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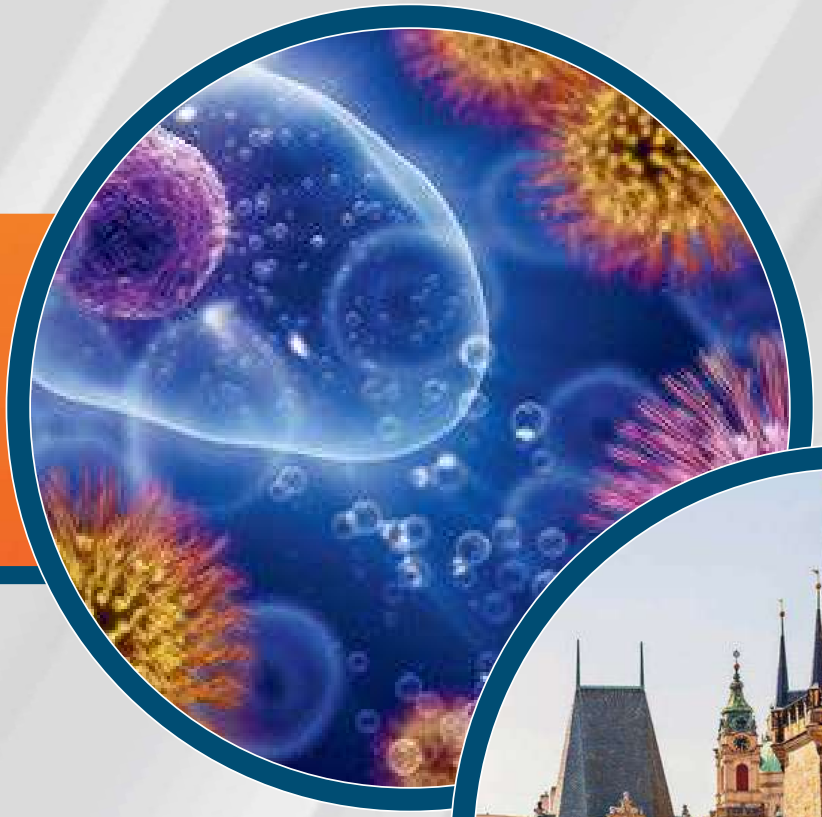

07-08 July 2025

Prague, Czech Republic

Hosted By:

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Scientific Program

Day 01 | July 07, 2025 | Prague, Czech Republic

08:30-09:30	**Registrations**
09:15-09:30	**Opening Ceremony**

Keynote Forum

09:30-10:0	**Title: Exploring Workaholism Determinants and Life Balance: A Mixed-Method Study Among Academic Nurse Educators** **Sharifah Alsayed,** King Saud bin Abdulaziz University for Health Sciences, Saudi Arabia
10:00-10:30	**Title: Expression of The Mucin-Like Glycoprotein CD24 and Its Ligand Siglec-10 In Placentas with Acute and Post SARS-Cov-2 Infection** **Marina Seefried,** Universitatsklinikum Augsburg, Germany

Speaker Session:

Session Chair: Sharifah Alsayed, King Saud bin Abdulaziz University for Health Sciences, Saudi Arabia

10:30-10:55	**Title: Predictors of COVID-19 Vaccine Uptake Among People Who Use Substances: A Case Study in Tehran** **Neda Neda SoleimanvandiAzar,** Iran University of Medical Sciences, Iran

Networking & Refreshments Break @ 10:55-11:15

11:15-11:40	**Title: Opportunistic Screening for Hepatitis C Virus Infection among Hospitalized Patients at the University Hospital in Siena** **Cristina Stasi,** Link Campus University, Italy
11:40-12:05	**Title: Association Between Interleukin-27 Gene Polymorphisms and Plasmodium Falciparum Malaria** **Nada H Aljarba,** Princess Nourah bint Abdulrahman University, KSA
12:05-12:30	**Title: Quantitative Real-time PCR for Distinction Between Pneumocystis Jirovecii Infection/Colonization in Hospitalized Patients** **Faezeh Rouhi,** Shiraz University of Medical Sciences, Iran
12:30-12:55	**Title: Wastewater Surveillance as a Useful Tool for Public Health** **Marta Korinkova,** National Institute of Public Health, Czech Republic

Lunch and Networking Break @ 12:55-13:45

13:45-14:10	**Title: Group Rehabilitation in Parkinson's Disease: A Case Study Combining Music and Physiotherapy** **Jaana Ruotsalainen,** University of Jyvaskyla, Finland
14:10-14:35	**Title: Lymphoedema: An Important Complication in a Cancer Affected Population in Kinshasa, DR Congo** **Jean Muzembo Ndundu,** ISTM/Kinshasa, Democratic Republic of The Congo
14:35-15:00	**Title: Bridging Training and Competition: Blood Flow Restriction as a Novel Tapering Approach** **Melis Destan,** Istanbul Okan University, Turkey
15:00-15:25	**Title: Effectiveness of a Psychoeducational Intervention in Undergraduate Nursing Students** **Pilar Gonzalez-Sanz,** Universidad Europea de Madrid, Spain
15:25-15:50	**Title:The Relationship between Pain and Quality of Life Among Patients Under Hemodialysis: A Cross-Sectional Study** **Khulud Abudawood,** King Saud bin Abdulaziz University for Health Sciences, KSA

Networking & Refreshments Break @ 15:50-16:10

16:10-16:35	**Title: Creating Lighthouses: Can Remote Technology Help Raise Standards of IV-Medication Administration Safety in Low- and Middle-Income Countries?** **James Waterson,** BD EMA, United Arab Emirates
16:35-17:00	**Title: Compatibility of the Experiences Gained in The Practice of Child Health and Diseases Nursing Course with Contemporary Roles and Functions** **Didem Yuksel,** Atılım University Health Sciences, Turkey

Poster Presentation 17:00-17:30

EP001	**Title: Prevalence and Functional Impact of Ankle Sprains in Athletes: A Cross-Sectional Study** **Mohammed Otayni,** Najran University, Saudi Arabia
EP002	**Title: New Possibility of Health Care** **Istvan Hutas,** Pharmateka, Hungary

Panel Discussions & B2B Meeting

Day 01 End | Closing Ceremony

Day 02 | July 08, 2025 | Prague, Czech Republic | Zurich Meeting Room

09:20-09:30: Introduction

Keynote Forum

09:30-10:00	**Title: Lifestyle Medicine and Preventative Healthcare** **David Wortley,** World Lifestyle Medicine Education Services, UK
10:00-10:30	**Title: Advancing Generation z's Mental Health: The Spectrum of Systemic Root Causes of the Mental Health Crisis and Innovative Solutions** **Aly Vredenburgh,** Vredenburgh & Zackowitz, United States
10:30-11:00	**Title: The Effect of Synbiotic Supplementation on Total Antioxidant Capacity in Adolescents Exposed to Air Pollution: A Randomized Controlled Clinical Trial** **Roya Kelishadi,** Isfahan University of Medical Sciences, Iran

Speaker Session

Session Chair: David Wortley, World Lifestyle Medicine Education Services, UK

11:00-11:25	**Title: Functional Targeting Molecule Discovery of Polysaccharide from Lycium** **Kan Ding,** Shanghai Institute of Materia Medica, Chinese Academy of Sciences, China

Networking & Refreshments Break @ 11:25-11:45

11:45-12:10	**Title: De-Professionalization in the Shifting Landscape of Medical Education in Iran** **Shamim Sherafat,** Indipendent Scholar, Austria
12:10-12:35	**Title: Enhancing Axial Spondyloarthritis Screening Process among First Contact Physiotherapists (FCP) in the UK Primary Care** **Shyam Muthiah Jayachandran,** University of Greater Manchester, United Kingdomt
12:35-13:00	**Title: Assessment of Isoniazid Preventive Therapy and Barriers of Implementation Among Contacts of Pulmonary Tuberculosis Patients in Raipur District** **Ashish Sinha,** Pt JNM Medical College, India
13:00-13:25	**Title: Challenges and Opportunities in Secondary Prevention: A Clinician's Perspective** **Kristina Yaroslavtseva,** University Hospital Kralovske Vinohrady, Czech Republic

Lunch and Networking Break @ 13:25-14:15

Session Chair: Aly Vredenburgh, Vredenburgh & Zackowitz, United States

14:15-14:40	**Title: Conservative Treatment and Nursing for 1 Case of Acute Pyelonephritis Accompanied by Nutcracker Syndrome** **Enzehua Xie,** Peking Union Medical College, China
14:40-15:05	**Title: Recent Developments in the Herpes Viruses Vaccines** **Sharad Kumar Yadav,** Aryabhatta Knowledge University, India
15:05-15:30	**Title: Psychometric Properties Assessment of the Arabic Version of Community Attitudes Toward the Mentally Ill Scale** **Gihane Endrawes,** Western Sydney University, Australia
15:30-15:55	**Title: Web-Based Intervention for Advance Care Planning: Scoping Review** **Ji Zheng,** Sichuan University, China
15:55-16:20	**Title: Recent Developments in Nanotechnology-Driven Diagnostics for Viral Disease Control** **Priti Kumari,** Aryabhatta Knowledge University, India

Panel Discussions & B2B Meeting

Day 02 In-person End | Closing Ceremony

Networking & Refreshments Break

Day 02 | July 08, 2025 | Virtual | GMT+2	
Keynote Forum	
11:00-11:30	**Title: Tubercular Disease in Children: Optimizing Treatment Strategies Through Disease Insights** **Elena Chiappini,** University of Florence, Italy
11:30-12:00	**Title: Hidden Threats: Incidental Meningioma in Headache and Central Nervous System Extramedullary Multiple Myeloma in Sudden Collapse – A Case-Based Analysis** **Jayeshkumar Kanani,** Surat Municipal Institute of Medical Education & Research, India
12:00-12:30	**Title: Managing Healthcare Transformation Towards Personalized, Preventive, Predictive, Participative Precision Medicine Ecosystems** **Bernd Blobel,** University of Regensburg, Germany
12:30-13:00	**Title: Deciphering Brain Cellular and Behavioral Mechanisms: Insights from Single-Cell and Spatial RNA Sequencing** **Guang-Zhong Wang,** Shanghai Institute of Nutrition and Health, China
Break @ 13:00-13:10	
13:10-13:40	**Title: Open Abdomen and Negative Pressure Wound Therapy for Acute Peritonitis Especially in the Presence of Anastomoses and Ostomies** **Orestis Ioannidis,** Aristotle University of Thessaloniki, Greece
Speaker Session	
13:40-14:00	**Title: Entangled** **Nikki Kiyimba,** Mātai Rongo Ltd., New Zealand
14:00-14:20	**Title: Screening of Blood Donors for Hepatitis C Viral Infection by 3rd Generation ELISA and RT-PCR at Tertiary Care Centre of Sikkim** **Rekha Sharma,** Sikkim Manipal University, India
14:20-14:40	**Title: Preventive Medicine in the Age of Chatbots** **Kadir Uludag,** Shanghai Jiao Tong University, China
Poster Presentation	
14:40-14:50 EP001	**Title: HYPERVIRULENT Klebsiella pneumoniae** **HAMIDI Moufida,** University of Health Sciences of Algiers, Algeria
14:50-15:00 EP002	**Title: Advances in Preventive Medicine Linked to Improved Lifestyle** **Fariba Yazdanpanah,** The University of Texas at Tyler Health Science Center, USA
Panel Discussions & B2B Meeting	
Day 02 Virtual End | Closing Ceremony	

World Congress on

Virology and Infectious Diseases & Advances in Preventive Medicine and Public Health

07-08 Jul 2025 | Prague, Czech Republic

KEYNOTE SPEAKERS Day 1

Sharifah Alsayed
King Saud bin Abdul-Aziz University for Health Sciences, Saudi Arabia

Biography

Dr. Sharifah Alsayed is a distinguished academic and medical education expert currently serving as the Assistant Dean of Student Affairs, Chairperson of the Assessment and Evaluation Unit, and Associate Professor of Medical/Surgical Nursing at the College of Nursing, King Saud bin Abdulaziz University for Health Sciences in Jeddah. She holds a PhD in Nursing from the University of Sydney, Australia, and a Master's degree in Medical Education from KSAU-HS, Saudi Arabia.With extensive experience in both clinical practice and academia, Dr. Alsayed has made significant contributions to nursing education, including the development of the Urgent Care Nursing Diploma for the Saudi Commission for Health Specialties. She has also served as an Emergency Nurse at King Faisal Specialist Hospital & Research Centre in Riyadh.

Dr. Alsayed is deeply committed to advancing nursing education and has served as a CPD reviewer while contributing to numerous professional committees. She is a recognized editor for several academic journals and plays a pivotal role in shaping nursing curricula and professional development programs.

Exploring Workaholism Determinants and Life Balance: A Mixed-Method Study Among Academic Nurse Educators

Background: Academic nurse educators play a crucial role in the educational environment, but the demands of their profession can lead to workaholism, which could result in an imbalance between work and personal life.

Purpose: The study aimed to explore workaholism and life balance among academic nursing educators, as well as investigate the factors associated with workaholism.

Methods: A mixed-methods design based on the "concurrent triangulation" approach was employed. A convenience sample of 76 nurse educators completed the Dutch Work Addiction Scale (DUWAS) and the Life Balance Inventory (LBI), while a purposive sample of 20 nurse educators participated in semi-structured interviews. Inferential statistics and thematic analysis were used to analyze the data.

Results: The researchers found a notable prevalence of workaholism among nurse educators, with 59.0 % reporting a mean score above 2.5 and 86.8 % perceiving an unbalanced life. Regression analysis indicated that workaholism negatively predicted life balance (B = □ 0.404, p < 0.001). The qualitative findings derived three themes as determinants of workaholism: antecedents, consequences, personal and institutional strategies to mitigate workaholism among nursing educators.

Conclusion: Educational institutions should develop comprehensive approaches to support and develop their academicians, fostering a positive work environment, work-life balance, employee well-being, and professional development.

Marina C Seefried
University Hospital Augsburg, Germany

Biography

Dr. Marina Seefried is a senior physician specializing in gynecology and obstetrics at the University Hospital Augsburg (Universitätsklinikum Augsburg). She serves as the Deputy Head of the Perinatal Center Level I, focusing on special obstetrics and perinatal medicine. In this capacity, she collaborates closely with Dr. Manuela Franitza, the Head of the Perinatal Center, to provide comprehensive care for high-risk pregnancies and neonates requiring specialized treatment.

Dr. Seefried holds a certification in "Spezielle Geburtshilfe und Perinatalmedizin" (Special Obstetrics and Perinatal Medicine), which qualifies her to train medical professionals in this field. She is also actively involved in clinical research, contributing to studies on maternal and neonatal health. For instance, she co-authored a 2025 publication in Histochemistry and Cell Biology examining PD-L1 expression and its association with macrophages in placentas affected by acute and post-SARS-CoV-2 infection

Expression of the Mucin-Like Glycoprotein CD24 and its Ligand Siglec-10 in Placentas with Acute and Post SARS-Cov-2 Infection

CD24 is a mucin-like glycoprotein expressed on trophoblast cells and endothelial tissue of first and third trimester placentas. As an immune suppressor, CD24 may contribute to maternal immune tolerance to the growing fetus. CD24 is known to interact with the sialic acid-binding immunoglobulin-type lectins (Siglecs), specifically siglec-10. The aim of this study was to investigate the expression of both, CD24 and siglec-10 on placental tissue slides from acute covid patients, patients who survived a covid-19 infection and normal term controls.

For the evaluation of CD24 & siglec-10 we used a total of 60 placentas, 10 acute covid-19 female, 10 acute covid-19 male, 10 post-covid-19 female, 10 post-covid-19 male, 10 female term controls and 10 male term controls. Immunohistochemical staining against CD24 and siglec-10 was performed and the expression of both markers was done with an immunoreactive score (IRS). Identity of CD24- or siglec-10 expressing cells was analyzed by double immune fluorescence analyses.

The expression of CD24 is significantly downregulated on the extra villous trophoblast and on Hofbauer cells of female acute covid placentas. In the contrary, CD24 is significantly upregulated on male post-covid-19 Hofbauer cells. The CD24-ligand siglec-10 is significantly downregulated in post-covid-19 Hofbauer cells independently of fetal sex, whereas it shows significant higher expression in control female Hofbauer cells.

CD24 and its ligand siglec-10 are differentially expressed in placentas of patients who survived a covid-19 infection. Surprisingly this effect is related to the fetal gender. Further investigation is necessary to analyze especially the imprinting effect of this infection.

World Congress on

Virology and Infectious Diseases & Advances in Preventive Medicine and Public Health

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SPEAKERS Day 1

Neda SoleimanvandiAzar
Iran University of Medical Sciences, Iran

Biography

Dr. Neda SoleimanvandiAzar is an Assistant Professor of Health and Welfare in the Department of Community and Family Medicine at the School of Medicine, Iran University of Medical Sciences. Her research spans public health, social welfare, and health equity, with a focus on vulnerable populations and social issues such as HIV/AIDS, female sex workers, child laborers, street children, addiction, and cancer. She investigates the impact of social capital, support networks, and welfare systems on health outcomes. Her work emphasizes health equity by measuring health inequalities and examining access to care among underserved groups, addressing the social determinants that drive disparities. Dr. SoleimanvandiAzar also applies advanced methods such as social network and multi-level analysis to explore the links between social factors and health, and conducts research in health economics and policy, evaluating the effectiveness and design of interventions aimed at improving social welfare in Iran.

Predictors Of COVID-19 Vaccine Uptake Among People Who Use Substances: A Case Study in Tehran

Background: Vaccination is one of the most effective ways to manage infectious disease epidemics such as Covid-19. However, the low rates of vaccination in populations at risk including people using illicit substances, hinders the effectiveness of preventive vaccines in reducing transmission. The aim of this study was to investigate the rate of Covid-19 vaccination and its related factors among people who use substances in Tehran, Iran.

Methods: Between July and December 2022, 386 people who use substances aged ≥ 18 years old were recruited by convenience street-based sampling in Tehran. The outcome variable in this study was self-reported completion of at least two doses of the Covid-19 vaccine. Logistic regression was used to investigate the factors related to Covid-19 vaccination. Data were analysed using SPSS software version 20 at the 0.05 level of significance. As a measure of risk, 95% Confidence interval (CI) was used. The level of significance was considered at 0.05.

Results: Almost three-quarters (n = 286) of the participants reported receiving at least two doses of the Covid-19 vaccine (95% CI, 70.2-79.3). Those participants with high school diplomas were 1.17 times more likely than less educated participants to report having had 2 vaccinations (OR of 1.17, CI 95%: 1.03-1.81). Participants with a higher mean score of having a positive attitude towards Covid-19 vaccination were more likely to have received a vaccination (OR of 1.12, CI 95%: 1.08-1.17). Ethnicity was also an influential variable, people with non-Fars ethnicity were less likely to be vaccinated than those of Fars ethnicity (OR of 0.33, CI 95%: 0.13-0.81). People with higher-than-average monthly income were more likely to report vaccination than those with low monthly incomes (OR of 1.27, CI 95%: 1.09-1.8). Also, participants reporting less access to vaccination centers had a lower chance of reporting having been vaccinated than those who reported high access to vaccination centers (OR of .17, CI 95%: .08-.36).

Conclusions: COVID-19 vaccine uptake was found to be relatively high among people using illicit substances in this study. Higher levels of education, Fars ethnicity, higher income levels, having a positive attitude towards vaccination and access to vaccination centers were the most important predictors of Covid-19 vaccination in this study.

Cristina Stasi
Link Campus University, Itlay

Biography

Cristina Stasi is an Associate Professor of Gastroenterology at the Link Campus University in Rome as of November 25, 2024. She is a medical consultant at the Regional Health Agency of Tuscany in Florence, Italy. In 2001, Cristina Stasi graduated in Medicine and Surgery at the Catholic University of the Sacred Heart in Rome, Italy. In 2006, she specialized in Gastroenterology at the University of Pisa. In 2013, she earned her PhD in Experimental and Clinical Medicine at the University of Florence. Until 2023, she worked at the MASVE Interdepartmental Hepatology Center, University of Florence, Center for Research and Innovation CRIA-MASVE, AOU Careggi, Florence. In 2023/24, she was a temporary research fellow at the University of Siena, Italy. She is on the list of the Top Italian Women Scientists. She is the author of 101 scientific publications, most of which were published in peer-reviewed journals in these fields.

Opportunistic screening for Hepatitis C Virus infection among hospitalized patients at the University Hospital in Siena

Background & objectives: Opportunistic screening is an early warning method to identify patients with hepatitis C virus (HCV) infection and could contribute to achieving the WHO viral hepatitis elimination goals by 2030. The Italian Ministry of Health has introduced free HCV screening among people born between 1969 and 1989 and those at increased risk for HCV. The objectives of this study were to identify the following: 1) chronic HCV infections in hospitalized patients aged 55 years and older who were not included in the free HCV screening program, and hepatitis B virus (HBV) infections in a specific subgroup of patients;

2) patients with transaminase levels outside the normal range.

Methods: This prospective study was conducted on hospitalized patients born before 1969 admitted to the Internal Medicine and Gastroenterology Divisions at Santa Maria alle Scotte Hospital in Siena. These patients underwent screening for HCV antibodies, while a subgroup was also evaluated for markers of HBV infection. Additionally, all enrolled patients were assessed for transaminase levels.

Results: A total of 207 subjects, divided into 3 different cohorts (2 cohorts of patients admitted to Internal Medicine Divisions and 1 cohort to the Gastroenterology unit), underwent HCV screening. Overall, 8 patients (3.9%) were anti-HCV positive, of whom 2 (0.9%), tested positive for HCV RNA. Of 96 patients in the gastroenterology cohort, 8 patients (8.4%) had an HBsAg-negative infection, and 1 (1%) had a chronic HBV infection.

Conclusions: Chronic HCV infection was demonstrated in 2 patients (0.9%) of hospitalized patients (> 55 years old). The prevalence of HBV infection reached 9.4% (9 patients) in the gastroenterological study population residing in South-Eastern Tuscany, confirming that an opportunistic screening can identify the submerged people affected by viral hepatitis.

Nada H Aljarba
Princess Nourah bint Abdulrahman University, KSA

Biography

Dr. Nada Hamad Aljarba is a highly motivated and experienced researcher with a strong passion for scientific exploration and innovation. With a PhD in Cell Biology, Genetics from King Saud University, she has made significant contributions to the field of human health and wellness priorities. Her research focuses on Genetic polymorphism, cytotoxicity, and cancer treatment. As an Associated Professor and former Vice Dean of Student Affairs at Princess Nourah bint Abdulrahman University, she has demonstrated exceptional leadership and research skills. Dr. Aljarba is committed to driving impactful research outcomes and contributing to the scientific community's knowledge base.

Association Between Interleukin-27 Gene Polymorphisms and Plasmodium Falciparum Malaria

Malaria is often characterized by a complicated disease course due to multifaceted intrinsic genetic factors of the host and the parasite. This study aimed to investigate the role of interleukin-27 (IL-27) gene polymorphisms in Plasmodium falciparum malaria infection in a Saudi Arabian cohort. This case-control study obtained blood samples from 250 malaria patients with P. falciparum and 200 randomly identified healthy control subjects from the Malaria Center in the Jazan area. Malaria patients were grouped into three cohorts as follow: low (<500 parasites/µl of blood), moderate (500–1000 parasites/µl of blood), and high (>1000 parasites/µl of blood) parasitemia. The results show that the IL-27 variant rs181209 was significantly associated with malaria patients (P = 0.026). Similarly, the homozygous GG genotype of rs26528 was also associated with risk of developing P. falciparum malaria (P = 0.032). The minor allele C of variant rs181206 exhibited an association with low to moderate parasitemia (P = 0.046). Furthermore, the rs181209 AA genotype was statistically significant in age group 1–5 years (P = 0.049). In conclusion, this study suggests that variant rs181209 and rs26528 could be associated with the risk of malaria infection by P. falciparum in the population studied.

Faezeh Rouhi
Shiraz University of Medical Sciences, Iran

Biography

I am a medical mycologist and currently a PhD candidate with a strong background in fungal pathogenesis, host–pathogen interactions, and molecular diagnostics. Throughout my academic and clinical training, I have gained practical experience in fungal detection (microscopic, macroscopic), real-time PCR, antifungal susceptibility testing (CLSI-guidelines), DNA-sequencing, BLAST-analysis, plasmid cloning, and cell culture. I independently conducted and published my Master's thesis on Pneumocystis jirovecii detection using quantitative real-time PCR. I've also led and contributed to several research projects, including studies on Candida auris in COVID-19 patients and the emergence of Trichophyton indotineae.

These experiences have strengthened my skills in experimental design, data analysis, academic writing, and collaboration. My clinical experience exposed me to increasing antifungal resistance in Candida and Trichophyton species, fueling my interest in understanding the genetic mechanisms behind resistance. My long-term goal is to contribute to academic research and public health through innovative strategies for fungal diagnosis and management.

Quantitative Real-Time PCR For Distinction Between Pneumocystis Jirovecii Infection/Colonization in Hospitalized Patients

Background: Identification of the opportunistic fungus Pneumocystis jirovecii in respiratory specimens presents challenges, particularly in differentiating between colonization and active infection. The present study assessed a probe-based real-time PCR (qPCR) diagnostic effectiveness in patients with diverse underlying conditions, particularly those with COVID-19 and pulmonary insufficiency.

Methods: To set up the qPCR, clinical samples from 281 patients with respiratory ailments were tested. Subsequently, a descriptive study was conducted on 112 patients with pulmonary insufficiency with and without COVID-19 suspected of P. jirovecii infection. All specimens were subjected to DNA extraction followed by nested PCR and qPCR targeting the mitochondrial large subunit (mtLSU)- rRNA gene.

Results: Based on nested PCR and qPCR, P. jirovecii was identified in 40 out of 281 patients, with slight variations in positive samples observed across dilutions. Three patients who tested positive in nested PCR yielded negative results in probe-based qPCR. Conversely, three patients who tested positive in probe-based qPCR yielded negative results in nested PCR. Considering nested PCR as the golden standard, probe-based qPCR demonstrated good diagnostic performance, with 92.5% sensitivity and 98.7% specificity. Based on cycle threshold (Ct) values, the positive cases were categorized: ≤32 as infection, >35 as colonization, and a grey zone between these values ($32 < X \leq 35$). The analysis of 112 PCP-suspected patients revealed a prevalence ranging from 6.25% (nested PCR) to 7% (probe-based qPCR).

Conclusions: This study suggested Ct values to differentiate Pneumocystis pneumonia/colonization in immunocompromised patients. To further augment the diagnostic sensitivity, it is recommended to integrate qPCR results with clinical parameters and biomarkers to offer a more precise understanding of Pneumocystis-related conditions.

Marta Korinkova
National Institute of Public Health, Czech Republic

Biography

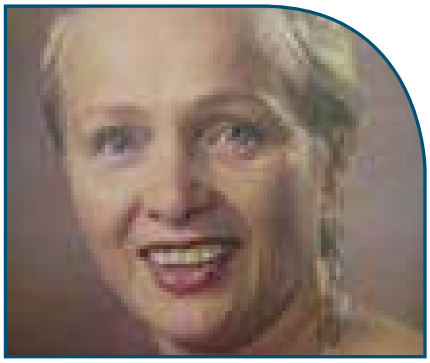
As a microbiologist with expertise in environmental and public health microbiology, I have recent experience in conducting wastewater-based surveillance of SARS-CoV-2 at a national level. My work includes analyses of microbes from various samples, such as soils, composts, waste, healthcare-associated waste, wastewater sludge, and raw and treated wastewater. In my current role, the focus is on protecting public health through ensuring safe waste handling, SARS-CoV-2 wastewater surveillance, and providing support for legislative documents at a national level. Former research activities include participation in international project OHEJP FED-AMR: The role of free extracellular DNA in dissemination of antimicrobial resistance over ecosystem boundaries along the food/feed chain, including One Health principles, national projects associated with waste and soil microbiology. The recent project activity is associated with wastewater reuse (DIGITWIN: Digital twin of water reuse technologies and integration of wastewater surveillance into public health systems (JA EU-WISH: EU-Wastewater Integrated Surveillance for Public Health).

Wastewater Surveillance as a Useful Tool for Public Health

The COVID-19 pandemic has exposed many weak points in pandemic plans and deficiencies in preparedness plans for new or reemerging threats. The rapid spread of the SARS-CoV-2 virus in the population across state borders paralyzed many health facilities. One of the weak points was insufficient capacity for individual clinical testing. Experts in the wastewater sector quickly identified that SARS-CoV-2 viral particles shed by infected persons could be detected in untreated wastewaters. The more viral load in the population, the higher the viral signal detected in wastewater. Many studies confirmed that trends monitored in wastewaters could even predict viral loads in the population. It was possible to predict an increase or decrease of infection load in the population up to 14 days in advance, enough time to tighten or release anti-epidemic restrictions. In comparison with individual testing, wastewater monitoring is a valuable, complementary, independent and objective approach to the surveillance and testing public health relevant markers such as pathogens (e.g. SARS-CoV-2, influenza), antimicrobial resistance (AMR), illicit drugs, chemicals or biomarkers.

The European Union makes significant efforts to promote activities leading to ensure that wastewater surveillance data are shared and jointly used. The digital platform EU Wastewater Observatory for Public Health (https://wastewater-observatory.jrc.ec.europa.eu/) offers a virtual space for sharing wastewater data and knowledge. Under the EU4Health programme, the European Union supports the policy priority of strengthening capacity to prevent, prepare for and respond rapidly to serious cross-border health threats through Joint Action EU-WISH: EU-Wastewater Integrated Surveillance for Public Health (https://www.eu-wish.eu/).

In the Czech Republic, National wastewater surveillance for SARS-CoV-2 was established under the project Support to the Member States to establish national systems, local collection points, and digital infrastructure for monitoring Covid 19 and its variants in wastewaters under Emergency Support under Council Regulation (EU) 2016/369 as amended by Council Regulation (EU) 2020/521. The National Institute of Public Health is responsible for implementing the national surveillance system for SARS-CoV-2 in wastewater. Laboratory activity for detection and quantification of viral loads was developed based on cooperation with UCT Prague. Multisectoral cooperation is crucial for establishing flexible surveillance system supporting public health through wastewater data.



Jaana Ruotsalainen
University of Jyvaskyla, Finland

Biography

Jaana Ruotsalainen, born in 1976, is a private entrepreneur and physiotherapist with a Master of Arts degree in Music Therapy, earned in 2013. She is currently a doctoral candidate at the University of Jyvaskyla, where her research focuses on the innovative use of music and rhythm in neurological rehabilitation. Jaana unique approach incorporates patients' own voices as therapeutic tools to support long-term recovery. Her holistic therapy method emphasizes enhancing patients' sense of self and self-esteem through engaging and motivating elements such as rhythm, music, and singing. Through her published work, she has made significant contributions to understanding the impact of music on motor, cognitive, and emotional functions, thereby advancing the field of neurological rehabilitation.

Group Rehabilitation in Parkinson's Disease: a Case Study Combining Music and Physiotherapy

Introduction: Neurological patients, such as those with Parkinson's Disease (PD) often have multiple treatment needs beyond motor rehabilitation. The integration of multiple therapy modalities allows a single therapist to address physical, social and emotional needs.

Method: The current study comprises a case example of an integrated approach in the form of a small group therapy intervention integrating music and physiotherapy methods. Five men (60-70 years) with PD participated in 20 sessions over five months, which included group discussion, listening to and making music, and music-supported physiotherapy interventions addressing flexibility, respiration, relaxation, rhythmic movements, and speech. Data comprised pre- and post-therapy tests as well as thematic analysis of the therapist's clinical notes.

Results: Quantitative analysis found that each participant showed a pattern of improvement in physical and psychosocial measures, with the most notable group-level improvement being an increase of 44% in participants' self-reported relaxation ability. Participants also improved their balance and coordination when walking. The qualitative analysis showed that music was an important factor in developing social bonds within the group.

Discussion: This study provides an example how a multi-professional approach to rehabilitation can efficiently address the complex needs of patients with PD and provides insights relevant to further rehabilitation research.

Jean Muzembo Ndundu
ISTM/Kinshasa, Democratic Republic of The Congo

Biography

Jean Muzembo Ndundu is a distinguished university professor and international lecturer specializing in physiotherapy and rehabilitation. He is deeply committed to advancing the field through research, education, and the training of future professionals. Passionate about improving patient care, Jean focuses on developing skilled practitioners who can make a lasting impact. His teaching emphasizes the vital role physiotherapy plays in enhancing quality of life. Beyond academia, Jean contributes to the management of training institutions and leads research initiatives across Europe and Africa. He promotes a holistic approach to health, integrating academic knowledge with clinical practice. His work reflects a strong belief in equitable access to high-quality rehabilitation. Jean's dedication continues to shape the future of physiotherapy worldwide.

Lymphoedema: An Important Complication in a Cancer-Affected Population in Kinshasa, DR Congo

Introduction: Cancer, regardless of its type, is associated with various complications. Among these, pain, physical deconditioning, and respiratory insufficiency can be noted. In recent years, vascular disorders such as lymphedema and venous edema have been mentioned in several international scientific publications. However, this post-cancer vascular approach is largely absent in the management of cancers in many developing countries, including DR Congo. Several factors contribute to this situation, including insufficient training of Healthcare personnel, lack of diagnostic and treatment equipment, and the absence of specialized hospital infrastructures.

Objectives: The main objective of the study is to highlight the significance of lymphedema with in the arsenal of post-cancer complications. Secondarily, the study will identify the rehabilitation techniques used to manage vascular disorders and other complications resulting from cancers, particularly breast cancer.

Materials and Methods: An analysis of 189 cancer cases was conducted over two years in two hospitals in Kinshasa. Various types of complications were recorded during the patients' hospital stay. For each patient undergoing rehabilitation, the technique used to manage existing complications was noted. Special attention was given to lymphedema following breast cancer due to its exceptional nature in the local context.

Results: The results show that several complications were observed, present in almost similar proportions. Specifically, it was found that: Pain was present in 82% of cases Physical deconditioning with functional impairment was observed in 79% of cases Respiratory issues characterized by bronchial congestion, ventilatory asynchrony, and dyspnea were present in 76% of cases Vascular disorders, including lymphedema and venous edema, were noted in 77% of cases.

Conclusion: Vascular disorders such as lymphedema and other venous edema are significant complications of cancers. Lymphedema appears to be particularly associated with breast cancer. These vascular complications are generally consequent to the progression of cancer or the treatments undertaken to address it. Therefore, healthcare professionals need to focus on all complications to ensure comprehensive and total management of cancer-affected individuals.

Melis Destan
Istanbul Okan University, Turkey

Biography

Melis Destan is a physiotherapist and research assistant at Istanbul Okan University, Turkiye. She earned her bachelor's degree in Physiotherapy and Rehabilitation in July 2021 and has around three years of clinical experience, primarily in orthopedic injuries and sports rehabilitation. She has worked with both amateur and professional athletes, contributing to their recovery and performance. Since October 2024, she has been serving as a research assistant in the Department of Physiotherapy and Rehabilitation and recently completed her master's degree. Her academic interests include sports rehabilitation, musculoskeletal injury management, and human biomechanics. She has presented her work at international conferences, including a teleconferenced oral presentation at the sixth International Mediterranean Congress. Outside of her professional role, she stays active through amateur tennis and recreational running.

Bridging Training and Competition: Blood Flow Restriction as a Novel Tapering Approach

Effective tapering is essential to maintain peak performance and reduce injury risk before competition. Blood flow restriction (BFR) training, a low-load alternative to traditional resistance exercise, has shown promise; however, its biomechanical effects during tapering are not well defined. This study aimed to compare the acute effects of low-pressure and high-pressure BFR with traditional progressive resistance exercise (PRE) on muscle tone and stiffness during a simulated tapering period.

Methods: This randomized controlled study included sixty-two healthy participants (21.03±0.83 years; 54.8% female). The participants were randomized into three groups: low-pressure BFR (20% arterial occlusion pressure [AOP]), high-pressure BFR (80% AOP), or PRE. Over four days, participants completed group-specific resistance protocols targeting the biceps brachii. Muscle tone and stiffness were measured using a MyotonPRO device just after each session.

Results: In intragroup analyses, muscle tone exhibited a considerable time effect in the PRE ($\eta^2 = 0.772$, $p < 0.001$) and 80% BFR ($\eta^2 = 0.387$, $p < 0.001$) groups, but not in the 20% BFR group ($\eta^2 = 0.004$, $p = 0.975$). Similarly, muscle stiffness significantly increased over time in the PRE ($\eta^2 = 0.393$, $p < 0.001$) and 80% BFR ($\eta^2 = 0.251$, $p < 0.001$) groups, whereas no significant changes were found in the 20% BFR group ($\eta^2 = 0.037$, $p = 0.544$). Intergroup comparisons showed that 80% BFR elicited greater muscle tone and stiffness than 20% BFR ($p < 0.001$). (Table 1.)

Conclusions: Both high-pressure BFR and PRE increase muscle tone and stiffness during tapering, which may elevate injury risk. In contrast, low-pressure BFR preserves neuromuscular properties without exacerbating tissue stiffness, presenting a viable and safer tapering alternative for strength

Pilar Gonzalez Sanz
Universidad Europea de Madrid, Spain

Biography

Pilar Gonzalez Sanz is a professor and researcher in the Department of Nursing. She holds a Diploma in Nursing from the Complutense University of Madrid, a PhD in Nursing from the European University, and a Master's Degree in Nursing Sciences from the University of Alicante.

In her academic role, she coordinates clinical learning for the practical components of the Nursing degree across all four years of study.

Her research focuses on health education, learning assessment in clinical settings, and higher education. She has authored numerous communications and presentations at both national and international conferences, covering topics such as clinical observation, nursing methodology, and the teaching and learning of practical skills in nursing.

Effectiveness of a Psychoeducational Intervention in Undergraduate Nursing Students

Depression, anxiety and behavioural disorders are among the leading causes of illness and disability in young people and adolescents worldwide (World Health Organisation, 2024). In Spain, only 30.8% of young people aged 18-34 years believe they have good mental health (Spanish Confederation of Mental Health, 2023); and women aged 18-24 years are more vulnerable to developing these problems (FAD Barometer, 2023). Nursing students are in this vulnerable group, and the development of mental health problems such as stress, anxiety and depression arise very frequently during academic life, especially during clinical placements (Alwawi & Alsaqqa, 2023; Helenpuii & Choudhy, 2024).

The aims of this study are to analyse the effectiveness of a psychoeducational programme carried out during clinical practice and to understand their lived experience.

The methodology used was mixed, quantitative and qualitative. In the former, psychological questionnaires and an ad hoc questionnaire of socio-demographic variables were used. In the qualitative approach, semi-structured interviews were conducted with twelve of the participants until data saturation.

At the descriptive level, in quantitative analysis, in relation to the ZUNG questionnaire analysing depression, surprisingly a mean value was obtained that was very close to the first level of depression. In the qualitative part, three main themes were obtained: increased confidence and security; increased motivation in their practical learning; and personal and professional growth.

It is concluded that the programme has allowed the acquisition of Competencies in Emotional Management, Communication and Self-knowledge, favouring self-esteem and confidence and strengthening the mental health of our nursing students.

Khulud Abudawood
King Saud bin Abdulaziz University for Health Sciences, KSA

Biography

Dr. Khulud Abudawood is an Assistant Professor at King Saud bin Abdulaziz University for Health Sciences, College of Nursing in Jeddah, with a PhD in Nursing from the University of Florida. She specializes in Adult Gerontology and Palliative Care, focusing her research on pain assessment and management in adults with cancer and sickle cell disease. Dr. Abudawood is committed to empowering nurses to deliver optimal care and has published work addressing discrimination and stigma in clinical pain management. Through her teaching and research, she inspires future healthcare professionals to improve patient outcomes.

The Relationship Between Pain and Quality of Life Among Patients Under Hemodialysis: A Cross-Sectional Study

Background: Chronic kidney disease (CKD) is a global health challenge marked by kidney damage or reduced kidney function, significantly impacting patients' quality of life (QOL) physically, socially, and psychologically. CKD contributes to high mortality rates, disabilities, and financial burdens on healthcare systems. Globally, over 800 million individuals are affected (Kovesdy et al., 2022), and in Saudi Arabia (SA), 20,000 patients undergo hemodialysis (HD), with an estimated CKD prevalence of 9,892 per 100,000 people (Mousa et al., 2021). HD treatment exacerbates QOL issues due to its severity and associated pain (International Association on the Study of Pain, 2020). Pain influences overall well-being, yet limited research exists on the relationship between pain and QOL in CKD patients in SA.

Aim: This study aimed to assess the relationship between pain and QOL in CKD patients undergoing HD.

Methods: A quantitative descriptive cross-sectional study was conducted at King Abdulaziz Medical City HD centers. A non-probability convenience sample of participants aged 18+ with CKD receiving HD and experiencing pain completed three electronic surveys: sociodemographic form, Short-Form McGill Pain Questionnaire (SF-MPQ), and WHOQOL-BREF. Descriptive statistics, Pearson Correlation Coefficient (r), and multiple linear analyses were performed using SPSS (version 25), with significance set at $p<0.05$.

Results: Among 157 participants, overall QOL was moderate except for the psychological domain (55.04 ± 17.74), indicating low QOL. Poor QOL correlated with low health satisfaction ($t=2.86$, $p=0.006$), diminished physical functioning ($t=4.96$, $p<0.001$), and poor psychological well-being ($t=3.89$, $p=0.001$). Pain severity averaged 3.94 ± 3.34, correlating negatively with physical health ($p<0.001$), psychological ($p<0.001$), environmental ($p=0.006$), and health satisfaction domains ($p=0.022$).

Conclusion: Pain significantly impacts multiple QOL dimensions in CKD patients undergoing HD, particularly psychological well-being. Factors such as age, income, nationality, and marital status were linked to poor QOL. Routine pain assessment is essential to improve patient outcomes.

James Waterson
BD EMA, United Arab Emirates

Biography

James Waterson in a UK registered Nurse and has specialist certificates in Children's Critical Care, Offshore Medicine and in Renal Nursing. He received his Baccalaureate from the University of London and has Master's Degrees in Medical Education from the University of Dundee, and in Health Economics and Pharmacoeconomics from Pompeu Fabra University School of Management, Barcelona.

He has published papers on medication safety, alarm fatigue, machine learning, medical device interoperability, introducing robotics into compounding and dispensing units, on leadership during disaster activation, and on managing critically ill paediatric patients in adult facilities.

He has worked in Europe, the United States, the People's Republic of China, and in the Middle East in clinical positions and in university faculties. He is an associate editor for the Journal of Medical Internet Research.

Creating Lighthouses: Can Remote Technology Help Raise Standards of IV-Medication Administration Safety in Low- and Middle-Income Countries?

Objectives and Scope: Across low- and middle-income countries (LMIC) smart IV-infusion technologies are poorly adopted due to the sizeable capital spends for equipment, and because of limited local expertise in the effective implementation IV-medication safety technology and strategies. It is possible to bridge some of this knowledge gap by using remote technology to create, edit, and deploy smart drug libraries remotely and to obtain external expert review of data drawn from smart infusion devices.

Methods: Using Wi-Fi connected IV-smart pumps and remote access to hospital servers we deployed IV-medication libraries for neonates, pediatrics, and emergency room attendees and intensive care centralized infusion monitoring for intensive care areas to a 150-bed facility in Côte d'Ivoire. The libraries were created using best-practice processes and localized for use in the formularies of facilities in Côte d'Ivoire. Critical short-half-life medications were identified and marked out for central infusion monitoring.

Results: Assessment of the effectiveness of the strategy was made via smart pump logs indicating compliance, reaction times for critical short-half-life medication interruptions, and dose-error "good saves". In negotiation with nursing, pharmacy, and medicine representation within the facility we effected changes under a Plan-Do-Check-Act (PDCA) process that improved compliance with drug-library usage and improved protection for IV-medication error and alarm fatigue. Having remote access to the smart pump data allowed for expert review from established medication safety technology users from Europe and the Middle East.

Conclusion: Smart infusion technology benefited patients and clinicians given the improvements in safety identified in the study. The creation of 'lighthouse' facilities with a powerful culture of risk management for IV-medication error can positively influence lower-level facilities within their regions.

Didem Yuksel
Atilim University, Turkey

Biography

Dr. Didem Yuksel graduated top of her class from Baikent University's Nursing Department with a 3.35 GPA. She began her career at Bakent University Ankara Hospital's Neonatal Intensive Care Unit, where she served as both clinical nurse and head nurse over four years. While working, she earned a master's degree in Pediatric Nursing from the same university with a 3.44 GPA, graduating with honors. She completed internships across diverse medical departments, including Neonatal Intensive Care, Pediatric Oncology, and Organ Transplant Units. She later worked as a Multiple Sclerosis Clinical Training Nurse at Innovex Health and spent six years in Clinical Neuroimmunology Units at Hacettepe and Ege University Hospitals. She also served three years as a research assistant at Ufuk University and one year as an Assistant Professor at Near East University. In 2022, she completed her PhD at Ege University, focusing on pediatric multiple sclerosis—a previously unstudied area in Turkey.

Compatibility of the Experiences Gained in the Practice of Child Health and Diseases Nursing Course with Contemporary Roles and Functions

Background: The aim of this this retrospective study research is to evaluate the suitability of practical teaching in preparing for the contemporary roles and functions of paediatric nursing, and to provide a data base from which the course can be developed.

Methods: The planning processes used standardized data collection forms, nursing process form for the department. The data of the study was collected between June 2024 and August 2024.

Results: During the practice, 34 students prepared a care plan in line with the approaches emphasized in the course. A standardized data collection form and nursing assessment forms were used during the planning process. Data from 102 care plans and end-of-course evaluation forms completed by students in practice formed the basis of the study. During the applications, a total of 67 nursing diagnoses were used 390 times for 102 patients. When we look at the Collaborative Problems Considered, for Prematurity (n=86, %84.8), for Heart Failure (n=12 %13.9). Students implemented a total of 239 nursing interventions 1841 times during the practice. Nursing Initiatives; Physiological: Basic Functions (n=354, %19.2), Physiological: Complex Functions (n=383, %20,8), Behavioral Therapy (n=201, %10.9), Security (n=344, %18,7), Family (n=146, %7,97), Health System (n=344 %13,3).

Conclusion: Students are more likely to attempt complex health problems, particularly skin/wound management and respiratory management. It can be said that it is suitable for patients, most of whom have metabolic problems, who are in the post-operative period or are hospitalized for long periods. It can be said that the experiences provided in the practical teaching of the course are generally compatible with the contemporary roles and functions of the paediatric nurse.

World Congress on

Virology and Infectious Diseases & Advances in Preventive Medicine and Public Health

07-08 Jul 2025 | Prague, Czech Republic

Posters Day 1

Mohammed Otayni
Najran University, Saudi Arabia

Biography

Mohammed Hassan Otayni is a final-year physiotherapy student at Najran University, Saudi Arabia, and a dedicated intern at the Armed Forces Hospital. Due to his strong interest in sports injuries and cardiac rehabilitation, he has gained practical experience through university projects and clinical training. As a former member of the Najran University Physiotherapy Club, he contributed to professional development and collaborated in team environments, strengthening his skills in patient care and rehabilitation. With expertise in rehabilitation techniques, injury prevention, and evidence-based therapies, Mohammed is committed to advancing patient outcomes and aims to make a meaningful impact in clinical physiotherapy and sports therapy.

Prevalence and Functional Impact of Ankle Sprains in Athletes: A Cross-Sectional Study

Background: Ankle sprains are common sports-related injuries that can cause long-term functional impairment. This study examined the prevalence of ankle sprains, the relationship between the number of sprains and functional ability using the FAAM-Sport scale, and the influence of BMI and weekly soccer play on ankle function.

Methods: A total of 191 participants were included. Data on age, BMI, frequency of weekly soccer play, and ankle sprain history were collected. Functional impairment was assessed using the FAAM-Sport Score. Since the data were not normally distributed, Spearman's correlation was used to analyze the relationship between the number of ankle sprains and FAAM-SP scores. A multiple linear regression model determined whether BMI, number of sprains, and weekly soccer play frequency predicted FAAM-SP scores.

Results: The prevalence of ankle sprains was 57.07%, with 32.46% affecting the right ankle, 10.99% the left, and 13.61% both ankles. The mean age was 25.5 years (SD = 6.39), BMI was 24.15 (SD = 11.49), and FAAM-SP Score was 24.72/32 (SD = 7.08). A moderate negative correlation (ρ = -0.344, $p < .001$) was found between the number of sprains and FAAM-SP scores, indicating worse functional ability with more injuries. The regression model was significant (R^2 = 0.042, $p = .047$), with the number of sprains ($p = .009$) as the only significant predictor of functional impairment. BMI ($p = .372$) and weekly soccer play ($p = .664$) were not significant predictors.

Conclusion: Frequent ankle sprains impair functional ability, emphasizing the need for injury prevention and rehabilitation to reduce recurrence and improve mobility. Further research should explore targeted interventions to minimize long-term impairment

Istvan Hutas
Pharmateka Co. Ltd., Hungary

Biography

Dr. István Hutás is a Hungarian pharmacist with a distinguished career in pharmaceutical development. Beginning as an assistant at SOTE University in 1967, he has held leadership roles at OGYI, Phylaxia, BCR, Reanal, and currently serves as General Manager of Pharmateka Co. Ltd. He holds a pharmacist doctorate from SOTE, a specialist engineer degree from BME, and is a recognized innovator with over 50 patents. His work has been honored with multiple innovation awards and national recognitions.

New Possibility of Health Care

This proposal introduces a novel category of medicinal products that can be established within national regulatory frameworks. Positioned between dietary supplements and traditional pharmaceuticals, this new class would allow the use of multi-component, biologically active substances with synergistic effects, aimed primarily at disease prevention. By operating outside the constraints of European political bureaucracy, this approach could accelerate the development and availability of innovative preventive therapies.

The potential applications include prevention and treatment of stress-induced calcification diseases, oxalate kidney stones, disorders related to chronic tension, toxic damage, and multi-resistant pathogens. It also highlights the preventive and therapeutic potential of essential oils. While this category promises significant public health benefits, realization requires institutional and regulatory support.

World Congress on

Virology and Infectious Diseases & Advances in Preventive Medicine and Public Health

07-08 Jul 2025 | Prague, Czech Republic

KEYNOTE SPEAKERS Day 2

David John Wortley
World Lifestyle Medicine Educations Services (WLMES), United Kingdom

Biography

David Wortley is the author of "Gadgets to God", a historical perspective of mankind's changing relationship with technology over the last 60 years and a vision of the future impact of disruptive communications technologies on business and society. He is also a freelance consultant on the strategic use of immersive and emerging technologies such as serious games, virtual worlds and social networks. His passion is helping organizations and individuals to leverage the power of these technologies for competitive advantage and business/personal development.

He is a Fellow of the Royal Society of Arts (FRSA) with a career which has embraced the converging and emerging technologies of telecommunications (Post Office Telecommunications), computing (IBM), digital media and community informatics (Mass Mitec, a rural SME) and the creative industries (De Montfort University Leicester, UK). He is a serial entrepreneur and innovator with a passion for applying technology to social and economic development.

David recently supported De Montfort University in Leicester as a Research Fellow in the Art, Design and Humanities Faculty. He was also Founding Director of the Serious Games Institute (SGI) www.seriousgamesinstitute.co.uk at Coventry University and was responsible for the development of the Institute as a global thought leader on the application of immersive technologies (which include video games; virtual worlds and social networking) to serious social and economic issues such as education; simulation; health; commerce and climate change. Working with academics; regional development agencies and leading computer games companies, David made the SGI a focal point for games based learning, simulation and immersive 3D virtual environments and an engine for innovation and social and economic regeneration.

Lifestyle Medicine and Preventative Healthcare

Lifestyle Medicine (LM) is rapidly emerging as a cornerstone of preventative healthcare, offering evidence-based interventions that address the root causes of chronic disease. As public health systems face rising burdens from non-communicable diseases (NCDs), lifestyle medicine provides a transformative model centred on behavioural change, patient empowerment, and sustainable health outcomes. The British Society of Lifestyle Medicine (BSLM) champions this approach, promoting six pillars of health: nutrition, physical activity, restorative sleep, stress management, social connection, and avoidance of harmful substances.

Drawing on evidence highlighted by BSLM, this presentation explores how integrating lifestyle medicine into mainstream healthcare can significantly reduce the incidence and cost of managing conditions such as type 2 diabetes, cardiovascular disease, obesity, and mental health disorders. For example, case studies from the NHS-supported "Reversal Clinics" demonstrate the potential of whole food plant-based diets and structured lifestyle interventions to achieve remission in type 2 diabetes. Likewise, BSLM's support for social prescribing and community-led initiatives reflects a growing recognition of the socio-environmental determinants of health.

This presentation will also examine policy implications, training needs for healthcare professionals, and the economic benefits of prevention over treatment. By reframing public health strategy around LM principles, we can shift from reactive to proactive care, enhance population wellbeing, and address health inequalities. Ultimately, lifestyle medicine is not just an adjunct to healthcare—it is a foundational strategy for a healthier, more resilient future.

Aly Vredenburgh
Vredenburgh & Zackowitz, Inc. USA

Biography

Alexandra (Aly) Nicole Vredenburgh, MA (Social Innovation) is the author of Out of Focus: Why Gen Z's mental crisis is more complex than you think. Her work reflects her commitment to education and mental health advocacy.

Advancing Generation Z's Mental Health: The Spectrum of Systemic Root Causes of the Mental Health Crisis and Innovative Solutions

This literature review combines first-hand accounts and scholarly research to delve into the systemic factors contributing to the increase in the incidence of mental illness among Generation Z (Gen Z; Born 1997-2010), creating a public health crisis. This review analyzes peer-reviewed articles, published during the last 20 years, that study issues impacting Gen Z mental health, including socioeconomic pressures, media exposure, intense academic stress, nutrition and exercise deficiencies, a noticeable decline in creativity, profound feelings of loneliness, and complex family dynamics, pinpointing these as the primary drivers exacerbating mental health challenges among Gen Z. Given that this area of study has limited peer-reviewed research available, this review serves to fill a critical gap in information. Inclusion criteria consist of studies published within the last twenty years that focus on Gen Z and mental health factors, while exclusion criteria ruled out studies that were not peer-reviewed or lacked empirical data. This review evaluates the efficacy of current interventions, primarily from the United States, including community-based support systems, innovative digital mental health platforms, and crucial policy reforms aimed at improving mental health outcomes. The findings underscore the pressing need for social innovation, indicating that traditional methods, such as pharmaceutical intervention and talk-based therapy, are often insufficient and ineffective. This review aims to provide comprehensive insights and forward-thinking strategies for stakeholders committed to supporting the mental well-being of this vulnerable population, urging a shift towards more sustainable and impactful solutions. By providing a comprehensive synthesis of current research, this study aims to inform stakeholders and guide future efforts in mental health advocacy and policy reform.

Roya Kelishadi
Isfahan University of Medical Sciences, Iran

Biography

Professor Roya Kelishadi is specialist in Pediatrics, working as a faculty member of Isfahan University of Medical Sciences in Iran. Over her 30-year career, she focused on primordial/primary prevention of non-communicable diseases. She is the founder and chair of the Research Institute for Primordial Prevention of Non-Communicable Disease, as well as the founder and chair of the Child Growth and Development Research Center affiliated to Isfahan University of Medical Sciences. She is also the founder and Editor-in-Chief of the International Journal of Preventive Medicine. She combines her clinical and research background for prevention and control of risk behaviors and risk factors of adult diseases from the pediatric age. Her studies are focused on lifestyle and environmental factors related to the early life origins of adult chronic diseases. She has been awarded several times at national and provincial levels. She has more than 1000 articles published in high-rank journals and more than 50 books, which are mainly in the field of disease prevention and health promotion.

The Effect of Synbiotic Supplementation on Total Antioxidant Capacity in Adolescents Exposed to Air Pollution: A Randomized Controlled Clinical Trial

Background: Exposure to air pollution might increase total antioxidant capacity (TAC) levels. Synbiotics by changing intestinal flora can decrease the inflammatory markers. There is lack of evidence regarding the effect of synbiotic supplementation on oxidative stress due to air pollution in adolescents.

Objectives: This study aims to investigate the effect of synbiotic supplementation on TAC in healthy adolescents who were exposed to air pollution.

Methods: This randomized single-blind, controlled trial was conducted among 70 participants aged 10- 18 years who were exposed to air pollution. Participants were randomly divided into two groups that received either a synbiotic (n= 38) or omega-3 (n= 32) for 8 weeks. TAC was measured at baseline and after the intervention.

Results: TAC levels increased significantly at the end of the intervention (839.78±133.80) compared to baseline (903.37±111.90) in synbiotic group (, p<0.005). No significant difference in TAC levels was observed between synbiotic and omega-3 groups (P=0.75).

Conclusion: Synbiotic supplementation might be associated with an increase in TAC levels. Investigating the effects of air pollutants on adolescents is very important. Further large-scale studies are required to highlight the importance of synbiotics on harmful effects of air pollution in adolescents.

World Congress on

Virology and Infectious Diseases & Advances in Preventive Medicine and Public Health

07-08 Jul 2025 | Prague, Czech Republic

SPEAKERS Day 2

Kan Ding
Shanghai Institute of Materia Medica, Chinese Academy of Sciences, China

Biography

Ding Kan is active professor and a principal investigator in Shanghai Institute of Materia Medica (SIMM), Chinese Academy of Sciences. He serves as Vice President of the Zhongshan Institute for Drug Discovery affiliated to SIMM. His research focuses on structure, function, target molecule discovery, bioactive mechanism of glycan and carbohydrate-based new drug discovery for anti-pancreatic cancer, fibrosis-related diseases, etc.

Dr. Ding got his Ph.D. degree in organic chemistry in SIMM, and has published over 210 papers in leading journals. He holds 80 patents. Currently, he also serves as Deputy Editor-in-Chief for Glycoconjugate Journal and Editor-in-Chief for Glycoscience & Therapy.

Functional Targeting Molecule Discovery of Polysaccharide from Lycium Barbarum

The evidences show that fruit of Lycium barbarum L may nourish liver and kidney, brighten eyes, and strengthen tibia. The polysaccharide in this fruit has been convinced to be a main active component. Lycium barbarum polysaccharide (LBPW) may alleviate liver fibrosis in mice by regulating the TGF-β/Smad7 signaling and gut microbiota. Homogeneous polysaccharide LBP1C-2 from LBPW can bind to FGFR1 to activate satellite cells (SCs) and promote SC self-renewal through Spry1 upregulation. In addition, this polysaccharide may also alleviated age-related bone loss by targeting BMPRIA/BMPRII/Noggin. Interestingly, this polysaccharide induced browning of inguinal white adipose tissue (iWAT), energy expenditure and thermogenic function in a long-term (4 months) treatment mouse model. Although polysaccharide LBP1C-2 has significant bioactivities, it's vague whether there is an active domain in original polysaccharide represents minimal structural unit may bind to target molecule as aimed by the native polysaccharide and function like the whole polysaccharide. By using highly stereoselective modular assembly of an orthogonally protected decasaccharide backbone, and three side chain glycans by the integration of stereocontrolled one-pot chemoselective glycosylations and a hydrogen-bond-mediated aglycone delivery approach, we precisely synthesize a highly branched acidic pectin polysaccharide up to a 63-mer containing 10 different glycosidic linkages from Lycium barbarum. Bioactivity test shows the decasaccharide may bind to galectin-3 as an active glycan domain and demonstrates better anti-liver fibrosis activity. These studies may not only provide evidence to explain why the Lycium babbarum is good for liver but also lay foundation for LBP1C-2 polysaccharide based innovative new drug development.

Shamim Sherafat
Independent Scholar, Austria

Biography

Shamim Sherafat is a sociologist specializing in healthcare inequities, physician-patient dynamics, and social determinants of health. With a Ph.D. from Shahid Beheshti University, her research employs qualitative methodologies like critical ethnography and multi-grounded theory to analyse systemic barriers in medicine.

As Secretary of the Health and Medical Sociology Department at the Iranian Sociological Association, she bridges academia and practice, designing workshops to improve health literacy and clinical communication. Her monograph Medical Sociology: Physician-Patient Relationship in Iran (2024) underscores her commitment to translating research into policy. As a multilingual scholar (Persian, English, German), she has taught at Tehran University of Medical Sciences and collaborated with NGOs to empower refugees and underserved communities.

De-professionalization in the Shifting Landscape of Medical Education in Iran

This study investigates the systemic de-professionalization of medicine in Iran, where growing numbers of medical graduates abandon specialization, emigrate, or pursue unrelated careers. The research employs Stern's model of professionalization, evaluating excellence, accountability, altruism, and humanitarianism through qualitative analysis of semi-structured interviews with medical students and practitioners. It identifies how structural failures in Iran's healthcare ecosystem erode the foundational pillars of medical professionalism.

Three key dimensions emerge as drivers of de-professionalization. First, the commodification of medical education and practice fosters a capital-driven mindset, displacing professional ideals with financial pragmatism. Students increasingly view medicine as a transactional pathway rather than a vocation, culminating in disillusionment and detachment from the physician's traditional role. Second, Iran's hierarchical training system, marked by inequitable admission policies and inadequate ethics education, exacerbates disparities between privileged and meritocratic students, corroding collective professional identity. Third, economic precarity, including stagnant wages and the rise of "medical proletarians", pushes early-career doctors toward higher-income alternatives like cosmetic clinics or emigration, creating critical shortages in essential specialties.

These trends reflect broader systemic pathologies: the political economy of healthcare prioritizes institutional control over practitioner autonomy, while patient-centred care diminishes under bureaucratic and financial pressures. The resulting de-professionalization manifests uniquely in Iran through mass physician emigration and career diversion, contrasting with Western models where bureaucratization typically drives professional erosion.

By mapping Iran's medical brain drain and career abandonment as extreme outcomes of de-professionalization, this study highlights the intersection of education policy, labour economics, and professional ethics. Its findings urge structural reforms to restore medicine's societal mission, suggesting that without addressing hierarchical training and economic incentives, de-professionalization may irreversibly alter Iran's healthcare landscape.

Shyam Muthiah Jayachandran
University of Greater Manchester, UK

Biography

Shyam Muthiah Jayachandran is an academic and advanced clinical practitioner in primary care with a specialist interest in musculoskeletal disorders. He holds a Bachelor's degree in Physiotherapy from Dr MGR Medical University (1999), a Postgraduate Diploma in Physician Associate Studies from the University of Manchester (2018), and a Master's in Advanced Clinical Practice from the University of Greater Manchester. His qualifications also include non-medical prescribing (University of Bolton), a PgCert in Medical Education (Staffordshire University, 2021), and a Diploma in Joint Injection Therapy (University of Central Lancashire, 2023). Shyam leads CPD and short courses in his academic role and serves as a First Contact Practitioner at Central & West Warrington PCN. He is an OSCE examiner for the Royal College of Physicians and St George's University of London. Internationally, he has lectured postgraduate physiotherapy students in India.

Enhancing Axial Spondyloarthritis Screening Process Among First Contact Physiotherapists (FCP) in the UK Primary Care

Objective: Axial spondyloarthritis is a chronic inflammatory condition affecting the axial spine that can lead to structural damage when undiagnosed (Hay et al., 2022). The review of current literature highlighted a knowledge gap among the musculoskeletal physiotherapists employed in the First Contact Practitioner (FCP) role in UK primary care (Steen et al., 2021). A Quality Improvement Project (QIP) was designed to improve patients' journey with suspected axSpA in a single-site general practice in the Northwest of the UK.

Aim: To improve the suspected axSpA patient journey in the primary care.

Methods: Baseline Data Collection: A survey and a pre-intervention consultation audit were conducted to evaluate the baseline knowledge of the axSpA among the FCP's, and the current practice on axSpA screening on patients presenting with chronic back pain under the age of 45 years. The pre-intervention study identified knowledge gaps in the axSpA screening process, referral guidelines and the use of assessment tools (SPADE). Kotter's 8-step change was followed to implement changes Plan, Do, Study, Act (PDSA) method was undertaken for 5 weeks

Intervention: Training sessions and educational workshops on axSpA. A flow chart for the screening and referral process for axSpA in primary care Patient awareness increased with posters and patient information leaflets

Results: Targeted training and educational workshops significantly improved the awareness and the screening process of axSpA in an undifferentiated and undiagnosed presentation. The pre- and post-training assessments showed a notable increase in confidence levels from an initial 20% to 80%. Moreover, in all high-risk patient consultations, the FCPs followed the national guideline (NICE,2017) for the axSpA screening process.

Conclusion: The QIP successfully demonstrated that targeted training, adherence to evidence-based guidelines, and effective data monitoring can substantially improve the AxSpa screening process. This project highlighted an improvement in the clinical practice and fostered a more proactive approach to identifying and referring suspected patients to a specialist for early intervention. Further recommendations are to expand the QIP to the wider clinical workforce in primary care and to include continuous professional development sessions.

Ashish Sinha
Pt JNM Medical College, India

Biography

Dr ASHISH SINHA Associate Professor, MBBS, MD in Community Medicine working as Associate Professor in Pt JNM Medical College Raipur, Chhattisgarh Province India. He worked in World Health Organization as Surveillance Medical Officer for two years, National AIDAS Control Organization as State Epidemiologist for 1 year and as Senior Resident at Post Graduate Institute of Medical Education and Research Chandigarh. He published 25 Research articles and 5 paper presentation at in International Conferences

Assessment of Isoniazid Preventive Therapy and Barriers of Implementation Among Contacts of Pulmonary Tuberculosis Patients in Raipur District

Background: For prevention, care, and control of tuberculosis, isoniazid preventive therapy (IPT) is recommended for the treatment of latent infection among contacts. Adherence to this regime is vital for obtaining good results.

Methods: This cross-sectional observational study was conducted using predesigned pretested semi-structured questionnaire among TB cases/caregivers in randomly selected 4 out of 8 TUs of Raipur district during June 2022 to May 2024. Data were collected in predesigned and predesigned semi structured questionnaire to know the determinants of the implementation status of IPT and barriers to its implementation.

Results: Among 142 enlisted cases, 1422 family contacts were identified. Of them, 280 contacts were interviewed. Coverage of IPT was 57%. Drug supply was uninterrupted in 78.6% cases. Some respondents (77; 29.7%) reported lack of information or awareness about the necessity of IPT. They were not informed about it by the health care providers. For prevention of spread of TB infection, majorly (203;72.5%) of participants advocated avoidance of contact with patients, adherence to IPT and use of mask. There were significantly less chances of receiving age appropriate IPT in study participants who were aged less than 5 yrs, illiterates, residing in families with more than 5 members and unemployed; Similarly, illiterate, male <5 yrs, from upper middle class were significantly less likely to get complete duration of IPT (p=<0.05).

Conclusion: IPT coverage in the study was unsatisfactory due to ignorance of the cases/ family members about its need, inadequate screening facilities, poor health seeking behaviour, illiteracy, interrupted supply of IPT and socio-cultural practices in the study.

Kristina Yaroslavtseva
University Hospital Královské Vinohrady,
Czech Republic

Biography

Dr. Kristina Yaroslavtseva is a committed Internal Medicine physician based in Prague, Czech Republic, with a strong background in both clinical practice and medical education. She earned her medical degree from Charles University, where she specialized in Medicine and Health Information Management. Currently, she serves as a full-time doctor at Fakultní Nemocnice Královské Vinohrady, where she diagnoses, treats, and manages a broad spectrum of health conditions affecting adults. Her work emphasizes preventive care, chronic disease management, and the development of personalized health plans to promote long-term well-being. In addition to her hospital work, she holds a part-time position at Unica Plasma, where she performs medical assessments for plasma donors, ensures adherence to regulatory guidelines, and provides education on the donation process. Her earlier experience as a Physician Assistant at Vaccinium s.r.o. further enriched her clinical and administrative skills. Known for her expertise in health information management and her collaborative approach to patient care, she is deeply dedicated to delivering high-quality, compassionate healthcare while contributing to the broader medical community in the Czech Republic.

Challenges and Opportunities in Secondary Prevention: A Clinician's Perspective

While often overshadowed by primary prevention, secondary prevention is a crucial component of everyday clinical practice - particularly in internal medicine. This presentation explores the real-world challenges clinicians face when supporting patients after diagnosis or acute events, such as myocardial infarction.

Through the lens of daily hospital work, we reflect on why long-term behavioral change is difficult for patients, despite initial motivation and awareness. A case example illustrates how systemic limitations, emotional fatigue, and lack of structured support can undermine even the best intentions - both on the side of patients and healthcare providers.

Finally, the presentation discusses practical tools and approaches to make secondary prevention more sustainable: patient-centered care, interdisciplinary collaboration, realistic goal setting, and the importance of clinician wellbeing.

Enzehua Xie
Peking Union Medical College, China

Biography

Dr. Enzehua Xie earned his Doctorate in Cardiac Surgery from Peking Union Medical College. He currently serves in the Department of Heart Surgery at Fuwai Hospital, Chinese Academy of Medical Sciences, one of the leading cardiovascular centers in China and globally.

Dr. Xie is a dedicated and active member of several prestigious professional organizations, including the American Heart Association (AHA), the European Society of Cardiology (ESC), and the Acute Cardiovascular Care Association (ACVC). He also contributes to the academic community as a peer reviewer for the International Journal of Surgery, and he is a member of the Chinese Anti-Cancer Association.Throughout his career, Dr. Xie has demonstrated a strong commitment to clinical research and innovation. He has published 15 papers indexed in the Science Citation Index (SCI), with 9 already in print (including original research and communications), contributing to a cumulative impact factor of 62.2. In addition, he has participated in the publication of 15 Chinese medical articles, 9 of which are already published.

Dr. Xie is also an accomplished innovator, holding 13 authorized patents and 18 publicly disclosed patents. He has shared his research and clinical insights through oral presentations and poster sessions at major international cardiovascular conferences, including the AHA, ESC, and the American Association for Thoracic Surgery (AATS).

Conservative Treatment and Nursing for 1 Case of Acute Pyelonephritis Accompanied by Nutcracker Syndrome

One patient with acute pyelonephritis accompanied by nutcracker syndrome (NCS) underwent conservative treatment, including a combination of traditional Chinese (peach kernel, safflower, red peony, angelica sinensis, and ligusticum at 10g each, along with 20g of rehmannia and 1g of Faeces Trogopterori, Pollen Typhae parch, Bombyx Batryticatus, and white mustard seed each) and Western medicine, along with psychological care, thanks to which the patient's symptoms significantly improved, leading to discharge

Sharad Kumar Yadav
Aryabhatta Knowledge University, India

Biography

Dr Wenwei Zhang is a neonatologist at Shenzhen Children's Hospital and holds a Master's degree (M. Med.). The research presented in this paper addresses a pressing health concern, given the resurgence of pertussis and its associated complications, including bacteraemia, in recent years. The research presented in this paper is of paramount importance, given that only seven other case studies of pertussis bacteraemia have been reported globally, and none involving neonatal twins.

Recent Developments in the Herpes Viruses Vaccines

Herpes simplex virus (HSV) is an epidemic human and animal pathogen with potential serious threat for global public health. Its complex pathogenesis, includes lytic cycle in mucosal cells, latent phase within neurons, and periodic reactivation. While a herpes cure is not imminent, significant progress in therapeutic and preventive vaccines has been made recently. Vaccine strategies against HSV deployed to date include subunit vaccine, synthetic peptide vaccine, DNA vaccine, mRNA vaccine, and Live attenuated and replication-defective vaccine. Several dedicated developers such as GSK, Moderna, BioNTech, Sanofi, X-Vax, AuRX, Novartis, etc, have promising vaccine candidates in different stages of trials. However, the vaccine development strategies are impeded by our present comprehension of HSV-host interaction. After 80 years of research on HSV vaccine development, most vaccines are primarily constrained by the lack of immunogenic vaccine antigens capable of effectively inducing and sustaining robust humoral as well as cellular immune responses. The subunit and mRNA vaccines strategies exhibit the most promising attributes as they provide a platform for complex antigen presentation to the host immune system including T cell and B cell epitopes. Furthermore, novel approaches, such as supplementation with adjuvants and adoption of alternative vaccine formats, have emerged as exciting avenues worth exploring for future HSV vaccine development. mRNA vaccines possess numerous unique advantages and have demonstrated superior efficacy compared to subunit vaccines, pointing to a promising pathway. However, the current vaccine development technology itself poses a challenge in vaccine development, particularly mRNA vaccines and LNP delivery systems. Lack of ideal animal models for HSV may also impede the vaccine development efforts, as current models such as guinea pigs and mice may fail to reflect the effectiveness of vaccines against all the three stages of HSV i.e. lytic, latent, and reactivation infections. Therefore, constructing an ideal animal model is of immense importance for future research on HSV. Apart from these limitations, additional challenges requiring redressal in the future, includes viral culture systems, injection methods, and adjuvant use. A comprehensive and collaborative efforts on the future policy of virus vaccine development can only be fostered with unbiased policy decisions, prompt research funding, and development of necessary infrastructure. My talk will highlight the promising vaccine candidates currently in different stages of trials but the focus will be on the subtle need to glance and inculcate the new and promising alternative strategies, such as nano mRNA-based vaccine development.

Gihane Endrawes
Western Sydney University, Australia

Biography

Gihane has more than 20 years' experience in mental health nursing and education. She worked as a Transcultural Mental Health Clinical Nurse Consultant and won 2 nursing achievement awards due to her contribution to mental health nursing. Her PhD was on the 'lived experience of caring for a relative with mental illness'. At her current role as lecturer, she coordinated under-graduate and post-graduate units and is involved in the development and review of curriculum, supervision of HDR students. Her research interests are in mental health, transcultural nursing, evidence-based practice and nursing education which are reflected in her publications.

Psychometric Properties Assessment of the Arabic Version of Community Attitudes toward the Mentally Ill Scale

Background: Mental illness is a stigmatized issue affecting various cultural groups, however, there is limited knowledge about Arabic communities' attitudes and beliefs related to mental illness. This could be related to the lack of culturally appropriate measuring tools examining Arabic communities' attitudes towards people with mental illness. The study aimed to report on the psychometric properties of the translated Community Attitudes toward the Mentally Ill 40-item scale among Arabic communities living in Australia.

Design: A quantitative cross-sectional, descriptive study was conducted to assess the psychometric properties of the Community Attitudes toward the Mentally Ill scale. Cronbach's alpha was used to assess the reliability of internal consistency. Confirmatory factor analysis and exploratory factor analysis were conducted to assess the factor structure of the translated scale.

Method: A convenience sample of 312 participants was recruited from various Arabic organizations in Australia.

Results: Significant difference between the Arabic and English cohorts were identified in terms of age, gender, country of birth, English proficiency, and knowing someone with mental illness. A confirmatory factor analysis of the original 40-item CAMI indicated inadequate fit indices, leading to reduction of items to a 27-item version. This shortened version demonstrated improved internal consistency (Cronbach's alpha = 0.835) and a viable 4-factor structure: Stigmatization and Exclusion, Community Integration, Social Rejection, and Tolerance and Compassion.

Conclusions: The Arabic version of CAMI Scale is found to be a culturally appropriate, reliable, and valid tool for examining Arabic communities' attitudes towards people with mental illness, living in Australia.

Ji Zheng
Sichuan University, China

Biography

Ji Zheng is a dedicated medical professional affiliated with the Geriatrics Center of West China Hospital and the West China Nursing College at Sichuan University in Chengdu, Sichuan. With a focus on geriatric medicine, Ji Zheng contributes to the advancement of elderly care through both clinical practice and academic research. Their work emphasizes improving the quality of life for aging populations, promoting interdisciplinary care, and supporting innovations in geriatric nursing and chronic disease management.

Web - based Intervention for Advance Care Planning: Scoping Review

Objective: This study conducts a scoping review of internet interventions in advance care planning (ACP) to identify their key elements, providing a reference for future research.

Methods: A systematic search was performed across PubMed, Embase, CINAHL, Web of Science, Cochrane Library, CNKI, Wanfang, and VIP databases from their inception until June 4, 2024. Included studies were screened and summarized, resulting in 36 articles.

Results: The identified elements of internet interventions included providing specific ACP information, focusing on preparation and timing, clarifying values, offering treatment options, establishing healthcare proxies, generating ACP documents, encouraging document sharing, and facilitating communication. Outcome indicators encompassed process metrics, behavioral indicators, care outcomes, and feasibility assessments.

Conclusion: Internet interventions show promise in ACP applications, though their long-term effects on patient outcomes require further investigation. Future research should adapt foreign tools to the Chinese context, develop localized internet ACP tools, explore effective intervention strategies, and refine evaluation metrics to enhance clinical decision support.

Priti Kumari
Aryabhatta Knowledge University, India

Biography

Dr. Priti Kumari has completed his PhD at the age of 33 years from Aryabhatta Knowledge University in the field of Nanoscience & Nanotechnology and Specialization in Bio-Nanotechnology at Aryabhatta Centre for Nanoscience & Nanotechnology. She is the director and co-founder of research startup Advance Bio Nanoxplorepvt. Ltd. She has published more than 5 papers and two book chapters in reputed journals.

Recent Developments in Nanotechnology-Driven Diagnostics for Viral Disease Control

The ongoing emergence and re-emergence of infectious diseases continue to pose substantial threats to global health and socioeconomic stability. Traditional diagnostic approaches, though foundational, often lack the sensitivity, speed, and portability required for effective disease control, especially during outbreaks. In recent years, nanotechnology has emerged as a transformative approach in the development of advanced diagnostic tools, offering high sensitivity, rapid detection, and improved accessibility. This review presents a comprehensive overview of recent advancements in nanotechnology-driven diagnostics aimed at controlling viral diseases. Key innovations include nanoparticle-enhanced biosensors, DNA- and RNA-based nanosensors, and point-of-care testing (POCT) systems enabled by microfluidics and lab-on-a-chip technologies. The integration of DNA nanotechnology, such as aptamers and DNAzymes, further enhances target specificity and detection versatility. These platforms demonstrate significant potential in enabling early and accurate detection, particularly in resource-limited settings. While considerable progress has been made, challenges such as clinical validation, regulatory approval, and scalable manufacturing remain. This paper underscores the pivotal role of nanotechnology in revolutionizing viral diagnostics and emphasizes its importance in future pandemic preparedness and public health strategies.

World Congress on

Virology and Infectious Diseases & Advances in Preventive Medicine and Public Health

07-08 Jul 2025 | Prague, Czech Republic

VIRTUAL KEYNOTE SPEAKERS Day 2

Elena Chiappini
University of Florence, Italy

Biography

Elena Chiappini is an Associate Professor of General and Specialized Paediatrics at the University of Florence, where she coordinates the Paediatrics Course for Medicine and Surgery Medical Degree School and chairs the Second-Level Master's Program in Clinical Epidemiology and Guidelines. She is the Deputy Head of the Pediatric Infectious Diseases Unit and leads the International Adoption Service at Anna Meyer Children's Hospital. With over 329 publications in high-impact journals (Scopus H-index: 41), she has contributed to over 20 international guidelines.

Tubercular Disease in Children: Optimizing Treatment Strategies Through Disease Insights

Background: Paediatric tuberculosis (TB) represents a critical health concern due to the significant risk of extrapulmonary TB (EPTB), severe disease forms, and the increasing prevalence of drug-resistant strains (DR-TB). Understanding the clinical characteristics of affected children and evaluating the role of second-line drugs is essential for optimizing management strategies.

Methods: A retrospective study was conducted on 271 children diagnosed with active TB at Meyer Children's Hospital, Florence, Italy, from 2006 to 2022. Among these, 44 cases involved EPTB and 9 cases were DR-TB. Clinical data, drug susceptibility testing (DST) results, and treatment outcomes were analyzed. Univariate and multivariate logistic regression were employed to identify risk factors associated with EPTB, DR-TB, and the use of second-line drugs.

Results: Drug susceptibility testing results were initially challenging to obtain, with an increase in availability from 11.04% in 2006–2013 to 42.73% in 2014–2022 ($p < 0.001$). Second-line drugs were administered in all DR-TB cases and in 45.45% of EPTB cases, often reflecting therapeutic complexity. Adverse events related to second-line therapies were infrequent (4.8%) and generally mild. The overall treatment success rate was 98.52%, with only 1.48% of children presenting sequelae. Asian origin emerged as a significant risk factor for both EPTB ($p = 0.013$) and DR-TB ($p = 0.045$). The introduction of GeneXpert technology significantly improved diagnostic accuracy and DST result availability.

Conclusions: While second-line drugs are primarily recommended for DR-TB, selected EPTB cases may also benefit from these therapies. The integration of advanced diagnostic tools, such as GeneXpert, enhances disease management and facilitates tailored treatment approaches. Further studies are needed to refine therapeutic protocols and improve outcomes for paediatric TB.

Jayeshkumar Kanani
Surat Municipal Institute of Medical Education & Research, India

Biography

Dr. Jayeshkumar Kanani has over 14 years of experience including 8 years of experience in the field of forensic medicine and Toxicology. Appointed in 2016 as an autopsy medical officer, he has conducted over 4,000 autopsies, providing invaluable medico-legal expertise in death investigations. His expertise extends to histopathological studies, scientific writing, court testimonies, and mentoring students in forensic medicine.

Dr. Kanani has published eight peer-reviewed papers in international journals such as Elsevier, BMC, and SpringerNature, with seven as the first author. He has demonstrated exceptional skill in managing the publication process, and successfully publishing articles with tight deadlines.

His research interests include general medicine, forensic medicine, Toxicology, Surgery, Cardiology, Pathology, Oncology, and Neurology. He is passionate about contributing to the academic and professional community and welcomes opportunities to collaborate on research and editorial endeavours.

Hidden Threats: Incidental Meningioma in Headache and Central Nervous System Extramedullary Multiple Myeloma in Sudden Collapse – A Case-Based Analysis

Intracranial neoplasms and plasma cell malignancies often present with nonspecific symptoms, leading to delayed diagnosis and unexpected clinical outcomes. This presentation explores two distinct cases—one involving an incidental meningioma discovered during autopsy in a patient with chronic headaches, and another of extramedullary multiple myeloma (EMM) with central nervous system (CNS) involvement, manifesting as a sudden pathological fracture followed by fatal progression.

The first case involves a 25-year-old female who presented with prolonged fever due to Plasmodium vivax malaria and later succumbed to septicemia and pulmonary edema. Autopsy revealed a previously undiagnosed right temporal meningioma, raising concerns about the overlooked role of intracranial tumors in chronic headaches. The absence of neuroimaging in symptomatic individuals underscores the need for proactive neurological assessments in patients with persistent headaches.

The second case details a 35-year-old male with HIV, presenting with progressive neurological deficits and pathological fractures. Imaging detected multiple osteolytic cranial lesions, suggestive of neoplastic infiltration. Despite aggressive supportive care, the patient deteriorated rapidly. Autopsy findings confirmed CNS EMM, characterized by extensive lytic skull lesions and dura-adherent soft tissue masses causing significant brain compression. The case emphasizes the diagnostic challenges and critical need for early detection strategies in multiple myeloma patients at risk for extramedullary progression.

Both cases highlight the practical implications of incidental neoplasms and hematological malignancies, emphasizing the role of autopsy in uncovering silent pathologies and guiding clinical decision-making. This analysis advocates for enhanced screening protocols for headache-associated tumors and early orthopedic and neurological interventions in plasma cell malignancies to improve patient outcomes.

Bernd Blobel
University of Regensburg, Germany

Biography

Dr. Bernd Blobel studied Mathematics, Technical Cybernetics and Electronics, Bio-Cybernetics, Physics, Medicine and Informatics at the University of Magdeburg and other universities in the former GDR. He received his PhD in Physics with a neurophysiological study. Furthermore, he performed the Habilitation (qualification as university professor) in Medicine and Informatics. He was Head of the Institute for Biometrics and Medical Informatics at the University of Magdeburg, and thereafter Head of the Health Telematics Project Group at the Fraunhofer IIS in Erlangen. Thereafter, he acted until his retirement as Head of the German National eHealth Competence Center at the University of Regensburg as well as Head of the globally unique International Interdisciplinary PhD and PostDoc College. He was and is still leadingly involved in many countries health digitalization as well as electronic health record strategy. He published more than 600 papers, published/edited many books and supervised a big number of PhD students from all around the world. He was German Representative to many SDOs such as HL7, ISO, CEN, OMG, IEEE, ASTM, SNOMED, etc., also chairing the national mirror groups. Furthermore, he still engaged in international higher education. He is Fellow of several international academies.

Managing Healthcare Transformation Towards Personalized, Preventive, Predictive, Participative Precision Medicine Ecosystems

For realizing pervasive and ubiquitous health and social care services, health and social care system have to undergo an organizational, methodological and technological transformation towards personalized, participative, preventive, predictive precision medicine. For designing and managing the resulting highly complex, distributed and dynamic ecosystem, we must consistently and formally represent the system and its components from the perspective of all actors from different domains including the subject of care, using different methodologies, knowledge, language and experiences. The granularity level of the considered components may range from elementary particles up to the society and universe. This must be done, using a system-theoretical, architecture-centered, ontology-based and policy-driven approach. Over the last 30 years, the author developed the necessary model and framework, which is meanwhile standardized as ISO 23903 Interoperability and Integration Reference Architecture. The approach has been defined as mandatory for any specification or project at ISO, CEN, IEEE, etc. addressing more than one domain. The presented approach enables design, implementation and management of intelligent and ethical health and social care systems as well as knowledge-based communication and cooperation of all actors involved. Thereby, it manages also security, privacy and trust in detail.

Guang Zhong Wang
University of Chinese Academy of Sciences, China

Biography

Prof. Guang-Zhong Wang is a principal investigator at the Shanghai Institute of Nutrition and Health, Chinese Academy of Sciences. He earned his PhD in Computer Science from Heinrich Heine University Düsseldorf, Germany. His primary research interests are the integration of neuroscience big data to elucidate brain computational principles and the systems biology of circadian rhythms. To date, he has authored nearly fifty papers in international journals, over twenty of which he has served as corresponding author in Molecular Psychiatry, Advanced Science, Nature Communications, The Innovation, Cell Reports, Cell Discovery, Bioinformatics, etc. He also regularly reviews for journals such as Genome Biology, Molecular Psychiatry, PLOS Computational Biology, and Bioinformatics.

Deciphering Brain Cellular and Behavioral Mechanisms: Insights from Single-Cell and Spatial RNA Sequencing

The brain is a complex computing system composed of a multitude of interacting neurons. The computational outputs of this system determine the behavior and perception of every individual. Each brain cell expresses thousands of genes that dictate the cell's function and physiological properties. Therefore, deciphering the molecular expression of each cell is of great significance for understanding its characteristics and role in brain function. Additionally, the positional information of each cell can provide crucial insights into their involvement in local brain circuits. In this talk, I will briefly overview the principles of single-cell RNA sequencing and spatial transcriptomics, the potential issues and challenges in their data processing, and their applications in brain research, together with the efforts we make in these direction. I believe that the deep integration of these directions with single-cell and spatial RNA sequencing can contribute significantly to understanding the roles of individual cells or cell types in these specific functions, thereby making important contributions to addressing critical questions in those fields.

Orestis Ioannidis
Aristotle University of Thessaloniki, Greece

Biography

Dr. Ioannidis is currently an Assistant Professor of Surgery in the Medical School of Aristotle University of Thessaloniki. He studied medicine in the Aristotle University of Thessaloniki and graduated at 2005. He received his MSC in "Medical Research Methodology" in 2008 from Aristotle University of Thessaloniki and in "Surgery of Liver, Biliary Tree and Pancreas" from the Democritus University of Thrace in 2016. He received his PhD degree in 2014 from the Aristotle University of Thessaloniki as valedictorian for his thesis "The effect of combined administration of omega-3 and omega-6 fatty acids in ulcerative colitis. Experimental study in rats." He is a General Surgeon with special interest in laparoscopic surgery and surgical oncology and also in surgical infections, acute care surgery, nutrition and ERAS and vascular access. He has received fellowships for EAES, ESSO, EPC, ESCP and ACS and has published more than 180 articles with more than 3000 citations and an H-index of 28

Open Abdomen and Negative Pressure Wound Therapy for Acute Peritonitis Especially in the Presence of Anastomoses and Ostomies

Acute peritonitis is a relatively common intra-abdominal infection that a general surgeon will have to manage many times in his surgical carrier. Usually, it is a secondary peritonitis caused either by direct peritoneal invasion from an inflamed infected viscera or by gastrointestinal tract integrity loss. The mainstay of treatment is source control of the infection which is in most cases surgical. In the physiologically deranged patient, there is indication for source control surgery in order to restore the patient's physiology and not the patient anatomy utilizing a step approach and allowing the patient to resuscitate in the intensive care unit. In such cases there is a clear indication for relaparotomy and the most common strategy applied is open abdomen. In the open abdomen technique, the fascial edges are not approximated and a temporarily closure technique is used. In such cases the negative pressure wound therapy seems to be the most favourable technique, as especially in combination with fascial traction either by sutures or by mesh gives the best results regarding delayed definite fascial closure, and morbidity and mortality. In our surgical practice we utilize in most cases the use of negative pressure wound therapy with a temporary mesh placement. In the initial laparotomy the mesh is placed to approximate the fascial edges as much as possible without whoever causing abdominal hypertension and in every relaparotomy the mesh is divided in the middle and, after the end of the relaparotomy and dressing change, is approximated as much as possible in order for the fascial edges to be further approximated. In every relaparotomy the mesh is further reduced to finally allow definite closure of the aponeurosis. In the presence of ostomies, the negative pressure wound therapy can be applied as usual taking care just to place the dressing around the stoma and the negative pressure can be the standard of -125 mmHg. However, in the presence of anastomosis the available date are scarce and the possible strategies are to differ the anastomosis for the relaparotomy with definitive closure and no further need of negative pressure wound therapy, to low the pressure to -25 mmHg in order to protect the anastomosis and to place the anastomosis with omentum in order to avoid direct contact to the dressing. The objective should be early closure, within 7 days, of the open abdomen to reduce mortality and complications.

World Congress on

Virology and Infectious Diseases & Advances in Preventive Medicine and Public Health

07-08 Jul 2025 | Prague, Czech Republic

VIRTUAL SPEAKERS Day 2

Nikki Kiyimba
Mātai Rongo Ltd., New Zealand

Biography

Nikki Kiyimba (PhD, D. ClinPsy.) is a Clinical Psychologist specialising in working with clients with complex developmental and historical trauma. She is Director of Mātai Rongo, a training, consultancy and client-facing organisation in Aotearoa New Zealand. Her practice is significantly influenced by indigenous Māori models of healthcare, which emphasise the presence of mauri, or life-force in all things. This involves integration of Western medical models with holistic indigenous practices. Nikki has also authored several books, published more than fifty peer reviewed articles and is at the forefront of professional training for a range of health and social care professionals.

Entangled

The aim of this presentation is to apply quantum theory to preventative healthcare practice. This will be done by drawing parallels between the discovery of the phenomenon of quantum entanglement and the oral traditions of indigenous Māori; both of which claim the interconnectedness of all things. Māori health models are based on the concept of *hauora*, or wellbeing, which is maintained when the social, physical, mental and spiritual are connected and held in balance. Additionally, there is an acknowledgment of the life-force or *mauri* inherent in all people and in natural environments, including mountains, rivers and forests. Knowledge of the deep interconnectedness of all things has been carried generationally through Māori oral traditions, and is now supported by the radical discoveries of quantum science. Arguably therefore, loss of health comes from a perceived loss of connection. A major finding of contemporary quantum physics is quantum entanglement, which is a phenomenon that explains synchronous connections between seemingly separate entities. Quantum theorist David Bohm states that reality is "undivided wholeness, combining life, the universe, and everything" (de Grijs, and Costache, 2024, p.214). A paradigm shift is needed in preventative healthcare that is willing to grapple with the implications of quantum entanglement. This shift in our understanding of human health will involve moving away from the compartmentalisation of the industrial revolution, and recognise the interconnectedness of human physiology, psychology, spirituality, relationality and environmental topography. The presentation will draw on clinical case examples from psychology practice in Aotearoa New Zealand, where connections with *wairua* (spirit), *whenua* (land), and *whānau* (people) are essential aspects of holistic healthcare practice.

Rekha Sharma
Sikkim Manipal University, India

Biography

She is a bronze medalist in MBBS from Sikkim Manipal Institute of Medical Sciences, Sikkim. She completed MD Microbiology in the year 2017 from Sikkim Manipal Institute of Medical Sciences, Sikkim. She is a gold medalist in MD Microbiology. She completed Fellowship in Infectious Diseases in 2024. She is a life time member of Indian Medical Association – Sikkim branch and of Indian Association of Tropical Parasitology.

She is presently working in the post of Assistant Professor at the department of Microbiology, Sikkim Manipal Institute of Medical Sciences. She is also a Bio-safety officer of Institutional Biosafety Committee at Sikkim Manipal University and Sikkim University. She has around 10 publications in the indexed journals. She has completed multiple research projects and 03 funded projects are in progress. She has guided many post-graduate students and is a co-guide to PhD scholars. She has attended numerous conferences and presented papers, to name one ISHAM ASIA, Bangkok in 2024 and presented a paper.

Screening Of Blood Donors for Hepatitis C Viral Infection By 3rd Generation ELISA And RT-PCR At Tertiary Care Centre of Sikkim

Background: Transfusion of blood and blood products is one of the important parts of treatment options in modern Medicine. It is a lifesaving procedure. The same lifesaving procedure can take the life or gives some chronic illness for life. Transfusion associated infections should be screened and should avoid transmitting infections to healthy recipients.

Objectives: To compare two methods of screening tests 3rd generation ELISA which detects anti HCV antibody and RTPCR which detects RNA of the virus for the diagnosis of HCV in blood donors and to find the burden of HCV in healthy donors in a medical college of Sikkim.

Methods: After obtaining the written consent, 296 voluntary donor blood samples were screened by 3rd generation ELISA followed by RTPCR for Hepatitis C virus.

Result: Out of 296 samples, 52 (17.57%) samples were of female donors and 244 (82.43%) were of male donors. Majority of the voluntary blood donors were of the age groups 26-30 years 90 (30.40%). Six samples (2.03%) were reactive by ELISA. None of the samples were tested positive by RTPCR. Out of six reactive donors 2 were completely treated for HCV infection and 04 were tested for the first time.

Discussion and conclusion: HCV antibody prevalence in donors at the tertiary care hospital of Sikkim is comparable to other parts of the world as per the meta-analysis review article published in 2022 by Mahmud S, where HCV antibody prevalence in blood donors ranged from 0 to 3.28%, with a median of 0.06%. The above finding of no positivity with RTPCR could be due to the less number of sample size as the prevalence rate of HCV in the state of Sikkim is as such low. Though it cannot be concluded but it suggests that the screening strategy in resource limited countries can be done by ELISA detecting the antibody alone as the nucleic acid detection methods like RTPCR is costly and does not add the positivity rate for the detection of HCV. We also need a large-scale study to compare these methods.

Kadir Uludag
Shanghai Jiao Tong University, China

Biography

Kadir Uludag holds Ph.D. in Applied psychology (Chinese Academy of Sciences). He is currently doing postdoc in Shanghai Jiaotong University Mental Health Center. His research interest includes schizophrenia research, drug addiction and educational psychology. In addition, he runs a website to share and comment on peer-reviewed articles.

Preventive Medicine in the Age of Chatbots

Amidst the fast - paced evolution of the healthcare domain, the emergence of Chatbots has ushered in a novel model within preventive medicine. Fueled by artificial intelligence and natural language processing, Chatbots are revolutionizing the dissemination of health information, the identification of risk factors, and the execution of preventive strategies.

These automated assistants are capable of having real - time interactions with people. They offer customized health guidance grounded in an individual's lifestyle, medical background, and genetic details. They can handle a diverse array of health - related queries, spanning from basic questions about diet and physical activity to more intricate matters related to chronic disease management. With their around - the - clock availability, Chatbots enhance the accessibility of preventive healthcare, particularly for those in rural or isolated regions and those with restricted access to conventional medical facilities.

Furthermore, Chatbots are pivotal in the early detection of diseases. By continuously monitoring self - reported symptoms and health indicators, they can detect potential health problems and suggest suitable steps, like booking a doctor's visit or conducting additional diagnostic examinations. This proactive method has the potential to alleviate the disease burden by facilitating early intervention and treatment.

Nevertheless, the incorporation of Chatbots into preventive medicine does present challenges. Issues such as data privacy, the reliability of the advice given, and the possible over - dependence on automated systems must be resolved. In spite of these obstacles, the future of preventive medicine appears bright with the ongoing development and enhancement of Chatbot technology. As research in this field advances, Chatbots are anticipated to become an essential component of comprehensive preventive healthcare plans, leading to better public health results.

World Congress on

Virology and Infectious Diseases & Advances in Preventive Medicine and Public Health

07-08 Jul 2025 | Prague, Czech Republic

E-Posters Day 2

Hamidi Moufida
University of Health
Sciences of Algiers, Algeria

Biography

Dr. Hamidi Moufidais a medicalmicrobiologist. Sheholds a Ph.D. in Microbiologyfrom the University of Health Sciences of Algiers and has conducted postdoctoral research at the Pasteur Institute Of Algeria. Her workfocuses on emerging hyprvirulent *Klebsiella pneumoniae* and antibioticresistance. Sheis a Member of the Algerian Network for Antibiotic Resistance Surveillance and she is member of Nosocomial Infection Control Committee at Salim Zemirli emergency hospital.

Hypervirulent Klebsiella Pneumoniae

Introduction: Over the past decades, community infections caused by hypervirulent K.pneumoniae (hvKp) have been detected, initially in Asia and now worldwide. These community infections even affect healthy young people and adults and present in several clinical forms, such as pyogenic liver abscesses, severe pneumonia, bacteraemia, or meningitis.

The objective is to determine the prevalence of hypervirulent K.pneumoniae among strains isolated from clinical samples.

Methods: Thisisaprospectivedescriptivestudy. Thecharacterisationofhypervirulencewasbasedon the stringtestcarried out on fresh bloodagar to assess-colony hypermucosity anda PCRsearchingfor siderophore genes "aerobactin" (iucA) and "salmochelin" (iroB), the mucoid phenotype regulatory genes "prmpA"/"prmpA2," and the metabolite transporter gene peg-344. Serotyping of the strains by PCRdetectingthecapsularserotypesK1(magA)andK2wasperformed. Therelationshipbetweenthe strains was studied by genotyping using the MLST technique.

Results: A total of 326 strains of K.pneumoniae were collected (39% from urineand 29% from blood cultures) from 324 patients.The average ageofthe patients was39.5 years andthe sexratio was 0.96. Amongthe326strains,54werehypermucous(positivestringtest),and39hadthefivevirulencegenes sought. TheprevalenceofhvKprepresented12%(39/326),ofwhich69.23%(27/39)werecharacterized as serotype K2.These hvKp strains came from surgical specialties andmedical specialties in 44% and 28% of cases, respectively. In invasive infections the prevalence of hvKp was 17,5%.

Ten different sequence types were obtained from MLST genotyping. The hvKpST86 and hvKp ST23 were the most isolated (47%).

Discussion and conclusions: Inourstudy;wedefinedhvKpbyapositivestringtest,associatedwiththepresenceofvirulencegenes. ThecombinationofthesefivebiomarkerswasconfirmedasthebestmodelforpredictinghvKpin2023 with an accuracy of 94% by Russo and al.

The prevalence of hvKP in our study was significant. This prevalence is lower than that reported in China(24.5%)byLiandal.,butremainshigherthanthatdescribedinSpainbyCuberoandal.,(5.4%).

UnlikethepredominanceofserotypeK1intheCuberoandal.,study,thehvKPofserotypeK2andST 86 are predominant, and they are associated with high mortality.

These results demonstrate the emergence of this invasive pathogen in Algeria, highlighting an urgent need for additional epidemiological and microbiological studies.

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Biography

Dr. Fariba Yazdanpanah is a General Preventive Medicine and Public Health Resident at the University of Texas at Tyler Health Science Center, with over 15 years of experience in medicine and clinical research. Likewise, she is board-certified in Cardiology from Tehran University of Medical Sciences in Iran. She is well determined and dedicated to improving patient safety and care by integrating preventive medicine and curative medicine to advance novel strategies in the healthcare system and conducting cutting-edge clinical medical research in the academic setting.

Advances in Preventive Medicine Linked to Improved Lifestyle

Objectives and Scope: Preventive medicine has evolved from the pre-Hellenistic to the post-Hippocratic era by incorporating various aspects of public health into clinical medicine through the influence of the environment and lifestyle on health which is called "Epidemiology" - the Greek term "επιδημιολογία" consists of "epi", "demos", and "logos" meaning "the study of what is upon the people". The purpose of this abstract is to highlight a few examples of current notable achievements in "Clinical Preventive Medicine".

Methods: Thematic analysis was conducted on eighteen full-text articles from the Web of Science and PubMed databases, along with extracting novel data from the American College of Lifestyle Medicine Curriculum.

Results: The footprint of preventive medicine can be seen in a variety of aspects of medicine, from "Ayurvedic medicine" in Sanskrit, which dates back 5,000 years. The impressive achievements of lifestyle medicine, one of the clinical partners of preventive medicine, go beyond "restoration of blood flow in coronary arteries", or the impact of the "ketogenic diet on cancer cells via the Warburg effect". Rather preventive medicine surpasses curative medicine in terms of "anti-cancer" advances by shifting the landscape through intensive lifestyle modification to increase the expression of "cancer-fighting" genes and promoting cancer cell death in low-grade prostate cancer patients. Likewise, patients with early Alzheimer's disease, after 20 weeks of intensive lifestyle intervention, illustrate improved performance and cognitive function with favorable increases in an objective parameter of Alzheimer's disease (Aβ42/40 ratio).

Conclusions: Advancements in clinical preventive medicine are constantly being updated regarding both communicable and non-communicable diseases. Given the dynamic nature of science and technology, consideration of new pillars in clinical preventive medicine, such as Techno-Medicine and Geo-Medicine seems worthwhile. These can proactively address potential health issues related to technology or geographical measures in the early stage (primordial prevention).

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