cultures around the globe Altruistic behaviors such as caring, comforting, sharing, donating, generosity and compassion are believed as major contributors to healthy social relationships and personal mental health. Such behavior also helps in assisting immeasurable individual needs, by enhancing self-esteem, and preserving one's self-image in all spheres of life. So the current scale was developed to assist Pakistani society in measuring Altruism.

Keywords: Empirical research; Altruism; Globe Altruistic behaviors; Individual needs



PROCEEDING Emerging Scientist 2021



Modalities of Cyberbullying among University Students

Presenter

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Nayab Noor and Rubina Hanif

National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan



Type

Poster Presentation

Track

Social Sciences

Abstract

The present research was carried out with the aim of investigating the prevalence of different modalities of cyberbullying among university students and to report the frequencies of students experiencing cyberbullying and cyber victimization in university. Purposive convenient sampling technique was used to collect the data on the basis of cross cultural design. Along with the Demographic sheet, The cyberbullying Questionnaire was used to measure the modalities of cyberbullying used by university students and to report the prevalence of cyberbullying and cyber victimization among university students. A sample of N=100 university students including (n=50) males and (n=50) females with age ranging from 18- 35 years were recruited from several public and private universities of Islamabad, Pakistan. The results revealed excellent reliability for the Cyberbullying questionnaire ($\alpha = 0.89$). Out of the sample, 80% students responded affirmatively to at least one act of cyberbullying and 94% responded to be a victim of cyberbullying at least once in their life. The most frequent behaviors were intentionally excluding someone from an online group (32.3%), and writing embarrassing jokes, rumors, gossips or comments about a classmate on internet (20.1%). It is concluded that university students do tend to get involved in cyber bullying and at least once in their life. The most common behaviors include intentionally excluding someone from an online group and writing embarrassing jokes, rumors, gossips or comments about a classmate on internet and victimization include receiving threatening/insulting messages from someone and deliberately getting excluded from an online group.

Keywords: Cyber bullying, Cyber victimization, Modalities



PROCEEDING Emerging Scientist 2021



Ethnic Discrimination among Employees of Pakistan

Presenter

Saadat Ullah
Quaid-i-Azam University,
Islamabad

Saadat Ullah and Rubina Hanif

National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan



Type

Poster Presentation

Track

Social Sciences

Abstract

Ethnic Discrimination is defined as denying equal treatment to individuals because of their group membership (Allport, Clark & Pettigrew, 1954). From decades research is being conducted to explore this phenomenon and correlates. The current study is designed to see ethnic discrimination among the administrative staff of Pakistani universities. For this purpose, a sample of 133 university administrative staff belonging to more than one ethnic background (e.g., Sindi, Punjabi, Pakhtun, Seraiki, Hindko) officials were recruited. A survey questionnaire i.e., Perceived Ethnic Group Discrimination Questionnaire-Civilian Version (Brandolo,2005) was administered to see the perceived discrimination on four subscales i.e., (1) Exclusion/rejection, (2) Stigmatization/disvaluation, (3) Discrimination at work, (4) Threat/aggression. The findings depicted moderate to the high levels of discrimination perceived by employees. The significant differences in perceptions of four subscales were found among various ethnic groups. The posthoc analysis supported, that Pakhtun and Punjabi employees are significantly high on the perception of discrimination. The findings depict an alarming situation to deal with ethnic discrimination at our workplaces to reduce conflicts and to enhance mental health and productivity of employees.

Keywords: Ethnic Discrimination; Workplaces; Conflicts; Mental health; Productivity



PROCEEDING Emerging Scientist 2021



Relationship among Skin Tone Satisfaction, Social Comparison and Fear of Negative Evaluation among Adults

Presenter

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Islamabad

Rabia Hassan and Arooj Mujeeb

National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan



Type

Poster Presentation

Track

Social Sciences

Abstract

The current study aimed to explore the relationship between skin tone satisfaction, social comparison and fear of negative evaluation among individuals of age range 18-30 years. Further, the current study also investigated the role of demographic variables in relation to study variables. For this purpose, a convenient sample of (N = 300) individuals (including men and women) were collected. Three measures were used in the study. Skin Tone Satisfaction was measured with item of Skin Color Questionnaire (Bond & Cash, 1992), ranking on Social Comparison was measured using the Social Comparison Scale (Allan & Gilbert, 1995), and Fear of Negative evaluation was measured by using Brief Fear of Negative Evaluation Scale (Leary, 1983). The results showed that skin tone satisfaction was positively associated with ranking on social comparison while negatively linked with fear of negative evaluation. Results further showed that ranking on social comparison was negatively linked with fear of negative evaluation. Findings revealed that women ranking on social comparison and fear of negative evaluation were higher as compared to men while women scored lower on skin tone satisfaction as compared to men. Non-significant differences were observed on gender and significant differences were observed on age. Implications and limitations of the study and suggestions for future researches have also been discussed.

Keywords: Skin tone satisfaction; Social comparison; Demographic variables



PROCEEDING Emerging Scientist 2021



Impact of Internet Addiction on Aggression Among University Students: Moderating Role of Self Control

Presenter

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Rawalpindi Campus

Faiza Akbar and Sadaf Ahsan

Foundation University, Islamabad Campus, Islamabad, Pakistan



Live DNA

Type

Poster Presentation

Track

Social Sciences

Abstract

The present study examined the impact of internet addiction on aggression among university students with a moderating role of self-control on the relationship between internet addiction and aggression. Sample comprised of 300 university students with equal numbers of boys (n=150) and girls (n=150) from the different universities of Rawalpindi and Islamabad. Age range of the sample was 18 to 35 years. Purposive sampling technique was used. Self-report tools i.e. Internet Addiction Test (Young, 1996), Aggression Questionnaire (Buss and Perry, 1992) and Self Control Scale (Tangney, Baumeister, Boon, 2004) were used for data collection. Gender differences were also studied. Data was analyzed through SPSS using correlation, regression and moderation analysis through PROCESS macro. Results indicated that internet addiction was a positive predictor of aggression among university students, whereas, self-control was a significant negative predictor of aggression among university students. Gender differences were found to be non-significant on internet addiction, aggression, and self-control among university students. Moderation analyses revealed that self-control reversed the relationship between internet addiction and aggression among university students. The study will be helpful in drawing attention to the negative effects of excessive internet use in a person's life especially students.

Keywords: Internet addiction; Aggression; Self-control; University students



PROCEEDING Emerging Scientist 2021



Autistic Today Genius Tomorrow

Presenter

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Karachi

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Type

Poster Presentation

Track

Social Sciences

Abstract

The word 'autism' comes from the Greek word 'autos', which means 'self'. Autism is a complex neurobehavioral condition characterized clinically by delayed and qualitative differences in communication, restricted interest and social interaction as well as, rigid, repetitive behaviors. In other words, it is an 'isolated self'. Because of the range of symptoms, this condition is now called Autism Spectrum Disorder (ASD). According to WHO, 1 in 160 children has an Autism Spectrum Disorder (ASD), it begins in childhood and tends to persist into adolescence and adulthood. The overall prevalence of ASD is 0.36% in Asia. ASD prevalence is increasing in Asia. Many children in normal schools are Autistic and their parents are not aware of their child's problem. A vast majority of parents are not aware of the reason behind their child's different behavior and hence that child is forced to attend standard school, so our aim is to find out and facilitate the parents about this condition so that they can understand their child's behavior. Another aim of the study is to target those parents who are already aware of their child's condition but are only opting for standardized management options. In this way, these children can play a major role in the world and can be a distinguished person tomorrow. This study was conducted in different schools of Karachi, especially in Hamdard Public School and Hamdard Village School. Survey forms were filled and minimum 200 children are included. The collected data thus summarized and statistical analysis was done on SPSS version 22. Through this survey, it was concluded that many children in regular schools are Autistic and are mishandled by their teachers and parents due to their behaviors. If we pay special attention to these children, they can be very beneficial to our nation, like Albert Einstein or Bill Gates.

Keywords: Autism; ASD; Child's behavior; Prevalence of ASD



PROCEEDING Emerging Scientist 2021



Impact of Perceived Differential Experiences and Rejection Sensitivity on Positive Youth Development

Presenter

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Islamabad

Mehak Haroon and Rubina Hanif

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Type

Poster Presentation

Track

Social Sciences

Abstract

The current study aimed to explore the relationship between perceived differential experiences, rejection sensitivity and positive youth development. A cross-sectional design was used on a sample of N=100 (male= 45, female=55) dyad adolescents with age range 13-20 years. Purposive convenient sampling was done to collect data from Rawalpindi and Islamabad. The participants were selected on the basis of having at least one sibling of adolescent age living with parents. Furthermore, the study investigated the role of demographic variables in relation to study variables. Three measures were used including the Sibling Inventory of Differential Experiences (Daniels & Plomin, 1985), Rejection Sensitivity Scale (Downey & Feldman, 2013) and Positive Youth Development Scale (Lopez, Yoder, Brisson, Lechuga-Pena & Jenson, 2014). The results showed that sibling care-taking and closeness were positively associated with positive youth development and negatively related to the rejection sensitivity whereas, sibling antagonism and jealousy were negatively related to positive youth development and positively with rejection sensitivity. The parental control and affection also showed a positive relationship with rejection sensitivity and positive youth development. Results further indicated positive relationship of peer institute orientation and popularity with positive youth development and peer delinquency negatively related to positive youth development. Findings revealed the impact of gender, number of siblings and family system on the study variables. It is concluded that the social environment does play an important role in the development of the youth.

Keywords: Rejection sensitivity; Youth development; Sibling antagonism; Gender impact



PROCEEDING

Emerging Scientist 2021



Irreligiosity, Narcissism and Criminal Thinkings in Criminals

Presenter

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Type

Poster Presentation

Track

Social Sciences

Abstract

The fascinatingly serpentine nature of the phenomenon of criminal thinking with reference to its various dimensions and its relationship with religion as well as personality exists in the world of research as a subject of intense empirical debate and testing for the past few decades. The current study also aimed to further add to this empirical debate by highlighting the various complexities in the relationship between irreligiosity, narcissism and criminal thinking in criminals. The study investigated this relationship by proposing the hypotheses that there is likely to be a positive relationship between irreligiosity and criminal thinking as well as narcissism and criminal thinking. The study also made an attempt to investigate the possible impact of irreligiosity and narcissism as potential predictors of criminal thinking, with reference to its six subscales of entitlement, justification, power orientation, cold-heartedness, criminal rationalization, and personal irresponsibility. The Nonreligious-Nonspiritual Scale, Short Dark Triad and TCU Criminal Thinking Scales were used to measure irreligiosity, narcissism, and criminal thinking respectively, along with the demographic sheet. The sample for this study comprised 60 prisoners (N = 60), 30 women and 30 men who were recruited from the District Jail of Faisalabad using a convenience sampling strategy. The results of the current study revealed a positive correlation between narcissism and criminal thinking subscales of power orientation, criminal rationalization and personal irresponsibility whereas no significant relationship between religiosity and criminal thinking was empirically found. The present study had various limitations which may have somewhat contributed to a lack of empirically significant findings. However, this study has nonetheless succeeded in highlighting new dimensions of the religion-crime relationship which is in dire need of further research in Pakistani socio-cultural context for the benefit of not only the prison population but the nation at large.

Keywords: Irreligiosity; Narcissism; Pakistani socio-cultural; Criminal thinking



PROCEEDING Emerging Scientist 2021



Characteristics of a Desirable Person in Life: Students' Perspective

Presenter

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Kanwal Shahbaz, Muddassar Ali Shah and Murad Wasiq

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Type

Poster Presentation

Track

Social Sciences

Abstract

The idea of the current investigation was conceived to study the characteristics of a desirable person from the students' perspective. The researchers were inspired by the Heinz dilemma and were curious to study the same dilemma among the students in their surroundings. The study has the following objectives: (i) To understand students' perspective of a desirable person; (ii) His traits and what does one expect to improve in a desirable person? The study was designed on the theories social interaction by Goffman (1972) i.e. how and when people interact and with whom; and Kohlberg theory of A semi-structured interview protocol with open-ended questions was designed with the help of the experts of the field. The Nvivo 12.2.0 was used to run word text with a generalized approach for the visual query. The word cloud map showed that the students perceive the respectful, loyal, truthful, honest person as a desirable person as compared to others. The current research was a huge challenge because the perception of the students during a semester may change with time, environment and circumstances. In spite of this challenge, it was found that the aforementioned traits were reported with high frequency and should be brought to consideration for smooth working and harmony among the students. In every class, there should be a small talk on these traits so that the students must be aware of its significance and application.

Keywords: Desirable person; Moral development; Respectful; Loyal and truthful



PROCEEDING

Emerging Scientist 2021



Psychometric Development and Validation of Body Image Perception Scale (BIPS)

Presenter

Syeda Hira Fatima
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Type

Poster Presentation

Track

Social Sciences

Abstract

Body Image Perception is a complex cognitive process that involves several different dimensions. This is because body image perception is a continuous and constantly evolving process. The development of self-concept depends largely on positive or negative perception of body image in today's time. The current aim is to develop an instrument to measure beliefs and attitudes of people involved in the perception of body image, defined as the perception that a person has of their physical self and the thoughts and feelings that result into a positive or negative self-concept. The factorial structure, reliability, content validity and impact of gender on factor structure of BIPS were examined among university students (N=200) in study, with male (n=100) and female (n=100) population. Responses to all items were presented on a five-point Likert scale, where 1 means 'Never', 2 means 'Rarely', 3 means 'Sometimes', 4 means 'Often' and 5 means 'Always'. Exploratory factor analysis using the Direct Oblimin method based on principal component analysis indicated a 3-factor components, 20-item BIPS including subscales a) negative feeling (13 items); b) public perception (3 items); and c) future success (4 items). BIPS exhibited decent Cronbach alpha reliability of (0.789) and a good content and factorial validity among both male and female university students, suggesting a highly significant difference between the two genders on BIPS. Interrater reliability was established by getting the items reviewed by a panel of 5 SMEs including 2 PhD scholars and 3 university professors. Item analysis was done using Item Response Theory through which discrimination and facilitation indices values were computed across each item in the scale. Item Characteristic Curves were also plotted to yield a better understanding of the analysis procedure. 2 items (19 and 20) were reverse coded and item 20 included pictorial representation of various body shapes. The results support the factorial and content validity and internal consistency reliability of the BIPS.

Keywords: Body Image Perception; Exploratory Factor Analysis; IRT; Focus group discussions



PROCEEDING Emerging Scientist 2021



Translation and Validtion of True Grit Scale (Paul Wong) in Urdu Language

Presenter

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Type

Poster Presentation

Abstract

This study was carried out to translate and validate the True Grit scale developed by Doctor Paul Wong (2018) in Pakistani content. The scale had 16 items. The study was conducted into two phases, in the first phase researchers translated the scale by the standard procedure of WHO guidelines of translation. In the 2nd phase, reliability and validity was determined. The internal consistency reliability of the Urdu version found through Cronbech alpha (0.73) which was suitable ranging of scale. Further, the cross-language validation of Urdu version with English original version also came out to be a highly significant correlation among items. The value of the correlation of Urdu version is 0.01 and of the English version is of 0.05. Confirmatory factor analysis was also applied and because of factor loading item number 13 is eliminated. This study has implications in determining the long term goals of people in difficult times which is called to be True Grit.

Track

Social Sciences

Keywords: True Grit scale; Language validation; Translation



PROCEEDING Emerging Scientist 2021



Comparing Efficacy of Standard Treatment or ACT for Stigma & Shame in Substance Use Disorder- Randomized Control Trial

Presenter

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Type

Poster Presentation

Track

Social Sciences

Abstract

This double-blind, parallel randomized controlled trial aimed to evaluate the effect of Acceptance and Commitment Therapy (ACT) focused on stigma and shame versus Standard Treatment (ST) in substance use disorder. Thirty-five participants with the main diagnosis of substance use disorder were allocated by means of simple randomization to an ACT intervention or to the ST. Two primary measures, substance use stigma mechanism scale and other as shamer scale were employed to assess stigma and shame in substance users. Secondary measures assessed general health, quality of life, psychological flexibility and multidimensional social support at pre, post and 3 months follow up period. Result of linear mixed-effects models showed that the intervention was efficacious in reducing enacted stigma ($F=30.44$, $P=0.000$, $I p 2 = 0.244$), anticipated stigma ($F=17.56$, $P=0.000$, $I p 2 = 0.157$), internalized stigma ($F=20.14$, $P=0.000$, $I p 2 = 0.176$) and shame ($F=31.04$, $P=0.000$, $I p 2 = 0.247$). Whereas slight differences were shown at secondary measures and all are significant at the timeline model. No adverse actions were found. It suggests that combined treatment with ACT was more effective for stigma and shame than standard treatment for SUD's. This study could serve as a model for designing future RCTs with ACT-related interventions.

Keywords: ACT; Standard treatment; Stigma; Shame; SUD's



PROCEEDING Emerging Scientist 2021



Association Among Hospital Anxiety, Stress, Depression and Positive/Negative Affect in Breast Cancer Patients

Presenter

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Muhammad Aqeel and Amna Hafiz

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Rawalpindi, Pakistan



Type

Poster Presentation

Track

Social Sciences

Abstract

The study reviewed the prevalence of psychiatric features, anxiety, depression, stress and positive and negative affect amongst females with breast cancer through the PIMS, Noori, CMH and Kulsoom International Hospitals, Rawalpindi-Islamabad. The study was conducted in six months (from Aug, 2019-Jan, 2020) from data collection till completion. Purposive sampling technique was used and the cross-sectional study design was followed. The females diagnosed with breast cancer and their age ranges from 25 to 50 years (N=150). One hundred and fifty patients who fulfilled the inclusion criteria were inducted in this study. The results showed that psychological assessment is significantly and positively associated with higher levels of stress symptoms because it favors a higher level of emotional regulation among breast cancer patients also HADS was positively and non-significantly predicting stress in cancer patients. The results of this study will be very helpful in hospitals for evaluation psychiatric features such as depression, anxiety, and stress in breast cancer patients. But still, there is a need to discover other psychological factors relating to this study.

Keywords: Hospital anxiety; Stress; Breast cancer; Depression



PROCEEDING Emerging Scientist 2021



Association among Homesickness, Mood Swings and Mediating Role of Quality of Life

Presenter

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Type

Poster Presentation

Track

Social Sciences

Abstract

The purpose of this paper is to examine the association among homesickness, mood swings and quality of life in hostel students and the moderating role of quality of life. Homesickness leads to mood swings and that effects quality of life. But when the quality of life is good homesickness does not lead to mood swings. The present study also explore the association among homesickness, mood swings and quality of life. Purposive sampling technique was employed. The sample comprised of 200 university students. Three scales were used to measure the homesickness, quality of life and positive and negative mood swings in hostel students. The results showed a significant relationship among the variables homesickness, mood swings and quality of life.

Keywords: Homesickness; Mood Swings; Hostel students; Quality of life



PROCEEDING Emerging Scientist 2021



Association between Social Phobia and Parenting Style among Adolescents Students

Presenter

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Type

Poster Presentation

Track

Social Sciences

Abstract

Social Phobia (SP) is one of the most predominant anxiety disorders among adolescents and remains under-recognized and undertreated. Environmental factors particularly parenting styles are significant in the development of a social phobia. The aim of the present study was to determine the association between social phobia and parenting styles among adolescents students. A cross-sectional design was selected in carrying out this study. The setting of the present study was in the public and private schools of RWP & Islamabad, Pakistan. The sample size included a simple random sample composed of 400 students, tools used for data collection were; sociodemographic data sheet, parenting styles and social phobia scales. The study results revealed that the authoritarian parenting style was more prone towards the development of social phobia whereas the parents showed authoritative and permissive parenting style, their children showed lower levels of social phobia. The study will successfully help in providing early and adequate treatment with the help of parental involvement, which in turn, reduces the burden of this common condition. Providing parents with educational programs about the efficacy of the authoritative parenting style in nurturing their children. This study will facilitate as a base for developing interventions for social phobia.

Keywords: Social phobia; Authoritative; Authoritarian; Permissive parenting styles; Adolescence age



PROCEEDING

Emerging Scientist 2021



The Moderating Role of Malingering among Self-Harm Behavior, Suicidal Ideation, Depression, Stress and Anxiety

Presenter

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Live DNA

Type

Poster Presentation

Track

Social Sciences

Abstract

Depression and Attempted Suicide Theory is a widely used framework for understanding deliberate self-harm as well as suicidal ideation, and depression, stress and anxiety to understand such behavior among young adults. Apart from these theoretical suggestions, there has been scarce empirical research on this subject-matter in Pakistani young adults. Therefore, the objective of the present study was to investigate the moderating and mediation role of self-harm behavior and the malingering pathway between stress, anxiety, depression and suicide ideation in normal and self-harm adults. This present study was comprised into two segments I-preliminary and II-main study. The preliminary study comprised of the translation process of scale Inventory of Statement about Self harm in Urdu and results indicated that the overall scale had a high internal consistency of Inventory of Statements about self Harm Urdu Version $\alpha=0.95$. The overall scale retained a high test-retest correlation tested over a period of fifteen days ($r=0.89$). The scales include: Inventory of Statements About Self Injury (ISAS), the Depression, Anxiety, and Stress (DAS), the Beck Scale for Suicidal Ideation (BSSI), the Minnesota Multiphasic Personality Inventory (MMPI), L-scale, F-scale, and K-scale were administered to a total sample of 200 which include 100 deliberate self-harm adults and 100 normal adults in Rawalpindi Pakistan. A comparative analysis between the group of deliberate self-harm and normal adults showed statistically significant differences related to suicidal ideation and depression, anxiety, stress. The analysis of models related to suicidal ideation and depression, anxiety, stress with regard to mediating role of deliberate self-harm and moderating role of malingering showed that all models are well fitted to data and statistically significant. Mediation pathway analysis found that deliberate self-harm enhances suicidal ideation among deliberate self-harm adults. These findings support the broad depression and attempted suicide theory suggesting that depression, anxiety, stress is associated with and predict significantly suicidal ideation in the sample of deliberate self-harm adults. Our knowledge and understanding of the correlates of suicidal behaviors is imperative for numerous reasons, including assisting clinicians with assessment of risk, designing of an evidence-based suicide prevention and early prevention programs, understanding causes of suicide attempts for aiming at the development of evidence-based mental health policy, and due to the fact that suicidal attempt is the strongest predictor of completed suicide in future.

Keywords: Deliberate self-harm; Suicidal ideation; Depression; Anxiety; Stress; Malingering



PROCEEDING

Emerging Scientist 2021



Development and Validation of a Brief Measure: Public English Language Speaking Anxiety Scale

Presenter

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Live DNA

Type

Poster Presentation

Track

Social Sciences

Abstract

Speech is one of the most cardinal forms of human interaction but certainly, acquisition of fluency in a second foreign language is hindered by public speaking anxiety. English, as a secondary language, in pedagogical settings is progressively overriding the learning process in Pakistan. This paper aims to derive an indigenous screener for Public English Language Speaking Anxiety (PELSA) among Pakistani youth. There are a handful of scales used to measure PELSA but have psychometric limitations and cultural restrictions, bringing their universal use and validity into question. In order to expand insight into the culture related to casual factors behind PELSA, three focus groups were conducted exclusively. Data from the focus groups are utilized in item construction. Initial item pool constituted of 71 items, pilot study version had 30 items and final test version encompasses 20 items, administered on 328 university students (148 males & 172 females). Content validity is calculated through interrater reliability and subject matter experts. The preliminary PELSAS yielded an internal consistency of 0.85 using Cronbach's alpha coefficient. Item analysis was done using Item Response Theory in which difficulty index and item discrimination index were computed. Item characteristics curves are used to assess the functionality of the items, distractors and the test as a whole. Exploratory factor analysis concluded that PELSAS included 3 subfactors: cognitive factor (6 items), emotional factor (8 items) and social factor (6 items). Three items in the scale are reversely coded (5,6,18). Evidence for Test's functionality was provided through concurrent validity, divergent validity, and convergent validity are given. Internal consistency reliability and interrater reliability.

Keywords: Foreign language anxiety; Speaking anxiety; IRT; Item characteristic curves; Causes of public speaking anxiety



PROCEEDING Emerging Scientist 2021



Moderating Role of Coping Strategies between the Relationship of Academic Stress, Sleep Disturbance and Depression

Presenter

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Rawalpindi Campus

Mehwish Irshad and Muhammad Aqeel

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Type

Poster Presentation

Track

Social Sciences

Abstract

This study examined the perceptions of major sources of academic stress, sleep quality, depression, and anxiety among male and female university students in Pakistan. Academic stress has been spotted as a major implications for student retention and dropout intention. The results of the current study indicate the impact of academic stress can provide students, teachers and administrators information on how to deal with stress in the learning environment. The analysis data were collected via Self-report questionnaires in which approximately 300 students participated, age of 18-30 years. The scores recorded on depression for males and females were ($M = 80.83$, $SD = 11.06$) and females ($M = 85.12$, $SD = 12.87$) respectively and the statistical package for social sciences (SPSS) was used for data analysis. The findings from this study may be useful for further research on how these potential sources of stress influence the performance and the psychological health of the students.

keywords: Psychological health; Academic stress; Sleep quality; Anxiety;



PROCEEDING Emerging Scientist 2021



The Association among Suicidal Ideation, Self-Harm Depression and Negative Mood, in Multiple Mediating Models, in University Students

Presenter

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Meezab Shahzad and Muhammad Aqeel

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Type

Poster Presentation

Track

Social Sciences

Abstract

The present study is aimed to see the mediating role of depression and negative mood between self-harm and suicidal ideation in university students. Additionally, examine the role of family structure between self-harm and suicidal ideation among university students. A total of two hundred participants were included in this study however 5 of them were excluded. The participants were divided into two categories; from 16 to 25 and the other was 26 to 33 years. These participants were incorporated from Rawalpindi and Jhelum universities. Purposive sampling technique was used based on a cross-sectional design. In this study, self-harm is measured by ISAS, suicidal ideation was measured by BSI, depression was measured by DASS and the negative mood was measured by PANAS. Self-harm depression and the negative mood were positively correlated to suicide ideation. On the other hand, depression is a significant predictor of self-harm and suicidal ideation. The findings of the study also suggest that family structure is not correlated to self-harm and suicidal ideation. However, self-harm significantly positively correlated to depression and suicidal ideation, whereas non-significantly positively related to negative mood. Depression is significantly positively related correlated to negative mood and suicidal ideation. Negative mood non-significantly positively related to suicidal ideation.

Keywords: Suicidal ideation; Self-harm; Negative mood; Depression



PROCEEDING Emerging Scientist 2021



Prevalence of Psychiatric Features and Quality of Life in Patients with Eczema

Presenter

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Rawalpindi Campus

Farwa Safdar and Muhammad Aqeel

Department of Psychology, Foundation University, Rawalpindi Campus, Rawalpindi, Pakistan



Type

Poster Presentation

Track

Social Sciences

Abstract

The research studied the prevalence of psychiatric features and quality of life in patients with Eczema through Noori Hospital, PIMS, Kulsoom International Hospitals, and CMH, Rawalpindi-Islamabad. The study was conducted in five months (from Sept 2019-Jan 2020) from the collection of data until its completion. The sampling technique used was purposive sampling and a cross-sectional study design was followed. The patients diagnosed with eczema and their age ranges from 25 to 55 years (N=100). One hundred patients who fulfilled the inclusion criteria were inducted in this study having Atopic dermatitis and Contact dermatitis only. All other types of eczema were excluded. The results revealed that psychological assessment is significantly and negatively associated with quality of life. Patients with eczema had a lower quality of life because of the higher level of depression. The results of this study will be very helpful in hospitals for evaluation psychiatric features such as depression, pain anxiety, pain perception and quality of life among the patients with eczema. However, there is a need to discover other psychological factors relating to this study as well.

Keywords: Eczema; Depression; Pain anxiety; Pain perception; Quality of life



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03 Conference Track

Life Sciences

Page 01 - 15

Session Chairs:



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University of Sargodha, Bhakkar



Dr. Muhammad Aamer Mehmood
Government College University, Faisalabad



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PROCEEDING Emerging Scientist 2021



Bioprospecting of Indigenous Microalgae and Cyanobacteria for Biofuels and High-Value Bioproducts

Presenter

Muhammad Aamer
Mehmood
Government College
University, Faisalabad



Type

Distinguished Speaker

Track

Life Sciences

Muhammad Aamer Mehmood¹, Ayesha Shahid¹, Sana Malik¹, Amna Jabbar Siddiqui², Fahad Khan¹, Zahida Atta¹, Muhammad Usman¹, Abd ur Rehman¹, Nazia Nahid¹ and Syed Ghulam Musharraf³

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Abstract

Microalgae are a promising feedstock for immense biotechnological applications due to their higher growth, higher productivity, the highest photosynthetic fixation of atmospheric carbon, cultivation using wastewater and no competition with food/feed. The present study was focused to isolate, identify and characterize the indigenous microalgae and cyanobacteria. Where ten different microalgal and cyanobacterial strains were isolated from freshwater and wastewater bodies which were named BERC-1 to BERC-10. Varying abiotic factors including nutrients, pH, light intensity were tested to find optimum growth conditions. The biomass of all strains was subjected to biochemical characterization including pigments, carbohydrates, lipids, and protein content estimation to evaluate the biotechnological potential. The morphological and 23S rRNA sequence-based identification showed seven filamentous strains to be Cyanobacteria group, while three unicellular strains belonged to microalgae. All strains showed remarkable growth when cultured using modified MBG11 (synthetic wastewater) as growth media, at neutral pH (7.5-8.0), room temperature (25-30 °C) and low-light intensity (150 $\mu\text{mol m}^{-2}\text{s}^{-1}$), indicating their feasibility to treat wastewater. Among all strains, BERC-1 showed the maximum biomass production (dry mass basis) of 2.94 g L^{-1} , while other strains BERC-5, BERC-3, and BERC-4 produced 1.9 g L^{-1} , 1.724 g L^{-1} , and 1.58 g L^{-1} , respectively. Total lipids were extracted and trans-esterified into biodiesel (FAMEs) which were analyzed using GC-MS. The FAME analysis showed the suitability of lipids to produce biodiesel. Moreover, the BERC-5 and BERC-10 shown to produce 100-300 mg g^{-1} of high-value phycobilins synthesis, which is the highest reported yield so far. This work highlighted the importance of indigenous microalgae and cyanobacteria for biofuels and bioproducts.

Keywords: Microalgae; Photosynthetic fixation; Cyanobacteria; Biotechnological potential; Phycobilins synthesis



PROCEEDING Emerging Scientist 2021



Tropical Cyclone Tracking: A Case Study in South Arabian Sea

Presenter

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University of the Punjab,
Lahore

Jahanzeb Qureshi, Rimsha Sultan, Syed Amer Mahmood, Javed Sami and Amer Masood

Department of Space Science, University of the Punjab, Lahore, Pakistan



Type

Oral Presentation

Track

Life Sciences

Abstract

A tropical cyclone has significant research importance and has a substantial impact on the environment, agriculture in the region comprising of countries around the Arabian Sea. Researches have been conducted worldwide for a better and advanced understanding of tropical cyclones evolution. On average one or two tropical cyclones form over the Arabian Sea annually. Few of these cyclonic storms can be identified as super cyclonic storms or very severe due to their intensification. Researches have acknowledged the seasonal to internal changes in environmental surroundings which are linked with Arabian Sea tropical cyclogenesis. The study relates to the cyclone formation and its tracking its movement in the south Arabian Sea and attempt has been made to study the intensification and weakening of the cyclone through measurement of coverage of the cyclone area ranging from the west coast of southern India up to the east coast of the Yemen. Arabian Sea has an average sea surface temperature warm enough for the growth of tropical cyclones throughout the year. The intensification and development of cyclone is restricted by strong vertical wind shear and atmospheric monsoon circulation. The variation in the track and kink in it is connected with the presence of westerly waves (western disturbance in mid-latitude). The movement of the cyclone has been westward and northwestward. This is basically due to increase and decrease in the intensity of the easterly jet prevailing in the south Arabian Sea. In the current research, we have used Arc GIS (v.10.5) to calculate the areal coverage of the cyclone, its coordinates, track position, track length and finally the variability speed of the cyclone.

Keywords: Tropical cyclone; Arabian Sea; Latitude; Areal coverage; Speed of the cyclone



PROCEEDING Emerging Scientist 2021



Environmental Pollution and its Emerging Solution by Plantation

Presenter

Muhammad Kabir
University of Sargodha



Live DNA
92.27082

Type

Oral Presentation

Track

Life Sciences

Muhammad Kabir,¹ Um-e-Habiba,² Muhammad Zafar Iqbal,³ Muhammad Shafiq³ and Zia-Ur-Rehman Farooqi³

¹Department of Biological Sciences, University of Sargodha, Sub-Campus Bhakkar, Pakistan

²Department of Physics, Riphah International University, Faisalabad, Pakistan

³Department of Botany, University of Karachi, Karachi, Pakistan

Abstract

The presence or absence of any specific plant species in an area points out a specific level of environmental pollution which means the quality of life depends on the quality of the environment. It was assumed that environmental pollution also host specific plant indicators that can grow, survive and tolerate more successfully than others and can be helpful in better management of pollution. A clean environment produces favorable conditions for the existence, growth, and development of living organisms. All organisms are affected directly or indirectly due to environmental pollution. It is due to rapid increases in the human population, rapid industrialization, and vehicular emission. Environmental pollution, especially by the industrial revolution in urban areas, is a major problem facing the world today and there is an increasing awareness of the fact that a clean environment is necessary for better health of living organisms. It is our topmost priority to keep our country clean and green as cleanliness is a part of our faith. Primary sources of environmental pollution are increasing by anthropogenic activities which are continuously adding different types of pollutants into the environment. Different types of industries discharged their toxic wastes in the environment which are polluting the soil which acts as the basic medium for plant growth. So, this environmental pollution by different anthropogenic activities including industries is causing a great threat to plants, humans as well as animals. As every problem has a solution, because the problem is always man-made (Anthropogenic), so man needs to find the solution because nothing is immortal, unchangeable and pure in this universe except God. In recent advances, there is a need to develop green spaces within and around the polluted areas for the existence of better environmental conditions. As some plants can act as pollution sink for different pollutants, acting as natural lungs of the environment. If haphazard population growth and construction of new industrial structures go on without realizing the importance of trees in the environment then probably there would be more destructive changes for living organisms in the near future. So, a humble request to all humanity is to adopt the 'green revolution which is the best solution to arrest the pollution.

Key Words: Anthropogenic activities; Environmental pollution; Green revolution; Industrial revolution; Plantation



PROCEEDING Emerging Scientist 2021



Algae: A Source of Pigments of Commercial Importance

Presenter

Neelma Munir
Lahore College for
Women University,
Lahore

 **Live DNA**
92.32134

Type

Oral Presentation

Track

Life Sciences

Neelma Munir and Shagufta Naz

Department of Biotechnology, Lahore College for Women University, Lahore, Pakistan

Abstract

Algae is a rich source of pigments such as chlorophyll, phycobiliproteins and carotenoids. The algal pigments have great commercial value in the food, cosmetics, and pharmaceutical industry. This study is based on the effect of ultraviolet radiations and sodium azide and hydrogen peroxide on pigments of *Oscillatoria* sp. and *Ulothrix* sp. Algal strains were cultivated with different concentrations of mutagens, pigments were extracted and quantified by spectrophotometric analysis. It was observed that algae can be utilized as a potential source of pigments.

Keywords: Algae; UV radiations; Mutagens; Pigments; Commercial importance



PROCEEDING Emerging Scientist 2021



Role of D316N Mutation in the Functioning of APPL/Reptin/ β -catenin/HDAC1 Quaternary Complex

Presenter

Sajid Rashid
Quaid-i-Azam University,
Islamabad

Sajid Rashid

National Center for Bioinformatics, Quaid-i-Azam University, Islamabad, Pakistan

 **Live DNA**
92.11370

Type

Oral Presentation

Track

Life Sciences

Abstract

Reptin functions in a wide range of biological processes including DNA replication, DNA repair and transcription by acting as a repressor protein. Reptin-mediated repression is relieved by a direct interaction with APPL proteins, which are effectors of small GTPase Rab5 (a key regulator of early endocytosis). We have reported the effect of a novel point mutation D316N lying at APPL1-PH domain on WNT signaling. Our results corroborated a reduced binding of APPL- PH^{D316N} with Reptin as compared to control. Moreover, N-terminus of APPL1 protein is directly associated with β -catenin and blocking of APPL1 N-terminus by myc-tag together with D316N mutation exerted a negative role in this binding. To evaluate further, 3D structure of Reptin was predicted to determine its binding pattern with PH^{WT} and PH^{D316N} using computational approaches. These data expanded our previous findings by indicating a less number of hydrogen bonds as well as fewer residues involved in the interaction of Reptin and APPL-PH^{D316N}. Moreover, overexpression of APPL1-PH^{D316N} was found to be less efficient in stimulating the TCF/ β -catenin dependent reporter activity, while myc-APPL1-PH^{D316N} overexpression resulted in almost no change in the reporter activity. Together, this knowledge could be useful in understanding the distinctive roles of APPL- β -catenin-Reptin-HDACs quaternary complex in target gene regulation and transcriptional mechanisms. Due to common contributions of Reptin, β -catenin and APPL proteins in carcinogenesis, targeting of Reptin and β -catenin binding to APPL proteins due to D316N mutation may provide a novel clue for cancer treatment.

Keywords: Reptin; WNT; Modeling; MD simulation



PROCEEDING Emerging Scientist 2021



Metabolomics of Endophytic Fungi for Novel Bioactive Compounds

Presenter

Safia Ahmed
Quaid-i-Azam University,
Islamabad

Safia Ahmed, Muniba Jadoon, Abdul Haleem, Qurban Ali, Muhammad Irfan and Sajid Ali

Department of Microbiology, Quaid-i-Azam University, Islamabad, Pakistan

 **Live DNA**
92.32222

Type

Oral Presentation

Track

Life Sciences

Abstract

Continuous emergence of resistance against life-threatening diseases like cancer, HIV, and hepatitis has called for the exploration of novel natural sources to discover new chemical entities with improved biological activities. In the quest towards the discovery of novel drugs with a unique and targeted mode of action, endophytes have emerged as a matchless source of high metabolic versatility. These eclectic organisms bridge the chemical gap between plants and microorganisms and have attracted increased attention in the pursuit of compounds of pharmacological importance. Endophytic fungi isolated from the leaves and woody parts of Taxus plant collected from the Northern area of Pakistan were studied for such novel drugs. The metabolic profiling of endophytic fungi was investigated, followed by bioactivity and metabolomics guided compound isolation from the selected endophytic fungus. Antibacterial, antifungal, antiviral, antileishmanial, anti-trypanosomal, anti-mycobacterium antioxidant, cytotoxic and cancer chemopreventive activities of the extracts and purified compounds were investigated. The biological screening was followed by dereplication studies and metabolomics profiling of the extracts using tools of metabolomics, to fast track the selection process by investigating differences in the chemical profile of the fungal extracts. Liquid Chromatography-High Resolution Mass Spectrometry (LC-HRMS) and Nuclear Magnetic Resonance (NMR) spectroscopy were performed. This led to the detection of several important known bioactive metabolites, along with unknown moieties, in the crude extracts. Some of these novel compounds have been characterized. These findings demonstrated the feasibility and efficacy of metabolomics tools to prioritize chemically unique strains from microbial collections and highlight the potential of the endophytic fungi as a rich source of bioactive compounds.

Keywords: Cancer; HIV; Hepatitis; Taxus Plant; Metabolomics tools; Endophytic fungi



PROCEEDING Emerging Scientist 2021



Antibiotic Resistance and Herbal Chemotherapeutic Potentials

Presenter

Rukhsar Javed
Hamdard University,
Karachi

Rukhsar Javed, S. Tajalli Zehra Rizvi, Syed Zahoor ul Hassan Zaidi and Leena Hameed Afridi

Faculty of Eastern Medicine, Hamdard University Karachi, Karachi, Pakistan



Type

Poster Presentation

Track

Life Sciences

Abstract

The antibiotic era started in 1940s and changed the profile of infectious diseases. Resistance can appear spontaneously because of random medication. The development and spread of antibiotic resistance is a serious growing phenomenon in contemporary medicine and has emerged as one of the pre-eminent public health concerns in 21st century. There is an urgent need for novel compounds that can supplement the current collection of antibiotics and that nature is still providing a rich source of antimicrobial substances, which can either be used as such or as scaffolds for novel drug development. Medicinal plants have played a very important role in the rejuvenation of worse situation created by the infection of microorganisms. According to estimation, more than two-thirds of the world's population relies on plant-derived drugs. The purpose of our research work is to study and classify the herbal drugs with respect to their temperament, mechanism of action, adverse effects, drug resistance, contraindication and anti-microbial spectrum. No such evidence-based classification of herbal medicine has been done before so such approach will benefit the medical community and pharmaceutical industries for easy understanding of the herbal antibiotics. The outcome of our research work is a reference guide for physicians to use in their routine clinical practices for treating and preventing infectious diseases.

Keywords: Herbal; Chemotherapeutic potentials; Antibiotic resistance; Anti-microbial spectrum



PROCEEDING Emerging Scientist 2021



Aquaponic Kitchen Garden

Presenter

Iqbal zehri
Hamdard University,
Karachi



Live DNA

Type

Poster Presentation

Track

Life Sciences

Iqbal Zehri, Amjad Ismail and Syma Ghayas

Faculty of Eastern Medicine, Hamdard University, Karachi, Pakistan

Abstract

The requirements of nutrients and minerals become increased during pregnancy and lactation. Spinach is one of the most nutritious leafy vegetables. It was recorded that 100g of spinach contains two-third of its daily requirement of vitamin A. virtually it can fulfill daily need of folic acid, iron, magnesium, and Vit. B complex which is very crucial for human health. The spinach available from the local market contains mercury and lead which is toxic for health. Study shows that trace amount of pesticides detected in mother milk who were consuming spinach available in the markets, so our aim is to develop aquaponic garden in which grew spinach and fishes could be together, therefore, the pregnant female and lactating mother fulfill their needs of spinach from their own kitchen garden as well as it will be beneficial for whole family health and also reduces the economic burden.

Keywords: Kitchen garden; Spinach; Vitamin A; Folic Acid; Iron; Magnesium



PROCEEDING Emerging Scientist 2021



Induced Mutations and Molecular Approaches for Improving Wheat Plant Architecture and Grain Quality Traits

Presenter

Sajida Bibi
NIAB, Faisalabad



Type

Poster Presentation

Track

Life Sciences

Sajida Bibi,¹ Muhammad Umar Dahot,² Rubina Arshad¹ and Muhammad Ashraf¹

¹Plant Breeding and Genetics Division, Nuclear Institute for Agriculture and Biology (NIAB), Jhang Road, Faisalabad, Pakistan

²Institute of Biotechnology and Genetic Engineering, University of Sindh, Jamshoro, Pakistan

Abstract

Wheat is the most important cereal crop of Pakistan which contributes 10% to the value-added in agriculture and 2% to GDP. The objective of this study was to broaden the genetic variation of spring common wheat, evaluate and identify promising mutant lines with higher yield and improved grain/nutritional quality characteristics. Genetic variability was induced in three wheat varieties Sarsabz, Kiran-95 and TD1 for the development of new ideotypes by gamma rays, EMS and their combined treatment. The immediate effects of different mutagenic agents were estimated on the basis of physiological damage at the seedling stage. The germination percentage for gamma rays, EMS and combined treatment ranged from 42-100%, 34-100%, and 12-99%, respectively. A large number of mutants possessing different vegetative and yield attributing characters in different mutagenized populations were observed in M2 generation. A total of 510 mutants were isolated from M2 generation for altered phenotypes in the field which showed different behavior from germination to maturity. Significant variations in plant height, tiller number, growth habit, and spike features were also observed. From M3 generation, 30 promising mutants were selected on the basis of phenotypic variations. These mutants were confirmed in M4 generation and further characterized for quality traits through PINaD1, PINbD1, and waxy gene. As the physical trait grain texture affects the milling and marketing of bread wheat, the mutants were characterized based on their hardness. Among the 30 mutants, the grain texture of 14 mutants was categorized as soft, 15 as hard and only one mutant was classified as ultra-hard. One of the main components of wheat quality is starch. Starch is composed of amylopectin and one or two genes mutated the relative amount of amylopectin in starch increases as compared to amylase. The wheat mutants and parents amplified by the waxy gene showed five types of a waxy phenotype (Type 1, 2, 3, 5 and 8). Among these, five mutants were non-waxy, three mutants were waxy and 19 mutants along with parents were partial waxy. In this paper, different aspects are discussed for the identification of improved phenotypes possessing valuable traits that could play a role in wheat breeding and also serving the process for identification of the functional basis of genes.

Keywords: Cereal crop; Genetic variation; Spring common wheat; Nutritional quality



PROCEEDING Emerging Scientist 2021



***In Vitro* and *In Vivo* Anti-*Helicobacter pylori* Activity of Aqueous Ethanolic Extracts of Traditional Medicinal Plants against Gastrointestinal Ailments**

Presenter

Rabia Zahid
Government College
University, Faisalabad



Live DNA

Type

Poster Presentation

Track

Life Sciences

**Rabia Zahid,¹ Hafiz Muhammad Asif,² Faizan Rashid,³ Rubina Kamran,⁴
Muhammad Akram,¹ Hamza Altaf,⁵ Ejaz Rafique⁶ and Faisal Rasheed³**

¹Department of Eastern Medicine, Government College University, Faisalabad, Pakistan

²Faculty of Pharmacy & Alternative Medicine, The Islamia University of Bahawalpur, Bahawalpur, Pakistan

³BreathMAT Laboratory, Nuclear Medicine, Oncology and Radiotherapy Institute, Islamabad, Pakistan

⁴Department of Pathology, Shaheed Zulfiqar Ali Bhutto Medical University, Islamabad, Pakistan

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⁶Institute of Molecular Biology and Biotechnology, Faculty of Sciences, The University of Lahore, Lahore, Pakistan

Abstract

To evaluate the *in vitro* and *in vivo* anti-*Helicobacter pylori* activity of *Mentha piperita* L., *Trachyspermum ammi* L., *Viola odorata* Linn., *Matricaria chamomilla* L. and *Foeniculum vulgare* Mill. *In vitro* evaluation was carried out by using disk diffusion method and Minimum Inhibitory Concentrations (MIC) while rat model was selected for *in vivo* activity against four *Helicobacter pylori* which were isolated from mucosa of gastric disease patients and a reference strain RS500. The plant extracts yielded clear zones of inhibition around each disk with variable diameters. *Mentha piperita* showed the largest zone of inhibition with a 9 mm diameter among all other extracts. All the plants showed confidential anti-*Helicobacter pylori* activity against four isolates and a reference strain at concentrations of 125, 250, 500 and 1000 µg/mL in comparison with Amoxicillin 1 µg/mL but least MIC was presented by *Mentha piperita* followed by vigorous *in vivo* testing where it competed Amoxicillin at 1000 mg/kg by achieving 80% eradication of *Helicobacter pylori* in mucosa of infected rats justified by histological examination of stomach. Medicinal plants possess strong anti-*Helicobacter pylori* activity and can be considered a potential source of safe and effective alternative regimens for the eradication of *Helicobacter pylori*.

Keywords: Anti-*Helicobacter pylori* activity; *Mentha piperita* L.; *Trachyspermum ammi* L.



PROCEEDING Emerging Scientist 2021



Antimicrobial Activity of Vit. C from the Leaves and Seeds Extract of *Allium ursinum* (Wild Garlic) for the Treatment Of UTI

Presenter

Hira Latif
Jinnah University for
Women, Karachi

Hira Latif

Department of Eastern Medicine, Rayaz College of Eastern Medicine, Jinnah University for Women, Karachi, Pakistan



Type

Poster Presentation

Track

Life Sciences

Abstract

For thousands of years, herbal products are playing an important role in treating human ailments. According to WHO 80% of world's population relies on natural medicines for curing and preventing diseases. The use of herbal antimicrobial/antibiotic products consists of medicinal plants become more popular due to antibiotic resistance of allopathic medicines. Urinary tract infection is the bacterial invasion of the urinary tract system such as gram-negative bacteria i.e. *E. coli*, klebisella, and gram-positive bacteria i.e. enterococcus, staphylococcus. About 150 million people suffer from UTI each year globally. It is most common in females than male due to the shorter distance of urethra. Wild garlic (*Allium ursinum* L.) is a wild plant belonging to the Amaryllidaceae family. It is distributed widely in Asia and Europe. Also known variously as bear's garlic have antimicrobial/ antibacterial activity. *Allium ursinum* L. has been used for centuries in traditional medicine. However, studies on its composition and pharmacological activity are fairly recent and scarce. The aim of the study is to treat UTI by using leaves and seeds extract of *Allium ursinum* which is highly rich in Vit C and has antimicrobial activity. The effect of varying concentrations of Vit C on bacterial growth was studied on uropathogenic bacterias. The method are used for *Allium ursinum's* leaves and seeds extract are decoction, infusion, tincture, juice, syrup Vit. C present in leaves (750mg%) & in seed (100mg%). Vit C has the ability to inhibit bacterial growth and may find potential use in topical as well as enteral antimicrobial applications. So the wild garlic also known as Bear's garlic leaves and seeds extract are used to inhibit the growth of bacteria and treat UTI complications. Allicin, another active compound of *Allium ursinum* shows antibiotic activity against gram-positive/gram-negative microorganisms. Urinary Tract Infections (UTIs) are some of the most common bacterial infections, affecting 150 million people each year worldwide. Our study suggests that high intake of ascorbic acid (Vit C) which is richly present in wild garlic leaves and seeds tends to increase the acidity of urine which is not well tolerated by the bacteria responsible for UTI. There is need to further explore the possibility of using Vit C safely as an effective antimicrobial agent.

Keywords: Wild garlic; Antimicrobial; Uropathogenic; Urinary Tract Infection; Ascorbic acid; Antioxidant; Allicin; Bear's garlic



PROCEEDING Emerging Scientist 2021



Prevalence of Hyperuricemia and Ethnobotanical Survey of Medicinal Plants Used to Treat Gouty Arthritis in Rawalakot, Azad Kashmir

Presenter

Hina Anwar
Government College
University, Faisalabad



Live DNA

Type

Poster Presentation

Track

Life Sciences

Hina Anwar¹, Madeeha Anwar², Muhammad Akram¹ and Amir Aftab³

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Abstract

The prevalence of hyperuricemia is exclusive in disparate populace global and it has seemed to be multiplied in the beyond a long time. Recent studies have recommended that hyperuricemia is an independent risk thing for cardiovascular issues. There is a relative loss of prevalence data of hyperuricemic patients in Azad Jammu and Kashmir and the surveillance of medicinal plants used on this gouty arthritis. Therefore, a reviewing study was conducted to assess the prevalence of hyperuricemia in Rawalakot, Azad Kashmir. The data of the previous 3 years were retrieved from Eastern Medicine teaching Clinic, University of Poonch, Central military hospital (CMH) Rawalakot and Ali Imran hospital Rawalakot. The number of patients investigated for serum uric acid was 189, out of which 33 patients were found with hyperuricemia. The prevalence of hyperuricemia was 17.4% among patients with a complaint of joint pain. The percentage of hyperuricemia in male and female was 20 and 13 respectively. Thus, the prevalence of hyperuricemia in males and females was 10.5% and 6.87%, respectively. An ethnobotanical survey was also part of this study to explore traditional medicinal knowledge of gouty arthritis treating plants in Rawalakot, Azad Kashmir. These plants were evaluated and identified by the local elder peoples and traditional healers. Thirteen medicinal plants belonging to 11 families were identified as their use in gouty arthritis.

Keywords: Traditional; Uric acid; Srvey; Traditional healers



PROCEEDING Emerging Scientist 2021



Isolation and Analysis of Amoxicillin Resistant Bacteria from Drinking Water Samples

Presenter

Fariha Sattar
University of Agriculture,
Faisalabad

Fariha Sattar, Ghulam Mustafa and Irfan Ali

Center of Agricultural Biochemistry and Biotechnology, University of Agriculture,
Faisalabad, Pakistan



Live DNA
92.29363

Type

Poster Presentation

Track

Life Sciences

Abstract

Antimicrobials have the capability to threaten human beings at any stage of life due to the resistance of infectious microbes and that infection caused by antibiotic-resistant bacteria is difficult to treat. Having this point, the present study aimed to identify the antimicrobial resistance against antibiotic amoxicillin of two different brands (gsk and cspc) to identify which brand is more sensitive to bacterial survival. The different drinking water sample was collected from a different area of Faisalabad, Pakistan. Analysis has been done by using various tests like TDS, *E. coli*, coliforms, etc. To check the bacterial resistance microbial plates augmented with amoxicillin of different concentration were grown. The highest concentration of 36µg/ml was recorded in this study. After performing molecular and biochemical analysis, different infectious microbial strains were identified showing 100% resistance against amoxicillin imposing serious health issues on human beings. It is concluded that among both brands gsk is much better as compared to cspc because the least resistant has been reported against gsk at different levels of concentrations.

Keywords: Amoxicillin; Streptococcus; Staphylococcus; Streptobacillus; Pollutants; Microbial resistance



PROCEEDING Emerging Scientist 2021



Comparison of Rotating Biological Contactor & Trickling Filter for the Treatment of Domestic Wastewater

Presenter

Muhammad Ali
NUST, Islamabad

Muhammad Ali, Rabie Ahmad Javaid, Mehtab Mehmood, Hammad Ali and Sher Jamal Khan

Institute of Environmental Sciences and Engineering (IESE), NUST, Islamabad, Pakistan



Live DNA

Type

Poster Presentation

Track

Life Sciences

Abstract

Pakistan is on the verge of water scarcity and out of the wastewater generated daily, only 8% is being treated in municipal treatment plants. According to UNICEF, poor sanitary conditions costs Pakistan 343.3 billion USD i.e. 3.94% of GDP. Objectives of the study included optimization of a semi-pilot scale Rotating Biological Contactor (RBC) against variable submergence levels and rotational speeds, establishment of a semi-pilot scale Trickling Filter (TF) and optimization of its variant flow rates as well as recirculation ratios and comparison of RBC as well as TF in terms of treatment efficiencies and economic considerations according to the cost-benefit analysis. RBC and TF are wastewater treatment technologies based on the biological degradation of the organic content present in wastewater. Pilot-scale RBC and TF are designed and fabricated according to the Metcalf and Eddy book, wastewater engineering. After doing extensive literature review, four variable submergence levels (40, 50, 60 & 70%) are employed in RBC whereas optimal rotational speed is also found by implying two different rotational shaft speeds of 5 and 2.5 rpm. Besides, performance of TF is analyzed by varying recirculation ratios of 0, 0.25 and 0.5 and flow rates of 60 and 50 L/day. Each treatment technology is operated using NUST real wastewater at same operational condition for two weeks to get stable readings. Five treatment performance parameters (COD, BOD, TKN, TP and TSS) are tested for each sample taken on daily basis which were used to compare RBC and TF. Detailed cost benefit analysis is also performed for 250 households considering 5 people per household. All the operational, maintenance, land, media and construction cost etc. are determined. Besides, benefit analysis of both technologies in terms of money is evaluated by incorporating the diseases indirect price saved due to treatment of wastewater, use of treated wastewater for cultivating cotton and struvite (fertilizer) production. Comparative analysis of both technologies in terms of treatment efficiency and the cost-benefit analysis was also done.

Keywords: Pilot-scale; Municipal treatment plants; Trickling Filter; Wastewater



PROCEEDING Emerging Scientist 2021



Ethnomedicinal Importance of Plants used by the Nomadics during Famine Conditions

Presenter

Rida Zainab
Government College
University, Faisalabad

Saeed Ahmad,¹ Rida Zainab,² Wafa Abbaass^{1,2} and Muhammad Akram²

¹Department of Pathology, Sargodha Medical College, University of Sargodha, Sargodha, Pakistan

²Department of Eastern Medicine, Government College University, Faisalabad, Pakistan



Type

Poster Presentation

Abstract

During famines or conditions of food inadequacy, people throughout the world depend on wild medicinal plants of nutritional value to slake their hunger and meet their food requirements. The nutritional food supplement that people eat during times of the insufficiency of their normal diet is also medicinal plants and thus can play a role in satisfying hunger. The aim of this study was to conduct an ethnobotanical survey of nomadic tribes of the Cholistan Desert. In this study, nutritionally important medicinal plants used as food on a regular basis or occasionally by the local people of the Cholistan Desert were recorded. The 11 nomadic tribes of Cholistan Desert were interviewed with the help of a semi-structured questionnaire and a guided field-walk method. Informed consent was obtained from nomadic people prior to being interviewed. The informants were interviewed about the traditional knowledge and the uses of medicinal plants. The obtained results were analyzed and compared to existing literature reporting the use of medicinal plants during the famine by the nomads. The uses of nutritionally important medicinal plants and their useful parts for specific needs have been documented such as *Acacia jacquemontii* B., *Acacia nilotica* L., and *Zizyphus nummularia*, etc. The informants mentioned the use of 18 medicinal plant species during the famine. This study highlights the significance of nutritionally important plants for nomadic communities in the Cholistan Desert. This indigenous population has particular information about nutritional these plants but also shares a lot of information with sedentary Pakistani populations as a whole. The present study indicates the existence of the ethnobotanical heritage of the local community of Cholistan Desert.

Track

Life Sciences

Keywords: Cholistan desert; Herbs; Famine food; Dwellers; Nomadic tribes

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04 Conference Track

Physical Science & Engineering

Page 01 - 12

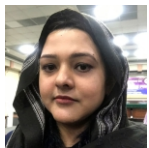
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University of Agriculture, Faisalabad



Dr. Afaq Ahmad
University of the Punjab, Lahore



Ms. Faiza Rasheed
University of Management and Technology, Lahore



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PROCEEDING Emerging Scientist 2021



DFT Based Electronic Properties of Organic Molecules on Copper Surfaces

Presenter

Ateeq ur Rehman
University of Agriculture,
Faisalabad



Ateeq-ur-Rehman,¹ M. Adnan Iqbal,² Shamsa Bibi,² Kashif Ismail³ and Amir Razaq⁴

¹Department of Physics, University of Agriculture, Faisalabad, Pakistan

²Department of Chemistry, University of Agriculture, Faisalabad, Pakistan

³Department of Physics, GC University, Faisalabad, Pakistan

⁴Department of Physics, COMSATS University, Lahore, Pakistan

Type

Distinguished Speaker

Track

Physical Science &
Engineering

Abstract

Lately, organic semiconducting phthalocyanine molecules have gained great attention due to their promising properties: 1) an excellent substitute for silicon in the industrialization of nanometer-sized electronic components; 2) a wide spectrum of applications like photovoltaic devices, photodynamic cancer therapy, and gas-sensing devices. The molecular geometry, electronic structure, the strength of adsorbate-substrate interaction, and transition processes are most relevant for these applications. This is the reason that the investigation of transition metal phthalocyanine molecules has become an important field in surface science. In order to tailor the molecules in the desired way for an optimized functionality in organic devices, it is of utmost importance to understand the phenomena occurring at the organic-metal interfaces. Keeping all this in view we decided to study electronic and structural properties of iron phthalocyanine (FePc) molecules deposited on coinage metal single crystal substrates. In this presentation, I will discuss the state-of-the-art density functional theory-based computational investigations of monolayer adsorption of FePc molecule on Cu(100) and Cu(110) electrode surfaces. The strength of the molecule-substrate interactions has been interpreted in terms of the lateral adsorption geometry and the site-specific electronic structure of the molecule. In the case of FePc on Cu(100), the benzopyrrole leg is found oriented to form an angle of 90° or 30° with respect to the [01-1] substrate direction. Further to this, an upward bend in the molecular plane ranging from 70° to 100° has also been observed; giving almost a buckled shape to the molecule. However, in the case of FePc on Cu(110), neither a swear bend nor a sizable rotation has been observed. From the structural and electronic properties, it has been concluded that FePc-Cu(100) interaction is relatively stronger than FePc-Cu(110) interaction; which is further evidenced by the charge transfer, work function changes, and changes in the shape of the adsorbed molecular orbitals and the orbital shifts. Furthermore, the density of states analysis showed that the valence band level shift is surface and site-dependent.

Keywords: Structural and electronic properties; Interfacial interaction; Single crystal substrates; Density Functional Theory; Charge transfer



PROCEEDING Emerging Scientist 2021



Electron Affinity for Hydrogen Negative Ion in Photodetachment Microscopy

Presenter

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 **Live DNA**
92.32159

Type

Oral Presentation

Track

Physical Science &
Engineering

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Abstract

Photodetachment Microscopy experiment was first carried out in the presence of an electric field by Blondel et al in 1996 for Bromine negative ion. It measures the spatial distribution of ejected electron on the detector screen which is a direct view of the spatial structure of the wave function of an atomic electron in the form of ring pattern. From a semi-classical point of view, this ring pattern is formed because of the interference between two electron waves; one is direct while other is reflected from an electric field. Following Blondel's photodetachment microscopy experiment, a formula that displays the Newton Rings is derived using a theoretical imaging technique or hydrogen negative ion near a plane interface. The interface means an elastic plane in the vicinity of the source of photoelectrons. The direct and reflected electron waves in this formula generate the quantum interference in the form of Newton Rings. It is found that the number of rings increases as we increase the photon energy of the laser light. This finding is in accordance with the very well-known Einstein photoelectric effect which finally provides help to find the electron affinity of the hydrogen negative ion very accurately.

Keywords: Photodetachment Microscopy; Electric field; Spatial distribution; Ejected electron; Photon energy



PROCEEDING Emerging Scientist 2021



Establishment, Command and Functional Assay of Artificial Elbow

Presenter

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Technology, Lahore

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Type

Oral Presentation

Track

Physical Science &
Engineering

Abstract

Pakistan is lacking in the domain of prosthetics albeit it has had been a victim to terrorism and frequent earthquakes for the past decade or so. Owing to which it is unlucky to receive an incessantly increasing figure of amputees. The lacking technical growth and evolution in this arena are causing ill-fated and afflicted amputees to be unsuccessful to obtain artificial limbs for themselves. This field demands immense work, meditation and perseverance for the relief of the damned Pakistani populace. This research offers afflicted to revamp their fiscal and individual self-sufficiency by using the bionic elbow joint. At the moment, many developed countries are performing awesome for imparting mobile and user-friendly contrived limbs to amputees but far-reaching research work is mandatory in Pakistan to create cost-effective and versatile artificial limbs. This research encompasses the subject of biomedical engineering and its pertinent techniques in detail with the help of tools like Proteus, Solidworks, Matlab. It explores mathematical techniques and artificial intelligence for the study of Electromyographic (EMG) signals; likewise Machine learning, fuzzy algorithms, Artificial Neural Networks (ANN), Dynamic Recurrent Neural Networks (DRNN).

Keywords: Artificial elbow; Bionic elbow; Electromyography (EMG) signal control; EMG controlled elbow; Human elbow movements



PROCEEDING Emerging Scientist 2021



Experimental Study of Polymeric Microspheres and Guar Gum as Chemical Additives to Recover the Residual Oil from the Reservoir

Presenter

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Type

Oral Presentation

Track

Physical Science &
Engineering

Abstract

Enhanced oil recovery is a technique that has been used to recover the remaining oil in reservoirs after primary and secondary recovery methods. Some reservoirs are very complex and require advanced EOR techniques containing new materials and additives in order to produce maximum oil in economic and environmentally friendly manners. Maximizing the recovery of crude oil has been a notable challenge that is resolved by injecting distinctive additives in reservoirs. In this experimental study two different types of chemical injections Polymeric microspheres and Guar hydroxypropyltrimonium chloride were accounted for the injection schemes and their results were compared to select the optimum injection additive and scheme to increase enhanced oil recovery. Interfacial Tension (IFT) tests were conducted for Polymeric microspheres and viscosity tests were conducted for Guar gum. Polymeric microspheres reduced sufficiently IFT and mobilized the residual oil from pore throats whereas, Guar gum has high viscosity but did not enhance oil recovery as remarkably as Polymeric microspheres. The experimental observations emphasized that using appropriate chemical additives can improve the chemical flooding for crude oil recovery.

Keywords: Guar gum; Polymeric microspheres; Enhanced oil recovery



PROCEEDING Emerging Scientist 2021



Physio-chemical Analysis and Delineation of Groundwater Quality in Cholistan Area, Bahawalpur, Pakistan

Presenter

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 **Live DNA**
92.26773

Type

Oral Presentation

Track

Physical Science &
Engineering

Abstract

The Cholistan Desert or Rohi covered an area of 16,000 km² adjoins the Thar Desert. Only one river named Hakra was run in this desert in the past, which was the main source of groundwater aquifer recharge. However, this river is dried since long ago and the groundwater aquifer has been depleted very badly. Geophysical survey was conducted in sparsely distributed locations in Tehsil HasilPur, District Bahawalpur to delineate freshwater and saline water boundaries in the subsurface. The acquired data was processed by using IP2Win software. The analysis reveal more than one aquifer system is present in the subsurface upto depth of investigation. However, in the southern side of Hasilpur aquifer is saturated with highly saline water with TDS > 2000 ppm whereas towards the Sutluj River, groundwater quality is better with low concentration of dissolved solids. Furthermore, groundwater samples, collected from existing handpumps, boreholes and tubewells, have been analyzed physio-chemically to check the pollutants. The samples taken from the southern and western part of the study area were found highly contaminated by arsenic, potassium, sodium and lead in some places. This water is very harmful for human and animal health as well as for agriculture. Precautionary measures should be taken to filter and clean up the groundwater for public health and safety.

Keywords: Cholistan desert; Groundwater; Public health; Hakra; Geophysical survey



PROCEEDING Emerging Scientist 2021



Ferric Doped Nano Lime @Polyester as Potential Solar Photocatalytic Membrane Reactor (PMR) for Treatment of Textile Effluent

Presenter

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Live DNA
92.32140

Type

Poster Presentation

Track

Physical Science &
Engineering

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Abstract

Heterogeneous photocatalysis is the simplest yet advanced technique for environmental purification. A novel photocatalyst, nano lime, with suitable bandgap possesses excessive surface area enabling efficient adsorbability. The generation of crystal defects in lime renders it an excellent solar photocatalyst on surface doping with Fe^{3+} lime enhancing its photocatalytic activity. Monomodel, discoid Fe^{3+} doped nanostructures have been adorned on @polyester fabric by low-temperature hydrothermal methods. The structural and microscopic characterization of adorned fabric and scrapped powder has been carried out by PXRD, EDX, SEM, AFM, TEM, STEM, HRTEM, SAED analysis. The hydrophilicity and surface charge were also investigated by contact angle and zeta potential. The functionalized fabric as a Photocatalytic Membrane Reactor (PMR) has been evaluated for its photocatalytic activity in solar range by determining the rate of photocatalytic degradation of RB 5 bis azo dye in a simulated textile effluent. The variable reaction parameters such as pH of the solution, the concentration of dye solution and supporting oxidant, time of exposure to simulated sunlight (D65) have been statistically optimized by applying Response Surface Methodology (RSM). The kinetics studies have also been carried out under optimized conditions. The extent of degradation of dye in textile waste has been evaluated by HPLC, FTIR and UV/vis spectroscopy on providing treatment with nano lime @polyester. It has been found that Fe^{3+} doping in nano lime at the ratio of 3 mmol of Fe^{3+} exhibited remarkable photocatalytic activity for the removal of toxic dye residues in textile effluents. The decrease in bandgap energy from 3.3-2.9 eV caused the enhancement in the harvesting of solar radiation. The solar photocatalytic degradation of RB5 was observed up to 81% for undoped lime @polyester and 96% for Fe^{3+} doped nano lime @polyester. The reusability of the PMR was also determined by the retention its efficiency for more than 20 batches. Evaluation of water quality parameters BOD, COD, and TOC before and after photocatalytic treatment revealed that the colorless treated textile effluent can be reused for irrigation and industrial operations.

Keywords: Photocatalysis; Nano lime; Crystal defects; Solar photocatalytic degradation; Lime @polyester



PROCEEDING Emerging Scientist 2021



Effect of Prewetting on Hydrophilicity and Photocatalytic Activity of Polyester and Carbon Fabric Functionalized with Nanocalcite

Presenter

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Type

Poster Presentation

Track

Physical Science &
Engineering

Abstract

The effect of the concentration of hydroxyl groups on hydrophilicity and photocatalytic activity of nano metal oxides is vital. In this study surface modification of nano-calcite grafted onto polyester and carbon fabric was investigated. As a treatment, acidic and basic prewetting was executed to increase surface-bound hydroxyl groups. The surface-modified nano calcite grown on polyester and carbon fabric has been characterized by XRD, FTIR, Zeta potential and contact angle measurement. The enhanced hydrophilicity and photocatalytic activity of surface-modified nano-calcite polyester and carbon fabric were examined by the water contact angle measurement. The water contact angle of untreated nano calcite polyester was 137.54°, while after the acidic and basic prewetting polyester fabric was 48.19°, 87.17° respectively. The water contact angle of untreated carbon fabric was 154.34° and acidic and basic prewetting carbon fabric was 135.30°, 137.81° respectively. Wickability of surface grown nano calcite on nano-calcite polyester and carbon fabrics of untreated and treated samples was measured with water by using vertical wicking tester based on DIN 53924 standard. Photocatalytic activity of untreated and surface modified nano calcite polyester was evaluated by photodegradation of insecticide imidacloprid. The reaction parameters were optimized by RSM Optimization of variable reaction parameters i.e, irradiation time, the concentration of oxidant and pH was done by using response surface methodology. It was suggested that hydrophilicity was gained through surface structural changes in nano calcite polyester due to the increase in the content of OH groups. The extent of degradation of imidacloprid in the wastewater sample was evaluated by UV-visible spectroscopy at 269.5 nm. Fourier transform infrared spectroscopy of wastewater showed the presence of -OH, -CN, -N=N functional groups. High-performance liquid chromatography was applied to investigate degradation and shift in the peak position of pesticides in wastewater. Maximum percentage degradation of imidacloprid wastewater containing insecticide imidacloprid treated by polyester and carbon fabric is 75.5% and 61.2%.

Keywords: Photocatalytic activity; Nano metal oxides; Nano calcite; Photodegradation; Insecticide



PROCEEDING Emerging Scientist 2021



Citrus Leaf Disease Detection using Joint Scale Local Binary Pattern

Presenter

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Live DNA
92.32122

Type

Poster Presentation

Track

Physical Science &
Engineering

Abstract

Plant diseases are known from early times of cultivation and are also considered as one of the major factors affecting crop growth and quantity. Such losses from plant diseases can have a substantial economic impact, causing a reduction in the income of farmers and higher prices for consumers. Today's agriculture demands regular use of high-tech technologies such as robots, moisture sensors, aerial surveillance and image processing. These technological shifts allow the farmer to be more profitable and more environmentally friendly. This paper investigates and presents the Joint Scale Local Binary Pattern (JS-LBP) algorithm for the detection of plant leaf disease based on image segmentation and texture analysis. The proposed method consists of two main phases, identification of disease lesion spot on citrus leaves and its classification. Leave images are pre-processed using top-hat filtering and two median filters, later these images are fed into the JS-LBP descriptor for feature extraction. The experiment shows that the proposed algorithm attains a 98.6% accuracy rate. The confusion matrix and ROC curve for different citrus diseases were also observed.

Keywords: Agriculture demands; Plant diseases; Joint Scale Local Binary Pattern



PROCEEDING Emerging Scientist 2021



Carried Baggage Detection and Classification Using Multi-Trend Binary Code Descriptor

Presenter

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 **Live DNA**
92.32121

Type

Poster Presentation

Track

Physical Science &
Engineering

Abstract

As the crime rate has been increased in the 21st century, the automatic video surveillance system has gained significant importance in computer vision researchers. As a new branch of the automatic video surveillance system, the potential objective of baggage detection is security and monitoring in public places. For such keen observation, the research proposed a detection algorithm for a human with or without carrying baggage. Ideally, this detection can be achieved by employing spatial information of the baggage with locus to the human body carrying it, and it deals with various texture patterns of baggage. To extract the features of different body parts like head, trunk and limbs, the descriptors (SHOG and MTBCD) are exhibited and then trained by the Support Vector Machine (SVM) classifier. The proposed approach has been widely assessed by using public datasets. The experimental results have discovered that the proposed approach is viable for various baggage detection and classification systems as compared to other alternative approaches.

Keywords: Carrying baggage detection and classification; Joint Scale Local Binary Pattern; Scalable histogram of oriented gradients; Support Vector Machine; Video surveillance



PROCEEDING Emerging Scientist 2021



Synthesis and Utilization of Biohybrid Composites for Removal of Synthetic Dyes

Presenter

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Type

Poster Presentation

Track

Physical Science &
Engineering

Abstract

Wastewater contamination is one of the most highlighted issues in environmental pollution. Industrial dyes create a great risk for humans as well as aquatic life. Therefore, this study was designed to remove the synthetic dye via using biohybrid composites. Rice Husk, Eucalyptus Bark, Mustard Stem, and Citrus are prominent agro-wastes for dye elimination but Mustard Stem considered as the appropriate biomass due to high biosorption capacity. Biohybrid composites MUS-ZnO-PANI (mustard zinc oxide polyaniline) and MUS-ZnO-PPy (mustard zinc oxide polypyrrole) were synthesized for dye exclusion via using adsorption method. Surface morphology, functional groups, active binding, and thermal stability observed via using FTIR and SEM technique. From this research, bio-sorbents showed maximum removal of AAR-5(Act acid red 5) dye at 2pH and the level of dosage was 0.05g/ 50mL. While the equilibrium achieved in 60-90 min with maximum absorption capacity. 35°C was a suitable temperature for dye exclusion. From this research, it was concluded that the MUS-ZnO-PPy composite considered as the best Biosorbent as compared to MUS-ZnO-PANI due to 100% dye removal. Elimination of the dye effluent from wastewater is important to keep the environment healthy. Investigations proved the adsorption method is an economical technology for the exclusion of dye from wastewater.

Keywords: Polyaniline; Polypyrrole; Aniline; Ferric Chloride; Zinc-oxide; Mustard; Effluents; Adsorption; Morphology; Dye elimination



PROCEEDING Emerging Scientist 2021



Solvent Extraction of Rhenium from Secondary Wastes

Presenter

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Live DNA

Type

Poster Presentation

Track

Physical Science &
Engineering

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Abstract

The selective recovery of rhenium from roasting dust and its subsequent stripping were investigated using the solvent extraction technique. In this study, tri-butyl phosphate as organic extractant (EXT) and metals bearing dust solution were used as the organic and aqueous feed, respectively. The extraction curve as a function of equilibrium pH depicted the maximum separation of rhenium at high acid concentration i.e., $pH_{eq(ext.)} = -0.3$. The variation of extractant concentration and $pH_{eq(ext.)}$ revealed the formation of $[HReO_4 \cdot 3EXT]$ adduct in the organic phase. A quantitative rhenium extraction of approximately $>99.6\%$ was observed while contacting the metal-bearing aqueous with 0.65 mol/L EXT . A study on thermodynamic parameters indicated the exothermic extraction process. The stripping of rhenium from loaded extractant as a function of pH yielded an efficient recovery of 99% at $pH_{eq(strip)} \geq 3.0$ which demonstrated the potential of present work.

Keywords: Rhenium; Roasting dust; Solvent extraction; Tri-butyl phosphate



PROCEEDING Emerging Scientist 2021



Recovery of Mineral Acid from Industrial Wastes

Presenter

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Muhsan
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Live DNA

Type

Poster Presentation

Track

Physical Science &
Engineering

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Abstract

Disposal of acidic effluents containing high chlorides and sulfates concentration is a serious problem for ecology, environment and human health. Therefore, the recovery of mineral acids with tri-butyl phosphate (EXT) has been investigated from the effluent streams in presence of metal (Na^+ , Ca^{2+} and Mg^{2+}) chlorides, sulfates and compared to the behavior exhibited by HCl and H_2SO_4 extraction in absence of metal chlorides and sulfates. The comparative study on parametric influence showed a higher acid removal in the presence of additional metal chlorides and sulfates in aqueous solution. The variation of EXT, chloride and sulphate ions concentration clearly demonstrated their influence on acid extraction and revealed the formation of $\text{EXT} \cdot \text{HCl}$, $\text{EXT} \cdot \text{H}_2\text{SO}_4$ adduct nearly at 1:1 ratio, yielding equilibrium constant ($\log K_{\text{ext}}$) values 0.428 and 0.316 in absence and presence of additional metal chlorides and sulfates respectively. The McCabe-Thiele plots indicated the requirement of four and two extraction-stages under counter-current flow for acid solutions in the absence and presence of metal chlorides and sulfates respectively at the same phase ratio of 0.8:1. The maximum loaded organics in both conditions of aqueous feed were subsequently stripped with water, recovering (>99%) hydrochloric acid and sulphuric acid can be reused. The acid removal from the effluent stream is a sustainable process to control the chlorides and sulfates discharge and limiting the consumption by its possible recovery and recycling.

Keywords: Acidic effluents; Ecological threats; Metal chlorides; Sulfates

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