

GSPHPM2022

Global Summit on Public Health and Preventive Medicine

May 26-28, 2022 Munich, Germany



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FOREWORD

Dear Colleagues,

It is a great pleasure to announce that The Scientistt will host the Global Summit on Public Health and Preventive Medicine (GSPHPM2022) will be held in Munich, Germany during May 26-28, 2022.

GSPHPM2022 aims to bring together the renowned researchers, scientists and scholars to exchange ideas, to present sophisticated research works and to discuss hot topics in the field and share their experiences on all aspects of Public Health and Preventive Medicine.

The GSPHPM2022 will be a 3 days event that means to gather the key players of the Public Health and Preventive Medicine community and related sectors. This event is launched with the aims to become an established event, attracting global participants, intent on sharing, exchanging and exploring new avenues of public health and preventive medicine-related scientific and commercial developments.

A wide-ranging scientific program consisting of plenary lectures, keynote lectures, Invited lectures, parallel sessions, as well as poster sessions for young scientists covering all topics in public health and preventive medicine will be scheduled. This conference provides a wonderful opportunity for you to enhance your knowledge about the newest interdisciplinary approaches in public health and preventive medicine.

Moreover, the conference offers a valuable platform to create new contacts in the field of public health and preventive medicine, by providing valuable networking time for you to meet great personnel in the field.

We look forward to seeing you at GSPHPM2022 in Munich, Germany.

COMMITTEES

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Plenary Forum
Day-1

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Laboratory Diagnosis of HIV among Outpatients: One Hospital's Perspective

Abstract

Acute HIV infection is highly infectious, not diagnosed by traditional tests. To reduce new HIV infection, CDC (Center of Disease Control) has officially published an updated test algorithm in 2014, to diagnose both acute and established HIV infections using a 4th generation ag/ab combo test, differentiation immunoassay and a nucleic acid test. If positive by the initial ag/ab combo test it is followed by a confirmatory Bio-Rad multispot immunoassay to confirm presence of HIV-1 and HIV-2 antibodies to detect established infections. If non-reactive or indeterminate by the differentiation immunoassay, specimens be assayed by a nucleic acid amplification test (NAAT) for resolution of this discrepancy to confirm acute infection. Objective of our study was to review effect of new CDC testing algorithm on HIV testing results in outpatient setting at Banner University Medical Center, Tucson, Arizona. We utilized laboratory information system queries to retroactively review all outpatient HIV laboratory testing results obtained from 2013 to 2017. A total of 17,397 HIV-1/2 ag/ab combo assays were performed during this period. Of the initial ag/ab combo assays, 1.1% specimens were reactive (n=183). Among these individuals 151 (83%) were tested positive by differentiation immunoassay confirming established infections, with 2% indeterminate (n=4), and 15% non-reactive (n=28). Within these nonreactive specimens, acute HIV-1 infections (ag/ab combo reactive, differentiation immunoassay non-reactive or indeterminate, and NAAT positive) accounted for 2.7% of patients (n=5). No HIV-2 infections were identified. In conclusion, new test algorithm can detect acute infections and reliably diagnose established infections earlier than traditional methods with potential to reduce spread of HIV by linkage to care.

Acknowledgement

This work was partially funded by a HIV screening grant from CDC (Center of Disease Control), USA.

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The spatial variance of chemical composition of particulate matter (PM) in selected cities around the globe and the associated oxidative potential

Abstract

Particulate Matter (PM) is one of the main ambient sources of adverse health risks in humans and it is typically emitted from wide range of pollutant sources. To identify the impact of different emission sources and local meteorological conditions on the chemical composition of particulate matter and the associated oxidative potential, we collected six sets of PM samples in five cities across the globe, including Los Angeles, Milan, Athens, Beirut, Riyadh. The PM_{2.5} in the Athens and Milan were dominated by secondary aerosol formation and biomass burning, respectively while the fine particles in central LA and Beirut were both impacted by traffic emissions. The PM₁₀ in Riyadh were collected during two periods, which were largely affected by refinery for non-dust period and dust particles for the dust-event period. The collected PM samples were then analyzed for the content of elemental and organic carbon, trace metals and elements, polycyclic aromatic hydrocarbons (PAHs), and inorganic ions (e.g., nitrate, sulfate, and ammonium). The corresponding oxidative potential in each city was also determined by employing the dithiothreitol (DTT) assays. The results revealed that the Athens exhibited the highest level of SO₄ and water-soluble organic carbon (WSOC) while significant levels of WSOC and OC were also observed in Milan. The greatest levels of crustal elements (i.e., Ca, Al, Fe, Ti) were observed in Riyadh, particularly during the dust events. The PM-associated dithiothreitol (DTT) activity levels were mostly correlated with the WSOC content of samples where the highest PM intrinsic redox activity was observed in cities of Milan and Athens.

Keywords

Oxidative potential, DTT assay, biomass burning, traffic emissions, secondary organic aerosols (SOA), transient metals

Biography

Dr. Constantinos Sioutas, Sc.D., is the first holder of the Fred Champion Professorship in Civil and Environmental Engineering at the University of Southern California (USC), starting in 2006, and the director of the USC Aerosol Laboratory at the department of Civil and Environmental Engineering.

During his 27-year faculty career, Dr. Sioutas has directed over 70 extramural and highly multi-disciplinary research grants exceeding \$50 million in total, with his share at USC at \$24 million. He has authored over 390 peer-reviewed journal publications and five book chapters and holds thirteen U.S. patents in the development of instrumentation for aerosol measurement and emissions control. His published work has received over 37,000 citations according to the ISI Web of Science. He has advised twenty-six Ph.D. students and has mentored twenty-three postdoctoral fellows at USC.

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Results from his publications have been used by the U.S. Environmental Protection Agency (EPA) in their National Air Quality Criteria document in promulgating stricter and more protective air quality standards in the U.S. as well as by the state of California in the promulgation of Senate Bill 25 for protecting the health of children.



Keynote Forum

Day-1

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COVID-19: Factors Associated with Psychological Distress, Fear, and Coping Strategies among Community Members Across 17 Countries

Abstract

Background: The current pandemic of COVID-19 impacted the psychological wellbeing of populations globally.

Objectives: We aimed to examine the extent and identify factors associated with psychological distress, fear of COVID-19 and coping.

Methods: We conducted a cross-sectional study across 17 countries during Jun-2020 to Jan-2021. Levels of psychological distress (Kessler Psychological Distress Scale), fear of COVID-19 (Fear of COVID-19 Scale), and coping (Brief Resilient Coping Scale) were assessed.

Results: A total of 8,559 people participated; mean age (\pm SD) was 33(\pm 13) years, 64% were females and 40% self-identified as frontline workers. More than two-thirds (69%) experienced moderate-to-very high levels of psychological distress, which was 46% in Thailand and 91% in Egypt. A quarter (24%) had high levels of fear of COVID-19, which was as low as 9% in Libya and as high as 38% in Bangladesh. More than half (57%) exhibited medium to high resilient coping; the lowest prevalence (3%) was reported in Australia and the highest (72%) in Syria. Being female (AOR 1.31 [95% CIs 1.09-1.57]), perceived distress due to change of employment status (1.56 [1.29-1.90]), comorbidity with mental health conditions (3.02 [1.20-7.60]) were associated with higher levels of psychological distress and fear. Doctors had higher psychological distress (1.43 [1.04-1.97]), but low levels of fear of COVID-19 (0.55 [0.41-0.76]); nurses had medium to high resilient coping (1.30 [1.03-1.65]).

Conclusions: The extent of psychological distress, fear of COVID-19 and coping varied by country; however, we identified few higher risk groups who were more vulnerable than others. There is an urgent need to prioritize health and well-being of those people through well-designed intervention that may need to be tailored to meet country specific requirements.

Keywords: COVID-19, coronavirus, mental health, psychological distress, fear, coping, resilience

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Exploring mental health and psychosocial wellbeing of recovered individuals with COVID-19: A phenomenological approach

Abstract

Background: Healthcare services are primarily focusing on medical and physical treatment of COVID-19 while psychosocial and mental health needs are not considered a priority.

Aims: The purpose of this study was to explore how recovered individuals with COVID-19 adapted to their psychological and social stressors during infection period.

Method: A descriptive phenomenological approach conducted using a purposeful sample of 13 individuals recovered from COVID-19 in Jordan. Data collected using unstructured interviews.

Results: Perception of being diagnosed with COVID-19 revealed to three major themes; positive learning (acceptance, avoiding social pressure, and normalizing), tolerating ambiguity (denial and seeking information and guidance), and resilience (caring family, healthcare professionals' support, self-grieving, optimism, and positive thinking).

Conclusions: The study indicates that there is a need to integrate psychosocial and mental health care services into healthcare plans provided to individuals with COVID-19

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Keywords

COVID-19; Descriptive Phenomenology; Mental Health; Psychosocial wellbeing.

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Invited Forum

Day-1

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Drug-Related Problems in Older Adults of the Inner Centre Region of Portugal

Abstract

Introduction: Age-related comorbidities predispose older adults to consume more drugs, increasing the risk of drug-related problems (DRPs). DRPs are often associated with poor therapy outcomes, adverse drug reactions, increased hospitalizations, and death. Portugal is one of the most aged countries in the world and the inner center region is the second most aged region of Portugal.

Objectives: This work aims to identify drug-related problems in Portuguese older adults to facilitate the development of new strategies to improve medication use by all healthcare stakeholders.

Methods: This work was developed in two phases: First, a systematic review of the literature was done to identify older adults' DRPs- associated causes and problems; After that, a qualitative study in the form of a focus group has to explore the perceptions and beliefs of older patients' and health professionals (HPs) about DRPs; finally, a questionnaire was applied to older patients in order to characterize the medication consumption profile and explore the relationship of older adults perception and beliefs of medicines. Second, we used the EU PIM list(7) to identify the DRPs associated with drug selection in nursing homes and in-patient settings.

Results: Patient-related problems and drug selection account for more than 60% of all DRPs identified in older adults. Although the high number of patient-related problems, older adults recognize the importance of medicines for ensuring healthy ageing. Owing to a lack of literacy, they frequently commit medication mistakes and compromise their health outcomes. Portuguese General practitioners feel overwhelmed and without time to revise the therapeutic of their patients. Regarding potential drug-selection problems, it was observed that more than 80% of both, inpatient and nursing home patients used at least one PIM. In hospitalized patients, the most consumed

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PIMs were metoclopramide, haloperidol, and bisacodyl consumed by 31.2, 23.2, and 17.9% of our sample, respectively, representing a total of 38.9% of the PIMs identified. In nursing homes, patients' proton pump inhibitors (57.6%) and anxiolytics (45.71%) were the most used PIM.

Conclusion: Promoting health literacy and, empowerment of older adults, as well as strengthening the relationship between health professionals and patients, is crucial when it comes to addressing drug-related problems and improving health outcomes. The high prevalence of DRPs associated with drug selection highlights the need for the implementation of guidelines to prevent PIM prescriptions.

Funding: This work was financially supported by the projects MedElderly [SAICT-POL/23585/2016], co-funded by Portuguese Foundation for Science and Technology (Fundação para a Ciência e Tecnologia—FCT/MCTES), Portugal 2020 and Centro 2020 and FEDER grants (CENTRO-01-0145-FEDER-023585), and APIMedOlder (PTDC/MED-FAR/31598/2017), funded by FEDER, through COMPETE2020—Programa Operacional Competitividade e Internacionalização (POCI-01-0145-FEDER-031598) and by national funds (OE), through FCT/MCTES.

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Health Literacy as a Powerful Tool to Improve Population Health

Abstract

Health literacy is one of the most important health determinants at the global level. Health determinants include social, physical, economic environment, health care, behavior factors and personal features of the individual [1]. Health literacy is closely linked to literacy and entails the knowledge, motivation and competency to access, understand, appraise and apply information to form judgment and make decisions concerning healthcare, disease prevention, and health promotion to promote and maintain quality of life during the life course [2]. Quantifying health literacy studies is an important issue in recognizing the activity done throughout European and Asian countries. In the framework of the international project Health Literacy Survey Asia (HLS-Asia) we have conducted research using the European Health Literacy Questionnaire (HLS-EU-Q) in order to study indicators of health literacy of the population of the Republic of Kazakhstan [3]. The purpose of the study was to measure health literacy and to create an overview of its status in Kazakhstan. The objectives are to present the results of a health literacy survey in different regions of the country in order to explore core issues and their implications for healthcare in the future. A cross sectional population-based survey was administered face to face. Multistage stratified random sampling was used in five regions in Kazakhstan; participants were invited in each city and county to take part in the survey at universities, communities, and workplaces. The Health Literacy study in Kazakhstan was based on the conceptual model of the European Health Literacy Consortium, which identifies four competences related to managing health information in three domains (health care, disease prevention, and health promotion). Multiple regression analyses showed association between personal, social demographics and health literacy. The mean general health literacy (GHL) index of the population in Kazakhstan was 30.24 on a scale of 50. The level of health literacy is preconditioned by many factors connected with development of social component of the society that requires strengthening of intersectoral approach in public healthcare. Examining the results of the study in the context of existing Kazakh data on indicators of health literacy, health behaviors and health outcomes establishes a foundation for further research in this area, and it will contribute further development of public health and education policies [4, 5]. Another survey was conducted in Kazakhstan to assess the level of digital health literacy in relation to COVID-19 among university students. In general, the study results showed that the students who participated in the survey easily navigate digital information about COVID-19, and finding information is not difficult for them, while the most difficult is to assess the reliability of the information. In this regard, to prevent the risks of COVID-19 among students, proactive communication is proposed to develop critical thinking, in order to counter disinformation and identify reliable sources of information in the digital environment. Further large-scale research is needed to provide representative data and develop measures to improve students' health literacy at a time of risk of spreading infectious diseases, in particular COVID-19.

Keywords

determinants of health, health literacy, digital literacy, population health, health policy

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Biography

Professor Altyn Aringazina, PhD, ScD, MD is Academic Professor at the International School of Medicine, Caspian University in Almaty, Kazakhstan. She has been involved in WHO health promotion endeavours since 2005. Dr. Altyn Aringazina was elected as a member of the WHO Expert Advisory Panel on Health Promotion for 2009-2013. In this capacity she has actively participated in a number of WHO activities in the European Region and globally. Dr. Altyn Aringazina has also worked productively as a globally elected member of the IUHPE Board of Trustees; she is a member of the European Regional Committees since 2019. Altyn Aringazina has led several studies of health promotion capacity in Kazakhstan and Central Asia, and has been an instrumental force in designing elements of the current health care system and public health infrastructure. Altyn Aringazina conducted postdoctoral research as a Fulbright Scholar at Columbia University in the City of New York.

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Needlestick and Sharps Injuries among Secondary and Tertiary Healthcare Workers, Saudi Arabia

Abstract

Aim

The study aimed to assess the incidence of needlestick and sharps injuries among healthcare workers in the Jazan region of Saudi Arabia, as well as to determine whether there exists an association between hospital level and needlestick and sharps injuries rate.

Design

A cross-sectional survey was conducted among 609 randomly selected healthcare workers from nine general hospitals.

Methods

A self-administered questionnaire, which covered the structure and process of injection safety, was used for data collection.

Results

The overall needlestick and sharps injuries incidence rate was 24%. The needlestick and sharps injuries rates were 30% and 14% in secondary and tertiary hospitals, respectively. Healthcare workers working in tertiary hospitals were 61% less likely to have needlestick and sharps injuries than those employed in secondary hospitals. This was mainly the impact of better and continuous training. High safety level maintenance and health education provision is vital in such settings.

Keywords

Needlestick injury; Environmental health; Occupational Health; Tertiary Hospital; Secondary Hospital; Saudi Arabia; Healthcare Worker.

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Biography

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Queen Archetype in Nursing: Representation and Ideological Construction

Abstract

The aim of this study is to analyse the manifestation and essence of the Nursing Queen Archetype and its representation in society through printed media. Together with the mental models of individuals, social representations are part of the cognitive interface of social structure, group membership and discourse[1]. Social representations are created through communication and collaboration. They are social constructs that emerge and are preserved in a specific cultural and historical context[2].

Method. In the present study, the era, events, and participants in them are constructed on a mental level using primary historical sources as well as secondary sources, and the story is interpreted accordingly.

Results. The media creates heroes and idols and represents them over time and change. The Nursing Queen archetype can be used to understand different nursing cultures in different periods of historical and social development[3]. The archetype is first traceable to Florence Nightingale (1820–1910). Living and working in Victorian England, she influenced the whole of Europe. Estonia, as a small post-socialist country in Europe with its complex and controversial history, is an intriguing place to watch the emergence and development of the Nursing Queen Archetype. The Queens in Nursing (for example the Estonian nurses Anna Erma, Anette Massov, Ilve-Teisi Rimmel) stood out at times of rapid and profound changes. During the Soviet occupation (1940–1991), nursing came under ideological pressure and the nurses were portrayed as soldiers carrying weapons or as heroes fighting for the health and well-being of the people of the Soviet state. They were depicted as such on posters, mural decorations, billboards, and in the press.

Conclusion. During their changes, societies create the need for symbolic figures, strong personalities, whose behavior is exemplified and whose activities become archetypal. The awakening of new potential leaders in nursing, health care and related areas of society is relevant and very possible in the current context of a pandemic, when we, as a society are facing a situation we have never been to before. Does today's society need new Nursing Queens?

Keywords

Nursing Culture, Queen Archetype, Social Representation, Soviet Nursing

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Biography

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The Coronavirus Pandemic In A University Hospital Of Northern Italy: Lights and Shadows (Projects, Ideas, Innovations, Organizational Models and Negative Impacts)

Abstract

The Ward of Hygiene with the Hospital Pandemic Crisis Taskforce coordinated and managed hygiene and safety Plans. The first document was issued in Genuary 2020, using the results of the Project “Lean HealthCare Management COW – Cona Without Sepsis”, ended in December 2019. This made possible to quickly re-organize emergency, areas and paths to separate management of suspected/confirmed COVID-19 patients and to define in a agile way rules of hygiene and safety for patients, visitors, workforce. The Taskforce supported overtime all Departments that led us to design diversified scenarios (and than pathways) for the different types and needs of COVID-patients. Driven by the epidemiological trend and by the opportunities provided by rapidly developments in laboratory diagnostic technologies, the overall activity has been reorganized and remodulated the Hospital to chancing needs. The pandemic has imposed a review of the operating methods relating to the management of infectious risk. The access of people to hospital has undergone stringent regulation. We introduced telemedicine and teleconsulting, Personal Electronic Health Records, alerts with email, sms, telephone pre-triage, check-points, new communication systems, new therapeutic technologies and post-covid assistance paths. Negative impacts: delay in the treatment of non-communicable diseases with statistically significant increase in severity of hospitalized patients; increase in HAIs; increase in production of infectious and chemicals waste; reintroduction of the environmental disinfection, previously treated with the PCHS system. But behind the pandemic there is a hidden emergency: physical and psychological consequences for COVID-patients, health workers that have had to bear physical pressure and unprecedented emotional; for all those people who have had to fight loneliness, fear and uncertainty.

Keywords

Pandemic, Lean, HAIs, Environmental, Probiotic, Consequences.

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Biography

Medical Doctor, Specialist in Hygiene and Organization of Hospital Services and in Epidemiology and Public Health. Master in Administration and Management of Health Services. Master in Applied Management of Environmental Sustainability - EMAS SCHOOL. HAIs Risk Manager. Delegate for COVID-19 Regional Emergency Network, COVID-19 Emergency Corporate Crisis Unit Component, COVID-19 Emergency Provincial Crisis Unit Component. Environmental and Waste Management Policy Coordinator. Health Promotion Coordinator (International Network HPH & HS Health Promoting Hospital & Health Services). Adjunct Professor at the Postgraduate School of Hygiene and Preventive Medicine.

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Strengthening Epidemiological Surveillance and Laboratory Systems in the ECOWAS Region: The Rise and Implementation of the Regional Reference Laboratory Network in the West-African Region

Abstract

Following the Ebola outbreak in West Africa in 2014, a major strengthening of surveillance and response preparedness, including laboratory systems, was deployed by ECOWAS states with the support of several funders. In 2015, KfW commissioned a feasibility study for the implementation of a major laboratory systems strengthening program which led to the establishment of the PROALAB project in 2018 that aims to support the WAHO laboratory strategic plan, developed in 2017. Other major programs like REDISSE funded by the World Bank or funds from the African Development Bank also contribute to the implementation of the strategic plan.

The main objective is to support ECOWAS countries to work together to improve the quality and accessibility of biological diagnosis and to strengthen the control of epidemic-prone diseases in member countries.

To implement the strategic plan, two main lines were considered: 1) the reinforcement of laboratories with equipment, reagents and consumables, solar energy and incinerators in renovated laboratories; 2) reinforcement on 5 main themes: a) Implementation of Quality Management Systems in all the laboratories of the regional network set up by WAHO using the SLIPTA tool developed by WHO, our partner in these activities, and which constitutes the very backbone of the project; b) Development of sample transport systems in the region; c) Database development; d) Biological waste management; e) Network strengthening.

24 laboratories are now part of the phase 2 of the project for equipment reinforcement. Through WAHO support and the networks put in place, ECOWAS has gone from 2 laboratories competent for COVID19 PCR testing at the beginning of the pandemic to 322 today, many of which have also been strengthened for sequencing. Twinning programs and a maintenance and metrology program have been put in place. 3 laboratories have obtained ISO15189 accreditation and 4 have 4 stars on the SLIPTA scale. Training of trainers was organized for the transport of samples for the 15 ECOWAS countries with IATA certification. Regional platforms for data capture are being developed, notably for monitoring regional sample transport, AMR and arbovirus surveillance. A regional analysis of waste management has been carried out, a directive developed and incinerators ordered for 8 laboratories. Networks for entomological surveillance of arboviruses, antimicrobial resistance surveillance and bio risk management have been established and governance documents validated or in the process of being validated.

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Thanks to the various WAHO support programs and the monitoring of the laboratory strategic plan, numerous activities to strengthen laboratories in the sub-region have been implemented, which has enabled better management of the COVID19 epidemic in West Africa and other outbreaks of endemic diseases in the region (dengue, Lassa fever, cholera, measles, etc.). The continuation of these activities is underway and should significantly improve the response to epidemics.

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Corneal confocal microscopy as a surrogate marker of neuronal pathology in schizophrenia

Abstract

Introduction

We aimed to test the hypothesis that, using corneal confocal microscopy (a non-invasive method for assessing corneal nerve fibre integrity), patients with schizophrenia would show neuronal abnormalities compared with healthy participants.

Schizophrenia is a neurodevelopmental and progressive neurodegenerative disease, for which there are no validated biomarkers. Corneal confocal microscopy (CCM) is a non-invasive ophthalmic imaging biomarker that can be used to detect neuronal abnormalities in neuropsychiatric syndromes.

Methods

Patients with schizophrenia (DSM-V criteria) without other causes of peripheral neuropathy and healthy controls underwent CCM, vibration perception threshold (VPT) and sudomotor function testing. Diagnostic accuracy of CCM in distinguishing patients from controls was assessed using

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the area under the curve (AUC) of the Receiver Operating Characteristics (ROC) curve. Findings Participants with schizophrenia (n=17) and controls (n=38) with comparable age (35.7 ± 8.5 vs 35.6 ± 12.2 , $P=0.96$) were recruited. Patients with schizophrenia had significantly higher body weight (93.9 ± 25.5 vs 77.1 ± 10.1 , $P=0.02$), lower Low Density Lipoproteins (2.6 ± 1.0 vs 3.4 ± 0.7 , $P=0.02$), but comparable systolic and diastolic blood pressure, HbA1c, total cholesterol, triglycerides and High Density Lipoproteins were comparable with control participants. Patients with schizophrenia had significantly lower corneal nerve fiber density (CNFD, fibers/mm²) (23.5 ± 7.8 vs 35.6 ± 6.5 , $p<0.0001$), branch density (CNBD, branches/mm²) (34.4 ± 26.9 vs 98.1 ± 30.6 , $p<0.0001$), and fiber length (CNFL, mm/mm²) (14.3 ± 4.7 vs 24.2 ± 3.9 , $p<0.0001$) but no difference in VPT (6.1 ± 3.1 vs 4.5 ± 2.8 , $p=0.12$) and electrochemical skin conductance (61.0 ± 24.0 vs 68.9 ± 12.3 , $p=0.23$) compared with controls. The diagnostic accuracy of CNFD, CNBD and CNFL to distinguish patients with schizophrenia from healthy controls were, according to the AUC, (95% CI): 87.0% (76.8-98.2), 93.2% (84.2-102.3), 93.2% (84.4-102.1), respectively.

Conclusion

In conclusion, CCM can be used to help identify neuronal changes and has a high diagnostic accuracy to distinguish subjects with schizophrenia from healthy controls.

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Developing a Framework for Infectious Disease Transmission and Spread Using, SARS, MERS and COVID19 Data

Abstract/

Worldwide infectious diseases continue to disrupt human life, often causing a heavy toll on our society, economy and human life. Although we have seen major decline in deaths related to infectious diseases recent outbreaks of SARS, MARS and COVID-19 pandemic has altered that perspective. Over the 21st century, corona virus outbreaks have emerged three times causing severe respiratory diseases and the recent COVID-19 outbreak has surpassed all the past records in global transmission and mortality rate. Globally, we are experiencing more Emerging Infectious Diseases (EIDs) than before. EIDs are the infections that are rapidly increasing in incidence or geographic range. There are numerous ecological changes including anthropogenic ones, which create new opportunities for pathogens to emerge and gain access to human populations. Increasing ecological changes and globalization, have played an inadvertent role to disseminate such EIDs and the world continues to be confronted by longstanding, emerging, and reemerging infectious disease threats. Current research involving community vulnerability does not address various specific characteristics of an infectious disease such as COVID-19. In this study, we developed a geospatial framework to determine a community's exposure by accounting for several unique factors of the recent COVID-19 pandemic at the county level for the United States (U.S.). County level data for ecological, social, economic, and medical conditions were used to identify vulnerable regions to COVID-19. The vulnerability was determined by multiple criteria decision-making process (MCDM) using a fuzzy analytical hierarchy process (FAHP). FAHP determined the relative importance or weights for eleven different factors. Later, the vulnerability of each county was determined through three MCDM techniques for the U.S. The effect of social distancing measures on vulnerability reduction was also analyzed. FAHP method output indicated that age, medical conditions, and social distancing are critical in vulnerability based on a percentage weighted average. Among three different MCDM methods for vulnerability analysis, the weighted linear combination (WLC) provided the best results to represent the COVID-19 vulnerability. The incremental approach to assess the effect of social distancing on vulnerability reduction resulted in a ~5% decrease in vulnerability. Strong spatial variation was observed for the vulnerability of a community while considering specific characteristics of COVID-19. Geospatial mapping allows rapid and robust decision-making efforts for targeted intervention.

Keywords

COVID-19; Fuzzy AHP; GIS; Multiple criteria decision making; Vulnerability



Invited Forum

Day-2

Dr. Janice Wasser

Ten years of implementation of the national newborn hearing screening program in Israel.

Background: The Newborn Hearing Screening Program (NHSP) began operating nationally in January 2010. The program consists of the Otoacoustic Emissions (OAE) test for all newborns and Auditory Brainstem Response Automated test for failed OAE and infants at risk for auditory neuropathy. The program objectives are completion of screening by one month, diagnosis by age 3 months and entry to habilitation by age 6 months. Screening program success requires regular monitoring of effectiveness, quality indicators and achievement of goals.

Purpose: To describe the process of establishing the Israeli NHSP including items identified in 2016 evaluation compared to continued monitoring levels of contact with families of newborns: birthing hospitals, mother and child health care centers, audiological centers and hearing habilitation centers in 2021.

Method: Analysis of annual hospital reports on screening coverage including a newly introduced coding system. A parental interview was conducted about the screening experience in hospital and follow-up for diagnosis. Data collected from 10 habilitation centers for hearing impaired children to assess and monitor the objectives of NHSP.

Results: The number of hospitals reporting screening results has increased annually. In 2020, all maternity hospitals (n=31) reported screening coverage for 180,309 births. The coverage rate in 2020 (29 hospitals) was 99.1%, (range 94-100%). An impressive rate during the pandemic. The overall referral rate (173,600 newborns) was 2.9%. By 2020, 24 hospitals used the computerized reporting system for 152,700 newborns, a progressive annual increase. Participation in a phone survey of 405 (84%) parents of infants aged 4-6 months was high. A third of parents reported heightened concern over a failed screen. Only half of parents with infants needing a follow-up exam reported getting an appointment within one month of discharge. About 70% of infants retested, passed successfully. **Conclusions:** Screening program targets are not yet fully achieved. Attaining full computerized screen results aims to improve quality and reliability of reporting. The survey indicates 1) need for more effective communication between caregivers and patients to reduce anxiety; 2) improved methods of transferring information using advanced technology such as electronic forms and linked databases. Monitoring effectiveness, assessing quality indicators reveals significant progress.

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Assessing Healthcare Access among Disabled People in the Jazan Region of Saudi Arabia

Abstract

Background: Disability constitutes a significant health problem in the Kingdom of Saudi Arabia (KSA). Research assessing the health needs of people with disabilities in KSA is scarce. This study aims to assess what people with physical disabilities need from healthcare services and to investigate their access difficulties.

Methods. A cross-sectional survey was conducted among people with physical disabilities between July, 2018, and May, 2019 in the Jazan region, KSA using a modified Arabic-translated version of the validated Southampton Needs Assessment Questionnaire (SNAQ).

Results. Two hundred and eighty-nine persons with physical disabilities completed the questionnaire with a response rate of 63%. Most of the participants were male (74%), between 15-45 years old (85%), married (49%), and had a high-school education level or above (86%); 48% were unemployed. Around half of the participants encountered difficulty in accessing appropriate healthcare services. More than half had difficulty obtaining mental healthcare, dental care, preventive periodic screening care, or medical care at home. Although 37.6% of the participants had previously received regular chronic disease care for diabetes, hypertension, or asthma, 52% reported difficulty obtaining medicine for such diseases, and 46.5% reported difficulty getting seasonal vaccinations such as the influenza vaccine. Finding specialized doctors or dentists using specialized means of communication was a struggle for over 50% of the participants.

Conclusion. There is a need to optimize society for people with physical disabilities and improve access to healthcare facilities.

Keywords

Health needs assessment, Disability, Saudi Arabia, Healthcare system, Physical disability; Occupational and Environmental Health

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Biography

My name is Anwar M. Makeen. I was born in 1977 in Saudi Arabia, where I was raised. I got my Bachelor's Degree in Medicine and Surgery (MBBS) in 2004. I got my Master of Public Health and Tropical Medicine and Ph.D. degree in Health Systems Management from Tulane University, New Orleans in 2008 and 2013, respectively. My area of interest is public health studies (Healthcare system and Policy). I hold a Master of Medical Management from Tulane University and fellowship of Healthcare Administration and Leadership Development from Ochsner healthcare system, New Orleans. I am currently the dean of Faculty of Medicine, Jazan University. In addition, I work as a teacher, clinician, and researcher in the Medical Research Center at the University. All my research work can be found at:

<https://scholar.google.com/citations?user=qzkOXD4AAAAJ&hl=ar>

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The Meaning of results of the POLLEK Cohort Study and METEOR Project to Health Policy in Poland

Abstract

Background: Medical students are exposed to multiple risk factors during academic and clinical training which deteriorate their mental health and well-being. Additionally, the COVID-19 pandemic fundamentally changed the form of teaching at universities and significantly limited contacts between the academic community. On the other hand, physicians are under additional pressure due to acute stress, frustration, isolation, and a high risk of infection. The number of physicians in Poland remains one of the lowest in European countries. The main objective of the POLLEK study is to identify and evaluate the quality of life and general mental health with simultaneous assessment of their determinants related to studying and working conditions in medical students and young physicians during long-term observation. The METEOR's mission is to improve the mental health and well-being of European health workers.

Methods: We analyzed data obtained in the POLLEK cohort study on the quality of life level (QoL) and on the model of alcohol consumption and its determinants among medical students. At the same time, as participants of an international METEOR project, we collected data about job retention in hospital care workers (medical doctors and nurses).

Results: The first-year medical students recruited in 2019/2020, 2020/2021, and 2021/2022 were examined. We identified that the major risk factors of hazardous/harmful drinking were male gender and tobacco smoking. Poor QoL in all assessed domains of quality of life was associated with a poor financial situation and bad self-assessed health status. We concluded that it is necessary to implement screening of alcohol consumption and develop health promotion programs even during the first year of studies at medical school. Two METEOR's participating hospitals in Poland located in the Silesian region were tested in the range of determinants of job retention of healthcare workers (physicians and nurses). We documented a high percentage of dropout in nurses (29%) and physicians (25%) in 2021. Now we start to recognize the motivation of job dissatisfaction and determinants of job retention (in progress).

Conclusion: We confirmed the urgent need to develop health promotion programs for medical students aimed at enhancing pro-health behavior. Moreover, we documented that physicians or nurses employed in hospitals in Poland need support and health policy recommendations that help them to decide to stay at work.

Keywords

Quality of Life; Mental Health; Medical Students; Health Care Workers; Health Policy

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Management System and Performance of a Health System

Abstract

In many developing countries, poor health systems are one of the main barriers to accessing essential care. However, poor countries are not the only ones experiencing problems related to their health systems. In some high-income countries, a significant proportion of the population does not have access to care because social protection systems are not always equitable, and there is sometimes an escalation of spending due to inefficient use of resources. A reality that requires a paradigm shift in governance and organization, funding and resource allocation, as well as public health system interventions. This literature review, conducted on the basis of thirty-five (35) studies meeting the eligibility criteria, aimed to establish a state of knowledge on the audit of the management system of a health system. The results show that the exercise of auditing the management system of a health system is not easy to carry out, and its practice requires the appropriation of basic tools that the actors involved must master. Tools in perpetual evolution, due to the multiplicity of management system references and technological innovations. In addition, the idea of evaluating a management system is nourished by the principle of optimizing its performance, with a view to effective management. It is a diagnostic approach to the performance of the priority functions of a health management system, aimed at discovering which functions lead or do not lead to good results, and then enlighten decision-makers on the functions to be strengthened, and how to strengthen them.

Keywords: Management System, Health System, Performance, Audit.

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The process approach in the health corporative program

Abstract

The state of the health care system, its resource problems, the quality and cost of services provided and, as a result, public health, are the subjects of discussion of the scientific societies of the whole world. The cost growth trend, the share of GDP devoted to healthcare in several OECD and BRIC countries is forecast to amount to over 15 percent by 2030. In the US, it could be reach more than 25 percent. This growth trend is likely to prove unsustainable and could put significant pressure on fiscal balances, consumer spending, and employer liabilities. The employer liabilities growth trend in procedures to preserve the health of employees is an actual issue of public health, where in the process of finding decisions should be much involving lead managers of large companies in Russia, including managers of the gold mining, oil and gas companies. To all the challenges these companies face should be added the growth of indirect losses due to chronic disease. For example, chronic disease management accounts for 79 percent of this cost growth; in the Russia, it is already responsible for two-thirds of all direct healthcare costs. Research suggests that four major factors drive cost increases worldwide:

Aging population and an increase in the retirement age of workers. The share of people over 65 in Russia is 15.5%. According to WHO forecasts, the relative number of the world's elderly population will significantly increase from the current 12% (2017) to 22% in 2050, and the proportion of people aged 80+ will grow from 125 million people in 2017 to 434 million in 2050. All countries show

- similar trends with an associated increase in the prevalence of chronic disease, as
- such conditions are often age-related. Chronic diseases also tend to be affected by
- lifestyle choices, long-lasting, and costly to manage.
- Medical procedure costs. Surprisingly, as medical knowledge and technology
- become more sophisticated, the complexity and cost of hospital procedures seem
- to increase unless significant innovations in delivery models are applied.
- Resource constraints. Healthcare resources are not unlimited and not equally distributed. In the Russia, there is a shortage of 35,000 generalists, raising the average unit cost of physician-assisted treatments significantly. The physicians are often in short supply, with experienced specialists unevenly distributed and more experienced physicians tending to be found in major urban centers.
- Patient empowerment. Particularly in Russian markets with broad Internet access, available indepth information on medical conditions and their treatment has enhanced patients' knowledge, generating an increasingly consumerist higher expectations regarding treatment.

These factors combined are putting mounting pressure not only on already strained state healthcare systems but on medical department of enterprises. Unless innovative ways to manage them are developed quickly, employers could find themselves unable to provide the health corporative

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program.

Healthcare organizations around the world are experimenting with new approaches to managing costs. Recent SOGAZ Profmedicina research examined innovations in a range of healthcare delivery systems and chose for pilot project the integrated care. In the face of the enormous challenges of managing chronic diseases, delivery innovations appear to have the most impact when multiple parties (e.g., physicians, nurses, voluntary health insurance system) interact seamlessly to provide the best possible patient care over an extended period of time. Such integrated models have the potential to reduce costs dramatically, while increasing patient satisfaction and clinical quality. This was achieved in a pilot in SIBUR Company which realized a 25 percent differential in per capita patient management costs developing health corporative program. This program was based on the methodology of the process approach adopted in other industries, as well as methods for standardizing all medical processes and the possibilities of mobile communication technologies. The pilot project well demonstrates that mHealth applications could prompt widespread innovation in healthcare delivery. Their potential advantages are clear: they offer better services to a larger number of patients; leverage the advanced communication and processing technology already available to a large part of the Russian population; could standardize care (e.g., diagnostic algorithms used in telemedicine centers) through centralization and IT developments; and allow several parties to collaborate and provide integrated care by sharing patient data to all parties involved in best treating the patient. An area of innovation for corporative health program with the potential to make a huge difference is eHealth – the utilization of mobile communication technologies to deliver employs healthcare services. Examples of using m Health innovations in our pilot project were:

- SMS questioners that support to collect medical dates;
- SMS alerts that remind patients to visit doctor at the appropriate time;
- Remote diagnosis and even treatment for patients who do not have easy access to a physician;
- Remote health monitoring (RHM) devices that track and report patients' conditions.

Basic point of pilot project was standardization all process. Recognizing the extensive requirements for personal and medical date, it was crucial to have widely accepted technical standards or an open architecture relating to employees information. This help us ensure that a variety of health corporative program from different departments of holding can use multiple networks to access different back-end analytics providers, who in turn could connect with the employs or patient. The more widely accepted the corporative standards, the more critical mass the involving employers are likely to gain, presumably with increased user adoption to occur and greater potential rewards for successful innovators.

Roohia Khanam

Inflammatory and Stress Responses Consequent to Monogenic Obesity in Children

Abstract

Background: Although the current epidemic of obesity has mainly been driven by the obesogenic environment, obesity is one of the most heritable diseases. Obesity is usually classified into common obesity due to single nucleotide polymorphisms readily affected by environmental factors, and monogenic obesity due to single-gene mutations resulting in severe obesity at a very early stage of life. The latter type is rare and unlike common obesity is least affected by extraneous factors. Children with monogenic obesity are known to have decreased immunity to infection and often suffer from infections, especially of the pulmonary tract. Excessive adiposity is also known to be associated with low-grade chronic inflammation and an increase in circulating cytokines. Objectives: The present study was conducted to assess the relationship of metabolic and pro-inflammatory markers in children with early-onset monogenic obesity due to homozygous pathogenic mutations in LEP, LEPR, or MC4R gene. Methods: Thirty-six severely obese children identified with monogenic obesity, and 9 age-matched subjects with normal body weight to serve as controls were recruited from the Children's Hospital, Lahore. Written informed consent was obtained in each case. Family and medical history were obtained and anthropometric data recorded. Serum levels of leptin, insulin, TNF- α , IL-6, and CRP were determined by commercially available ELISA. Results: Physical severity of obesity was maximal in LEP and LEPR deficient subjects as evidenced by the mean BMI SDS for age, followed by the MC4R mutant group. The body growth patterns in children with monogenic obesity and the control group were similar. Leptin levels were non-detectable in children with LEP mutations. Leptin concentrations were significantly raised over the control levels in LEPR and MC4R deficient children with a more pronounced hyperleptinemic condition in the former case. Circulating insulin levels were increased in all the three mutant groups over the control values and were maximal in the LEP deficient children indicating high insulin resistance and high diabetic risk in these children. Levels of pro-inflammatory markers, IL-6 and TNF α , were markedly higher in children with obesity as compared to normal values and IL-6 levels are excessively high in LEP deficient children. Levels of TNF α were 7-8-fold higher and similar in the 3 mutant groups as compared to the control values. Mean serum levels of CRP, an acute phase reactant to injury and inflammation were high in all the 3 mutant groups but were maximal in LEP deficient subjects.

Conclusion: In summary, the results of the current study demonstrate an acute imbalance of metabolic hormones, leptin and insulin, and a significant increase in systemic pro-inflammatory response, associated with early-onset severe obesity in children with an attending high risk of CVD, metabolic syndrome, and decreased immunity to infections. The results of this study, therefore emphasize the importance of the diagnostic value of pro-inflammatory markers in the management and treatment of pediatric obesity at an early stage of life.



Virtual Presentations

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Preliminary results of prophylactic effects of Moringa oleifera hydroethanolic leaf extracts on general metabolomics (biomarkers of health) of female Sprague-Dawley rats, early weaned on a high fructose solution.

Abstract

There is a high prevalence of obesity-initiated metabolic dysfunctions such as, non-alcoholic fatty liver disease (NAFLD), type 2 diabetes mellitus (T2DM) and its associated complications (diabetic nephropathy, neuropathy and retinopathy) and cardiovascular diseases because of high consumption of fructose-rich food

[1]. Obesity is a costly disease to manage. South Africa lost about 1.88 billion USD of domestic gross product between 2006 and 2015, due to the direct and indirect effects of comorbidities of obesity like diabetes, stroke and cardiovascular diseases

[2]. Childhood obesity has long-term negative effects that usually progresses into adulthood [3]. There is 5.1 % prevalence of diabetes (High blood sugar levels and low insulin levels) and 48% of hypertension in 20% of adults living with obesity

[4]. These individuals also have comorbidities like insulin resistance, depression, non-alcoholic fatty liver disease (NAFLD) and cardiovascular diseases, which reduces their lifespan and imposes a medical burden on parents

[5], [6]. Obese children often experience bullying, low self-esteem, difficulties keeping up with their peers, depression and self-isolation

[7]. Moreover, they tend to have multiple eating disorders and develop orthopaedic complications

[1]. The aim of this study was to investigate the effects of diet-induced metabolic dysfunction using an early weaning neonatal rodent model on general metabolomics (biomarkers of health). Sprague-Dawley female pups were randomly assigned to 7 treatment groups and early weaned on hydroethanolic moringa leaf extract and high fructose solution, namely; Normal weaning (pups weaned at PD21), Negative control group (pups weaned at PD18), Metabolic dysfunction induced group (pups received SRC + plain gelatine cubes, with 20% (w/v) fructose solution), the moringa only low dose control (pups received SRC + 50mg/kg moringa extract in gelatine cubes and plain drinking water), the moringa only high dose control (pups will receive SRC + 500mg/kg moringa extract in gelatine cubes and plain drinking water), Low dose moringa hydroethanolic extract intervention group (pups received 50mg/kg moringa extract in gelatine cubes + SRC and drink 20% (w/v) fructose solution) and High dose moringa hydroethanolic extract intervention group (pups received 500mg/kg Moringa extract in gelatine cubes and 20% (w/v) fructose drinking solution). Tissue and blood samples were collected for further analysis. Growth performance, metabolism function markers were assessed using a rat specific ELISA kits as detailed by the manufacturers. The results showed that there were no significant differences ($p>0.05$) in relative visceral fat mass

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of female rats across the treatment groups at termination of the study. Early weaning with high dose hydroethanolic moringa leaf extracts significantly reduced fasting blood glucose ($P < 0.05$). Early weaning with high fructose solution significantly reduced plasma insulin levels compared to normal weaning with a normal

rat diet ($p < 0.05$) and also compared to early weaning with normal rat diet ($P < 0.001$). Serum triglycerides ($p < 0.001$) and total cholesterol ($p < 0.05$). Were significantly increased by early weaning with high fructose solution diet compared to normal weaning with a normal diet. The preliminary results have shown differences between early weaning and normal weaning. Early weaning with high fructose diet induced symptoms of metabolic dysfunction. Early weaning with high dose of hydroethanolic moringa leaf extracts significantly increased biomarkers of good health and reversed metabolic dysfunction symptoms in female rats. The study showed that weaning diet matters, during the critical window of development.

Keywords

weaning, obesity, metabolic dysfunction, moringa and fructose

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Biography

Mmahiine Mosana (Nee Molepo) is a Senior Technician and an Academic Technical Coordinator at the School of Physiology, Faculty of Health Sciences, University of the Witwatersrand, South Africa.

Mmahiine Mosana's educational qualifications are Bachelor of Sciences Degree in Environmental Sciences (Wits), Bachelor of Science with Honours in Environmental Sciences (Wits), Master of Science in Biology (NWU) and PhD Medical Physiology (Wits) (In progress). She serves in the school of physiology teaching and learning committee. Her research interest include using phytochemicals to programme for good metabolic health through neonatal interventions during critical windows of development. Her interests also include general gastrointestinal and nutritional physiology.

Her research has produced a few peer reviewed original scientific manuscripts and presented at a few local and international fora.

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Effects of Fish Consumption on Cardiovascular Risk Profiles in Sri Lankan Community

Abstract

The beneficial health effects of fish and seafood consumption on cardiovascular risk factors have mainly been attributed to long chain omega-3 polyunsaturated fatty acids (LC omega-3 PUFAs) which have been reported the abundance of EPA and DHA. The dietary omega-3 PUFAs of fish exert beneficial effects by reducing platelet aggregation and improving blood lipoprotein profiles and have been consistently associated with triglyceride-lowering effects. The most consistent effects of omega-3 PUFA are the reduction of serum cholesterol, triglycerides, very-low density lipoprotein cholesterol (VLDL-C) and low density lipoprotein cholesterol (LDL-C). Further, intake of omega-3 PUFAs increases HDL-C. Low HDL-cholesterol (HDL-C) as well as high LDL-C is associated with the development of coronary heart disease (CHD). The main aims of the present study were to investigate whether high omega-3 fatty acid fish consumption influences Cardiovascular risk factors in a dose-dependent manner among healthy people between 23 to 60 years of age

A challenge experiment was set up to do a research on the influence of omega-3 fatty acid content on cardiovascular risk profiles of healthy people. Hundred healthy undergraduates (subjects) who were between the ages of 23 to 30 years and full time resident in the hostels of the Eastern University in Vantharumoolai, Sri Lanka, were randomly selected for this study.

Initial, after 24 weeks and after one year the lipid profiles of the subjects [total cholesterol (TC), triglyceride (TG), low density lipoprotein (LDL-C), high density lipoprotein (HDL-C), very low density lipoprotein (VLDL-C)] were estimated in serum samples collected at the commencement and end of the experiment, using automatic biochemical analyzer and the turbidometric method respectively. Curry fish consumers had significant variation between pre and post intervention in TG and VLDL content ($p < 0.05$). There was not significant difference in TC, LDL-C and HDL-C. However, the after another one year of post intervention showed that there was no significant difference in the lipid profiles between the intervention while the lipid indices, TC: HDL and AC had significant different ($p < 0.05$) between intervention. There was no significant different in cardio risk profiles between pre and post intervention in overall both curried and fried fish consumers ($n = 74$). The TC had not significantly changed due to curry or fried fish consumption ($c^2 = 1.495$, $p = 0.474$). TG lower risk level increased in curry fish consumers from 11.4% to 22.9% whereas it had decreased in fried fish eaters from 5.1% to 2.6%. Curry fish consumers had an increase of lower risk of LDL-C from 8.6% to 20% whereas in fried fish consumers decreased from 17.9% to 12.8%, but higher risk level of LDL-C had no change in curry fish consumers whereas in fried fish eaters the high risk level of LDL-C had decreased from 5.1% to 2.6%. HDL-C lower risk level had increased from 48.6% to 80% in curry fish consumers and decrease from 12.8% to 5.1% in fried fish consumers. Among both fish curry and fried fish consumers, TC, LDL-C, TG and VLDL-C showed significantly higher upper quintiles than lower quintiles.

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Waste Management in Health Care Centers in Uruguay

Abstract

An affirmed growth of interest with respect to the management of Health Care Waste (HCW) has occurred in Latin America in the last years. Even though, the scarcity of environmental statistics series is still noticeable in Latin American countries; the situation of countries is heterogeneous. Several studies have been performed to find out the rate of solid waste generation in Health Care Centers (HCC). However comparative analysis of the results of these studies should take into account that the methodologies used in each case, and even basic definitions adopted in respect of HCW, were different. There are currently no systematic studies concerning the management of HCW in Montevideo city, which means that the generation rates usually come from bibliographic data, of which most of the time there is no clear information on how they were obtained. When it comes to environmental issues related to the management of Health Care Waste in Uruguay, it can be stated that, apart from the studies that have been carried out by the work team of the Department of Environmental Engineering IMFIA - Faculty of Engineering Udelar, there are no other systematic studies referring to the realization of diagnoses of the situation of the management of Health Care Waste, nor determination of the generation rates of the same in Health Care Centers in Uruguay. It is to this point that this work points, since the information presented corresponds to genuine data from one of the most important Health Care Centers in Uruguay.

The applied methodology consists of a schematic proposal for the analysis of the intra-institutional management systems of the Waste generated in the Health Care Centers in Uruguay, and includes the following stages:

1. Diagnosis of the Health Care Waste System at a Health Care Centers (HCC) in the city of Montevideo.
2. Determination, evaluation and analysis of generation rates and/or collection of Health Care Waste at a Health Care Centers (HCC) in the city of Montevideo.
3. Analysis of results

Keywords

Health Care Waste, Intra-institutional management, Generation rates, Management Protocols of Health Care Waste

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Biography

Carolina Ramírez is a teacher and researcher at the Department of Environmental Engineering (DIA) of the Institute of Fluid Mechanics and Environmental Engineering (IMFIA) of the Faculty of Engineering (UdelaR). She is working since about 10 years on the subject of solid waste management. It is a challenging area at a national level in Uruguay and throughout Latin America, mainly in regard both to inter-institutional management and to the design and management of the final disposal sites. Carolina has worked on the issue of waste management continuously, generating significant progress for the working group, participating simultaneously in extension activities, research and teaching. She has completed her Magister thesis in Environmental Engineering in the area of sanitary waste. She is currently doing her PhD research in Environmental Engineering.

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Public and Preventive Medicine from a Buddhist perspective

Abstract

We human beings, by covid-19 pandemic occurred earlier last year, have lost our routine. We have to wear masks and keep distancing every day to prevent infection and spread of it. Travel, family or friends meetings are also restricted. It didn't take long for Covid-19 to spread around the world, because it was connected to the traffic network: the epidemic was easily spread by travelers. The initial response against covid-19 was also insufficient. At first, the initial suppression failed, divided into a position to take responsibility for the criticism rather than preventing the spread of germs.

We need to look at what the source of the disaster is, how it has easily spread, and why it failed in its early prevention of epidemics. And for the future, we must think about how to wisely deal with the occurrence and spread of these disasters.

In this presentation I will give my view on public health and prevention medicine from a Buddhist point of view.

I will explain how to deal with and overcome social medical issues like pandemic diseases from the perspective of Buddhism and Won Buddhism. Won Buddhism, a reformed Buddhism in Korea, emphasized that morality and science should be improved side by side for the realization of a truly civilized world. While humankind enjoys the benefits of material civilization with the development of scientific technology and wants to fill more desires and interests, they lose moral sentiments and go to the path of death and despair. Now we have to be aware that the development of conscience and morality that cares for others as much as material abundance should be emphasized.

Industrialization with the development of scientific technology influences more on human society by establishing free marketism and global capitalism. Competitions between individuals and nations become more serious by the polarization of winner and loser. The future of human society is not bright due to climate change, resource depletion, disorganized family, large-scale unemployment, and ecosystem destruction.

Modern people who are tired of such an excessive competitive society began to pay attention to Buddhist meditation, and more people joined to practice 'mindfulness'. However, even mindfulness practice has been more used as reducing stress and does not work enough for personal and social transformation as the Buddha taught.

In this study I will suggest that mindfulness practice, as the original teaching of Buddhism, should be performed for moral improvement of human beings and society. In particular, I will focus on religious ethics of Won Buddhism, which provide a meaningful wisdom to prevent the spread of epidemics such as covid-19 by restoring the community of human beings and to make our humanity aim for a peaceful and equal life on the ground.

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Evaluation of the Sickle Cell Treatment Options using fuzzy TOPSIS Technique

Abstract

Sickle cell anemia is an inherited genetic blood disorder caused by gene mutation, where the protein glutamic acid is replaced by valine. Studies have shown that sickle cell disease is prevalent in malaria- endemic regions and its prevalence in non-endemic malaria regions have been attributed to migration. It is estimated that about 300,000 babies are born with this condition annually of which more than 80% are in Africa

[1]. In USA about 100,000 persons are affected, most of which are of African descent. In 2006, WHO recognizes Sickle Cell Disease (SCD) as a public health problem. It has been postulated that there will be an exponential increase in the number of persons affected by SCD globally, including areas where malaria is not endemic due to recent patterns of migration

[2]. In this study multiple criteria of the treatment alternatives for the sickle cell anemia has been evaluated mathematically using fuzzy based Technique for Order Preference by Similarity to Ideal Solution method. The parameters used in this study are including efficiency, side effect, cost, treatment duration, survival rate, post treatment benefits, complications associated with treatment, comfortability of treatment to patient, treatment management practicability, safety and risk of treatments and alternative treatment options are selected as Allogenic hematopoietic stem cell transplant (HSCT), Hydroxyurea (HU) and Blood transfusion.

The results showed that; Hydroxyurea (HU) is the most effective sickle cell anemia treatment method with the 0.8069 value of and Blood transfusion is the second effective technique with the 0.5790 value of hile the Allogenic hematopoietic stem cell transplant (HSCT) is the third with 0.1808 value of .

Keywords

Sickle Cell Disease, Sickle Cell Treatment, Decision Making, Fuzzy Logic, TOPSIS.

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Manuel Salvadori

Remission of a severe psoriasis upon dietary intervention

Abstract

Overweight since adolescence. At 20 years of age his weight was 120 kg (264,5 lb) with a BMI >35 kg/m² and he was diagnosed with psoriasis vulgaris (on legs, scalp, arms and abdomen) and psoriasis inversa (mainly umbilical, inguinal, perianal area) and treated with classical pharmacological approaches such as cortisone creams, methotrexate and cyclosporine without obtaining great benefits.

When he was 32, he decided to stop drugs and remove gluten and lactose from his diet. He lost about 40 kg and had slight dermatological benefits. Then he looked for information about his condition on the internet and decided to introduce the following supplements in his routine: omega 3, liposomal glutathione and vitamin D.

He lost 10 kg in the following years but when he was 39 he turned to the outpatient clinic to resolve his now disabling psoriasis, which caused him a strong feeling of discomfort and psychological frustration. In the previous months he had been treated for acute prostatitis and to resolve pain, tenesmus and anal heaviness, he started taking: debrum (Synthetic anticholinergic in combination with psycholeptic) twice a day, butyric acid, mesalazine and levofloxacin without obtaining any benefits. In addition to psoriasis and prostatitis, in the last month before the first examination, anal fissures, internal and external hemorrhoids had developed.

During the visit, GE problems also emerged: very slow and painful digestion followed by belching and migraines + constipation of medium entity (defecation every 4 days resulting in a bloated feeling and colitic pain).

Due to his work he had to cope with an alteration of circadian rhythms - he slept about 3 hours per night and, being a fisherman, he was forced to wake up at 3.30 am every morning.

The analysis showed high levels of fecal calprotectin, indicating intestinal inflammation not regressed with mesalazine, high azotemia and total cholesterol, insufficient vitamin D and IgE over the limits despite there were no allergy symptoms and he had never been allergic according to previous tests. Based on the evidence in the literature regarding functional medicine and functional nutrition, our approach to the patient was focus on a direct action of microbiota and a deep correction of the internal elimination processes.

Through corrective measures in the lifestyle, a correct supplementation, the removal of some external stressors and the cleansing of the microbiota, we have obtained an excellent result by assisting the standard medical treatment with truly incredible outcomes on the standard of living of the patient.

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Ultrasound Kills Mechanosensitive Tumor Cells Like Exercise

Abstract

Tumor formation correlates with repeated damage or inflammation and involves a release of growth control for adult tissues, particularly evident as tumor cell growth on soft surfaces. We find that the depletion of specific rigidity sensors causes transformed cell growth even in normal cells and restoration of those sensors causes rigidity-dependent growth even in tumor cells (Yang, B. et al., 2020 Nature Mat. 19: 239) (Wolfenson et al., 2016. Nat Cell Bio. 18:33). The rigidity sensor complex (about 2 nm in length) contracts matrix adhesions by ~100nm; and if the force generated is greater than ~25 pN, then the surface is rigid and normal cells can grow. However, if the surface is soft, then the cells apoptose by DAPK1 activation (Qin et al., 2018 BioRxiv. 320739). Surprisingly, mechanical stretch of transformed tumor cells activates apoptosis through a calpain-dependent process downstream of Piezo1 and the ER-mitochondrial stress pathway (Tijore et al., 2021. Biomaterials. 275: 120866.). Recently, we found that low level ultrasound will activate the apoptosis of tumor cells from many tissues and transformed normal cells in vitro plus killing tumors in the chick embryo (Tijore et al., 2020 BioRxiv. 2020.10.09.332726v1.). Thus, a variety of mechanical stresses can damage transformed cells from widely different tissues in correlation with the changes in the organization of the cytoplasm upon transformation (Sheetz 2019. Ann Rev Cell Dev Biol 38:169). These results are consistent with other studies of the effects of mechanical stresses including exercise on tumor cells and suggest that ultrasound treatment can aid in cancer therapy. By way of disclosure, we have formed a company to bring mechanical therapies to cancer patients (Mechanobiologics, Inc).

Biography

Dr. Michael Sheetz recently moved to Biochemistry and Molecular Biology Department at Univ. of Texas Medical Branch where he will organize a Mechanomedicine Program. He was the Founding Director of the Mechanobiology Institute at National University of Singapore (2009-2019) and his lab's recent work has defined the molecular mechanisms of rigidity sensing and matrix control of cell growth. In 2012, he was the recipient of the Lasker and Wiley Prizes for Biomedical Sciences for work done on in vitro motility assays and the discovery of kinesin. He has had appointments at Columbia University (Biological Sciences) (2000-2019), as Chair of Cell Biology at Duke University Medical Center (1990-2000), Washington University Medical School (Physiology) (1985-1990) and University of Connecticut Health Center (Physiology) (1975-1985).

D.ssa Valentina Andrulli Buccheri, PhD

Functional Nutrition as a New Paradigm of Medicine

Abstract

Functional Medicine is a personalized, holistic approach that puts the patient at the center of everything and aims to achieve his or her state of health in the strictest sense of its definition.

Scientific evidence, aided by clinical experience, is adapted to the specific clinical picture in order to extrapolate the diagnosis and devise the therapy (an example of therapy, in the dental field is myofunctional therapy) most useful and effective in removing the most deep-rooted causes of current pathologies.

According to Functional Medicine, the identification of a disease state is not a conclusion of the diagnostic pathway, but rather its beginning. Understanding the real causes that have brought the body into a state of imbalance takes time, attention and knowledge.

Any sign or symptom can be the correct piece to complete the complex puzzle of the patient's clinical picture. In addition, it is necessary to take into account that the precise manifestation of these same causes depends on the individual's genes, environment and lifestyle.

In order to achieve lasting benefits beyond simple suppression of symptoms, treatments targeted on the elements actually responsible for the individual's pathology are necessary.

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Ethics in Pharmaceuticals and Drug Delivery

Abstract

Ethics is defined as A discipline dealing with what is proper course of action for man (Aristotle, cit in Mckee,1941). A branch of philosophy that looks at what is good and what is bad. A system of obligation that we have towards others. Also known as moral philosophy, involves, systematising, defending, and recommending concepts of right and wrong behaviour. A study of principles guiding the good of the individual within the context of social interactions and the community. Research Ethics are therefore, A code of guidelines on how to conduct scientific research in a morally acceptable way. Principles and standards that help researchers to uphold the value and standards of knowledge construction. The drug delivery has to follow the ethics of the study beginning from Preclinical studies as, 1. Selection of sources- Plant/ microbes/ algae. 2. Screening of compounds. 3. Isolation and Purification of compounds. 4. Lead Molecule isolation and its applications. In vivo study using animal models :

Animal ethical committee approval is a must to conduct animal study. EC no to be got from ethical committee for carrying out research. In vitro study using cell lines are studied. In silico study using Bioinformatic tools are studied. The final stage of drug delivery opens up with clinical Trial, following the ICH guidelines as 4 phases- Phase I: A new drug, vaccine or medical device is tested in a small group of healthy persons for the very first time. The aim is to determine the general safety, the correct dosage and negative effects. PHASE II: Clinical trials the new drug, vaccine or medical device in a larger group (several hundred people) . PHASE III : testing to several thousand people. PHASE IV: clinical trials done to several thousand people after the new drug, vaccine or medical drug has been registered and licensed for sale by the Medical Control Council. Thus, the drug delivery into the market is done after clinical Trial Phase III, followed by the inclusion and exclusion criteria of the drug impact.

Keywords

Ethics, Preclinical studies, In vivo, in vitro, in silico studies, ICH Guidelines and Clinical Trial.

Biography

Academician with Ph.D, PGDBI, FBSS, FABMS, CRA and 33 years of rich experience in the academic world (Teaching & Research). Working in the Department of Medical Biochemistry as Assistant Professor, University of Madras from 2014 onwards till date. Current Research is in Food Formulations, Compound Isolation from plant / microbial sources and their applications in anti Cancerous activity. Served as HOD in Department of Biochemistry in colleges affiliated to University of Madras from 2002 onwards as well as established Department of Bioinformatics in Vinayaka Mission University. Published about 25 papers. Served as Head of Basic Medical Sciences in Asmara College of Medical Sciences, Eritrea, North east Africa for three years. Visited various countries like Srilanka, Dubai, Abu Dhabi, France, Germany, Australia, Hong Kong and Singapore to deliver key note talks in International Conferences. In India, served as keynote speaker, plenary speaker and Chaired various sessions in national and International conferences in various universities in Kerala, Kolkatta, Goa, Chandigarh, Bangalore, Trichy, and other places. Completed two projects and currently having two projects. Organised First ever International Conference in the department of Medical Biochemistry in 2028. One amongst the whole body donor for the usage of students fraternity.



Poster Presentations

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Topical Treatment of atopic Dermatitis with Heparin and Levomenol: A Survey of Dermatologist's Experience

Abstract

A questionnaire was filled in by 61 German dermatologists treating a total of 18,000 patients suffering from atopic dermatitis per quarter. The physicians were asked for their personal assessment of the therapeutic applicability of a topical preparation containing heparin and levomenol (also known as (-)-alpha-bisabolol) as active constituents with anti-inflammatory and anti-allergic effects (Sensicutan cream).

The medication was rather well-known to the dermatologists, with 98.4% of the responding physicians having experience with the preparation. 91.5% of those having experience even regularly treated children with this combination. A typical rationale for the use was avoiding corticosteroids (96.7%), and frequently the cream was used in cases of intolerabilities against the standard therapy with corticosteroids and/or calcineurin inhibitors (88.3%). A common use was the prophylactic application in the interval between episodes.

In randomized controlled clinical studies, the cream preparation with heparin plus levomenol was found efficacious and well-tolerated(1-3). This was indirectly confirmed by the survey presented herein.

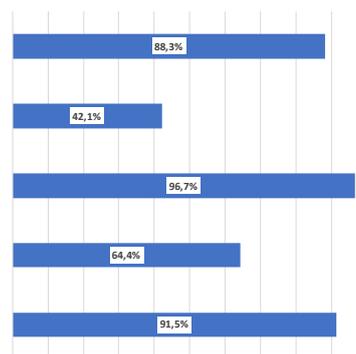


Fig: Experience of dermatologists in the treatment of atopic dermatitis with topical heparin + levomenol

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Creating a Course for the Development of Digital Health Technology Competencies in Basic Nursing Education

Abstract

Background data Scientific sources inform that despite of the fact that healthcare employees spend over 25% of their working hours on information administration using technology (Winter et al., 2013), there are no official study opportunities for information security, eHealth and medical devices in Estonia (Mets & Veldre, 2017). Developing the subject for digital health technologies a tempt o fill the gap in the education in basic nursing training. There were no appropriate prior trainings, and existing knowledge was very incomplete. Tallinn Health Care College commenced the development of a module to teach technologies in the framework of ASTRA (Institutional development programme for research and development and higher education institutions) project to improve learners' digital competence in 2016. In general, it was aimed to conduct activities enhancing the effectiveness of quality of learning and research (Õppejateadustöö..., 2014).

Aim was to design a crucial subject to develop the competences for digital health technologies in basic nursing training. Following tasks were arranged to develop the subject on competences for digital health technologies: to conduct comprehensive overview of scientific literature with the aim to systematise the competences of digital technologies instructed in the field of healthcare; to design a conceptual framework of the subject; to monitor the functioning of the subject and students' satisfaction with the subject's contents to further develop the subject.

Methodology. Combined qualitative and quantitative research methods were used for current research paper. The comprehensive literature overview was created of teaching health technologies and eHealth in the world covering the years 1990-2018 to design the conceptual framework, it offered the input to structurise the volume and contents for the subject on digital technologies. The analysis of the students' feedback was the ground for monitoring and development of the subject Digital Technologies in Health Care (established in 2018).

Results The list of competences was composed derived from the comprehensive overview of scientific literature, also of topicality of the themes; forms of assessment and feedback, and the factors influencing the whole learning process. Designed conceptual framework helped to structurise the course, and the visual image demonstrates the link between the connections. Continuous monitoring helps to evaluate the functioning of the subject and its continuous development ensures effective teaching.

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Keywords

Digital Health Technologies, basic Nursing training, Development of competences for Digital Health Technologies, comprehensive Literature Overview



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