



The
ICONIC MEETINGS
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WCPHPM-2026

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**Debabrat Baishya**

Department of Bioengineering and Technology, Gauhati University, Guwahati-781-14, Assam, India

Rhamnetin-Induced G1 Cell Cycle Arrest and Apoptosis in Human Ovarian Cancer Cells via Inhibition of Histone Deacetylase 2

Abstract

Ovarian cancer remains one of the most lethal gynecological malignancies, with histone deacetylase 2 (HDAC2) overexpression playing a pivotal role in its progression and therapeutic resistance. We investigated the anticancer potential of the nutraceutical flavonoid Rhamnetin against human epithelial ovarian carcinoma (SKOV3) cells, emphasizing its epigenetic mechanism through HDAC2 inhibition. Using MTT assays, apoptosis analysis, cell cycle evaluation, fluorescence microscopy, and HDAC2 enzymatic inhibition assays, Rhamnetin demonstrated significant cytotoxicity comparable to the standard HDAC inhibitor SAHA. Treatment induced apoptosis and G1 phase arrest in SKOV3 cells, accompanied by a marked reduction in HDAC2 activity. Complementary in silico studies, including molecular docking, molecular dynamics (MD) simulations, MM-GBSA, and density functional theory (DFT) analyses, confirmed stable binding of Rhamnetin within the HDAC2 catalytic pocket and favorable drug-likeness and ADMET properties. Collectively, these findings reveal that Rhamnetin suppresses ovarian cancer cell proliferation by epigenetically targeting HDAC2, highlighting its potential as a lead compound for developing targeted therapeutics against ovarian carcinoma.

Biography

Dr. Debabrat Baishya is an Associate Professor in the Department of Bioengineering & Technology, Gauhati University, Guwahati, Assam, India. He earned his Ph.D. in Biotechnology from Gauhati University in 2007 and has over two decades of research and teaching experience. His research integrates carbohydrate science, cancer biology, and biotechnology, focusing on carbohydrate-active enzymes, lignocellulosic biomass valorization, and glycosylated bioproduct synthesis. Dr. Baishya's work also explores MYC-driven glucose metabolic reprogramming in cancer stem cells and epigenetic modulation in cancer, particularly through histone deacetylase (HDAC) inhibition for therapeutic interventions. He has guided fifteen Ph.D. scholars and published over fifty research papers, book chapters, and an authored book. A recipient of the R.K. Borkotoky Best Research Paper Award (2022), SAB Eminent Biotechnologist Award (2025), C.G. Merchant Memorial Award by ACCTI, India (2025), Elected Fellow, Society for Applied Biotechnology and Fellow Linnean Society of London (2025).



Dimas Hari Santoso

*Queensland Centre of Population Research,
School of the Environment, the University of Queensland,
Australia*

Climate Disaster Exposure and the Risk of Catastrophic Health Expenditure: A Household-Level Analysis in Indonesia

Abstract

Background: Climate change and environmental degradation are increasingly recognised as critical determinants of health. However, their implications for household financial vulnerability in the form of catastrophic health expenditure (CHE) remain largely unknown. In Indonesia, where health insurance coverage is still developing and health systems rely relatively highly on out-of-pocket (OOP) payments, climate and environmental stressors are likely to amplify the risk of CHE by increasing disease burden and reducing household income.

Objective: This study investigates the pathways through which climate-environmental stressors influence CHE in Indonesia, focusing on the mediating roles of disease burden and household income. It also examines the moderating role of JKN (Indonesian National Health Insurance) as a health financing system policy in mitigating these effects.

Methods: Using a 300,000-household sample from SUSENAS (March 2024), this study applies Structural Equation Modelling (SEM) to capture causal relationships between climate-environmental stressors and catastrophic health expenditure (CHE) through disease burden and household income. SEM enables the estimation of both direct and indirect effects, providing insight into how environmental and economic shocks jointly contribute to household financial vulnerability. Health financing systems are included as interaction terms in the model to assess their role in mitigating the financial impact of climate and environmental shocks.

Expected Results: This research employs Structural Equation Modelling to assess the indirect effects of climatic and environmental stressors on Catastrophic Health Expenditure (CHE) in Indonesia. The model will test theorised pathways, primarily the depression of household income and the increased incidence of climate-sensitive diseases (e.g., cardiovascular, cancer, respiratory, infectious, and mental health disorders). The results will illuminate how these stressors magnify health inequalities and shape population well-being, highlighting their critical role in determining long-term health trajectories in the country.

Biography

Dimas Hari Santoso is an experienced statistician at Statistics Indonesia (BPS), where he has served since 2009, conducting vital cross-sector research and analysis. Dimas holds two master's degrees in economics from MPED Ritsumeikan University, Japan, and MET Padjadjaran University, Indonesia. His master's thesis focused on the impact of air pollution on health insurance coverage in Indonesia. His expertise also extends to public health and population dynamics, demonstrated by his 2020-2021 role as a data specialist for the Indonesian National COVID-19 Task Force and his participation in the Indonesian Population Census 2010 & 2020. He is currently advancing his academic expertise as a PhD student at the Centre for Population Research, School of the Environment, the University of Queensland, Australia.

**Dipankar Sharma***India*

Climate Change, Public Health, and Ecosystem Vulnerability in India: A Case Study of the Sundarbans

Abstract

Climate change poses multifaceted threats to public health in India, with pronounced effects in ecologically fragile and socio-economically vulnerable regions such as the Sundarbans. Located in the Bay of Bengal, the Indian Sundarbans is the world's largest contiguous mangrove forest and supports the livelihoods of more than 4.3 million people. Rising sea levels, increasing salinity of water and soil, and more frequent extreme weather events such as cyclones and floods have profound implications for both human and ecological health. Between 2019 and 2021, the region was struck by several severe cyclones—including Amphan and Yaas—causing widespread ecosystem disruption and displacement. Coastal erosion and tidal inundation continue to threaten land and habitation, reducing freshwater availability and contaminating drinking water sources.

The increasing salinization of groundwater and surface water has been associated with a rise in water-borne diseases and chronic health conditions among residents, particularly affecting women's reproductive and menstrual health. Women in island villages report high incidences of infections due to prolonged exposure to saline and contaminated water during daily activities such as fishing and washing. Climate-related shocks have also led to repeated disruptions in agriculture and food production, exacerbating food insecurity and malnutrition in children and adults alike. Additionally, frequent climate disasters and livelihood loss contribute to psychological stress and mental health disorders among local populations.

Furthermore, climate change threatens the region's biodiversity, with mangrove habitats shrinking and altering the behavior and distribution of key wildlife species such as the Bengal tiger, increasing human-wildlife conflict.

This study highlights the urgent need for integrated preventive strategies that strengthen climate-resilient health systems, enhance water and sanitation infrastructure, promote ecosystem conservation, and support community adaptation. Recognizing the interdependence of environmental health and human well-being is critical for reducing health inequities and achieving sustainable public health outcomes in climate-vulnerable regions like the Sundarbans.

**Emine Günok**

*Gazi University, Gazi Faculty of Education
Department of Turkish and Social Sciences Education
06500 Teknikokullar, Yenimahalle, Ankara, Türkiye*

Post-Earthquake Spatial Analysis of Tourism Infrastructure: The Gaziantep, Türkiye Case

Abstract

This study examines the impacts of two devastating earthquakes, with magnitudes of 7.8 Mw and 7.5 Mw, which struck nine hours apart on 6 February 2023, on the tourism infrastructure of Gaziantep Province. Gaziantep, known for its rich historical and cultural heritage, suffered severe physical and economic losses as a result of the disaster. The primary objective of this study is to employ spatial analysis methods to determine the extent to which structures directly or indirectly related to tourism were affected by the earthquakes and to provide actionable insights to guide the reconstruction process. Spatial analyses were conducted using Geographic Information Systems (GIS), supported by satellite imagery and field data, enabling a comprehensive assessment of the damage status of critical tourism infrastructure. Structures directly and indirectly associated with tourism were analyzed in relation to their geological and geomorphological characteristics and post-earthquake damage status. The findings revealed that structures located on alluvial deposits and continental clastic rock formations were particularly vulnerable to severe damage.

The highest levels of damage were observed in the categories of “supporting services”, such as accommodation and gastronomy facilities, and historical and cultural heritage areas, including traditional bazaars and museums. The results indicate that a significant portion of Gaziantep’s tourism infrastructure has been severely damaged, highlighting the urgent need for protection and intervention, particularly concerning historical and cultural assets such as Gaziantep Castle, Bakırcılar Bazaar, and the Zeugma Mosaic Museum.

The data obtained provide concrete information to decision-makers on priority areas for post-disaster recovery and reconstruction. This study is of great significance in providing a strategic framework for the reconstruction of Gaziantep's tourism infrastructure. Furthermore, it establishes a scientific foundation for the development of sustainable and resilient tourism policies. The findings also offer valuable insights that can contribute to strengthening the resilience of the tourism sector in other regions similarly affected by disasters.

Keywords: Earthquake, Infrastructure, Tourism Infrastructure, Disaster Management, Geographic Information Systems, Urban and Regional Planning, Gaziantep.

Biography

Dr. Emine Günok is an Assistant Professor in the Department of Turkish and Social Sciences Education at Gazi University, where she has been a faculty member since 2012. She has extensive experience in applying GIS methodologies to various geographical research projects. Dr. Günok's professional journey has been marked by her commitment to education and research in the field of geosciences.

As a scholar and educator, her research explores the impact of educational programs on geoheritage awareness and the application of GIS in physical geography studies. Dr. Günok is actively involved in academic activities and has participated in several international conferences, presenting papers on the application of GIS in geographical studies.



Ezeji Esther Amarachi

College of medicine, university of Lagos, 12003 Nigeria

Sample records for instrumental analysis experiment

Abstract

Background:

This study assessed COVID-19 knowledge, preventive practices, and healthcare access among adolescents aged 12–19 in Ajegunle, Lagos State, Nigeria. Understanding adolescents' response to the pandemic is critical for public health planning.

Methods:

A descriptive cross-sectional design was used, involving 308 adolescents (mean age 14.8 years; 61.7% male), selected through systematic random sampling. Data were collected via online questionnaires covering demographics, COVID-19 knowledge, practices, and healthcare access.

Results:

Most respondents (97.4%) recognized COVID-19 as viral, with 89.3% identifying airborne transmission. Common symptoms like cough (98.4%), breathing difficulty (95.5%), sneezing (95.1%), and fever/muscle pain (92.9%) were well known. About 88.6% were aware of the incubation period. Preventive measures such as isolation (98.4%), mask-wearing, and handwashing (97.1%) were widely understood. Covering the mouth when coughing or sneezing (99%) was the most practiced behavior. Overall, 85.4% practiced good hygiene and prevention, though 14.6% did not. However, 47.4% reported limited access to healthcare during the pandemic.

Conclusion:

Adolescents showed strong awareness and good preventive behavior. However,

access to healthcare remained limited due to poor internet, electricity issues, school closures, and economic barriers. Misinformation from informal sources also affected some participants. The study recommends better grassroots health education, reliable information dissemination, and stronger government support to ensure healthcare access during future health crises.

Biography

Ezeji Esther Amarachi is a public health and microbiology specialist with a BSc in Microbiology and an MSc in Public Health from the University of Lagos. Her academic and professional background reflects a strong foundation in laboratory science, infectious disease analysis, and health systems research, alongside a growing research focus on maternal–fetal immunology, immune–metabolic adaptation during pregnancy, and early-life health outcomes. She has hands-on experience in microbiological testing, quality control, data analysis, and health-related counselling, gained through roles in pharmaceutical manufacturing, clinical laboratory settings, and community-based research. Her master’s research examined healthcare access and behavioural determinants during COVID-19 among adolescents, strengthening her competencies in epidemiology and statistical interpretation. Ezeji’s multidisciplinary skill set bridges biomedical science and public health, positioning her well for postgraduate research in pregnancy immunometabolism, developmental health, and maternal–child health equity, with particular interest in translating biological research into population-level health impact.

**Ezekiel O. Aruoture**

Department of Psychology, University of Ibadan, Ibadan, Nigeria

“Sometimes, I feel like my life has no meaning”: An Exploration of Emotional Distress, Stigma, and Mental Health Challenges Among Adolescents Living with HIV in Peri-Urban Communities in Nigeria

Abstract

Adolescents living with HIV (ALHIV) encounter unique psychosocial challenges extending beyond clinical care, including emotional distress, internalised stigma, and mental health vulnerabilities. In Nigeria, these challenges are exacerbated by societal stigma, family dynamics, and fears surrounding disclosure. This study explored the emotional distress, stigma experiences, and mental health challenges of adolescents living with HIV in peri-urban communities of Ibadan. A qualitative design was employed, using focus group discussions (FGDs) with 42 purposively selected adolescents aged 13–19 years, all currently receiving antiretroviral therapy and participating in OTZ (Operation Triple Zero) meetings. Semi-structured FGD guides elicited narratives regarding emotional experiences, disclosure, stigma, family support, and coping strategies. Thematic analysis identified two major themes: (1) Emotional distress, loneliness, and internalised stigma, including persistent sadness, social isolation, fear of disclosure, and strained family relationships; and (2) Fear, anxiety, and self-stigmatisation, including anticipatory stigma, worries about illness progression, social withdrawal, and diminished self-worth. Maternal and peer support emerged as protective factors mitigating psychological distress. The findings highlight the need for adolescent-centred interventions integrating mental health support, stigma reduction, and family-based psychosocial care to promote resilience and well-being among ALHIV.

Keywords: Adolescents living with HIV, Emotional distress, Stigma, Mental health.

Biography

Ezekiel O. Aruoture is a PhD student in Clinical Psychology at the University of Ibadan, Nigeria. He holds a B.Sc. in Psychology and an M.Sc. in Clinical Psychology from the same institution. He has substantial research experience, having served as a research assistant on multiple projects within and outside Nigeria, with expertise in both quantitative and qualitative methods, including data analysis, manuscript writing, and academic editing. His research interests centre on adolescent mental health and individuals living with chronic illnesses, particularly HIV, with a focus on the neuropsychological dimensions of adolescent cognitive health. He has contributed to collaborative research on mental health, neurodegenerative disorders, and caregiving in the Nigerian context. He also served as a reviewer for journals, including Taylor and Francis and Elsevier. Ezekiel also volunteers as a psychologist at the University of Ibadan Psychology Clinic, providing psychological assessment and support services. He is currently focused on advancing adolescent mental health, psychological and cognitive research, with a particular interest in psychosocial interventions, stigma reduction, and improving access to mental health.



Rev Dr Kevin O'Donnell

Research Associate, Margaret Beaufort Institute of Theology, Cambridge. Associate Fellow, Kirby Laing Centre, Cambridge

BE IN TOUCH as a model of spirituality for the training of healthcare

Abstract

Spirituality is impossible to define. It is like trying to catch flowing water in the hand. Its very fluidity brings it alive. Spirituality is more than the religious or the theological; it is part of being human.

Even an atheist, therefore, can be said to have a spirituality. Spirituality cannot be defined but it is possible to attempt to devise models of it. A new model is proposed here, partly influenced by the oeuvre of Julia Kristeva, the poststructuralist, semiologist, and psychoanalyst who is concerned with therapy and mental health. My resulting model is of BE IN TOUCH. 'BE' suggests existential questions, about being alive. 'IN' suggests the interior life and wellbeing. 'TOUCH' suggests relationships and ethics. Consideration of pastoral relationships and of understanding the values of others in particular environments are foundational for approaches to spirituality in healthcare as the inter- relational dynamic proposed here BE IN TOUCH is envisaged at the thematic foundation of training healthcare professionals about spirituality, both their own, and that of clients. Spirituality, above all, is presented as a human quality and should not be located only in chaplaincy or religious beliefs or customs. It is a way of self-awareness, of appreciation of life, and of others.

Biography

Kevin O'Donnell is a former Head of Personal and Spiritual Development in a large secondary school in Buckinghamshire, UK. He has been an Anglican school chaplain in Ascot, UK, and

assisted in a Catholic secondary school in Hove, UK. He has worked as a parish priest and is presently attached to the basilica of Notre Dame in Pontmain, France. He is a published author of educational resources for Hodder and for Lion and has contributed to several academic journals. He received his Doctorate from St Mary's University, Twickenham, UK, in 2022. His experience of healthcare is from pastoral responsibilities and personal health issues, being diagnosed with epilepsy and PTSD.

**Dr. Khaled Mahmoud**

Qatar Environment and Energy Research Institute, Hamad Bin Khalifa University, Doha, Qatar

Leveraging Wastewater-Based Epidemiology for Monitoring Infectious Diseases and Illicit Substance Use: Public Health and Social Implications

Abstract

Our research underscores wastewater-based epidemiology (WBE) as a powerful, non-invasive, and cost-effective approach for monitoring infectious diseases and assessing illicit substance use within communities. WBE aligns closely with clinical data reported by national health authorities, providing real-time insights into infection rates and transmission dynamics within densely populated environments. During the COVID-19 pandemic, WBE offered crucial data that complemented traditional clinical testing, identifying both symptomatic and asymptomatic carriers. The program has since expanded to cover emerging and re-emerging pathogens, including antimicrobial-resistant bacteria and other respiratory viruses, enhancing public health preparedness. Qatar demonstrated a pioneering application of WBE during the FIFA World Cup 2022, managing the challenges associated with a significant population influx and increased risks of drug trafficking and consumption. By implementing WBE at key wastewater treatment sites, we could monitor the presence of various contaminations illicit substances across major event locations. This surveillance could enable authorities to gauge community-level chemical contamination and consumption trends while upholding ethical standards on privacy and transparency, in line with WHO guidelines. As a dual-purpose tool for public health and safety, Qatar's WBE initiative serves as a model for real-time disease and substance use monitoring in high-density, dynamic settings. This approach not only enhances the response to infectious disease outbreaks but also provides invaluable insights into societal behaviors, reinforcing WBE's role in

advancing health security and social welfare.

Biography

Dr. Mahmoud: is a Professor and Research Director of the Environmental Chemistry and Microbiology Program and lead investigator at the Qatar Environment and Energy Research Institute (QEERI), Hamad Bin Khalifa University, Qatar. Dr. Mahmoud's main research interests focus on environmental quality and nanobiotechnology including the development of renewable nanomaterials and analytical methods for membrane desalination, water treatment, emerging contaminants, environmental monitoring and remediation, and nanocatalysis. His groups's contribution to the One Health and Water-Based Epidemiology is recognized by leading the national Wastewater-based Pathogens Surveillance for Public Health Action in Qatar. He is leading cross-cutting research in the applications of 2D carbon nanomaterials and their composites for water treatment and environmental remediation applications. Dr. Mahmoud is a co-author of over 150 high-impact papers, book chapters, patents, and numerous presentations in the field.



Louise Signal & Moira Smith

Health Promotion and Policy Research Unit, University of Otago, Wellington, New Zealand

High Stakes: An objective analysis of children's exposure to gambling online

Abstract

Children's exposure to gambling and gambling marketing and the subsequent impact on their health and wellbeing is an issue of considerable public health concern, yet little is known about children's exposure, particularly online. This paper reports on objective research on the extent and nature of children's exposure to gambling and gambling marketing online. It involved content analysis of gambling-related data from Kids Online Aotearoa. This cross-sectional observational study was of the real-time experiences of 136 12-year-old children from 16 schools across the Wellington region of Aotearoa New Zealand (NZ). Their online data was captured in real-time using screen recording software. Children in the study were exposed to gambling and gambling marketing online 1.3 times per hour, on average, mostly on phones. Most exposures online occurred when they were playing games. Nearly one-third of children's exposures to gambling and gambling marketing online were on social media. Children are likely exposed to gambling and gambling marketing 55 times per week, given that children are online 42 hours per week. The current self-regulatory system fails to protect children and is not fit-for-purpose. This research suggests that there is an urgent need to implement comprehensive government regulation of gambling and gambling marketing online that is independently monitored and with effective sanctions. The health and wellbeing of our children depends on it. While a small study from NZ, given the global nature of the online world, these findings will be of interest to those in other jurisdictions concerned to protect children from gambling-related harm.

Biography

Professor Louise Signal is a Director of the Health Promotion and Policy Research Unit at the University of Otago, Wellington, Aotearoa New Zealand . Louise is a social scientist with a PhD in Community Health from the University of Toronto. Louise's research focuses on identifying and addressing the social, environmental, commercial and digital determinants of health. Her research has a strong focus on equity for Māori, Pacific, and low-income communities. Key research areas include the politics of health and health equity, obesity prevention, and addressing harm from alcohol and gambling.

**Mohammad Abdullah Al Mamun**

Associate Professor & Dean, South Asia School of Business, University of South Asia, Dhaka-1348, Bangladesh

Mediating effect of appraisal fairness between the relationship of appraisal satisfaction and employee performance appraisal: a case of Bauchi State Teachers Service Commission, Nigeria**Abstract**

Performance appraisal is a vital human resource management component for evaluating employee contributions and productivity. It plays a significant role in aligning employee performance with organizational goals by assessing achievements and recognizing efforts through tangible rewards. This ultimately helps boost morale and drive engagement, which are critical for overall productivity. This study examines the role of appraisal fairness in mediating the relationship between appraisal satisfaction and employee performance at the Bauchi State Teachers Service Commission (TSC). Employing a quantitative approach, data were gathered from 355 out of 5,016 respondents using a structured questionnaire and analyzed with Smart PLS-SEM version 4. The results reveal that performance appraisals significantly enhance work satisfaction and fairness, with fairness in the appraisal process serving as a partial mediator. The study advocates for integrating performance appraisals into the commission's policy framework. The limitations and implications for future study and practice are effectively discussed.

Biography

Assoc. Prof. Mohammad Abdullah Al Mamun is the Dean at the South Asia School of Business & Director of IQAC, University of South Asia, Dhaka, Bangladesh. He has more than 21 years of experience in the field of academic and corporate. Mr. Mamun worked for Daffodil

International University, Dhaka, Bangladesh, Southeast University, Dhaka, Bangladesh, and Sylhet International University, Sylhet, Bangladesh. He has completed his PhD (HRM) from the School of Business and Economics (Triple Crown Accredited-AACSB, EQUIS & AMBA), Universiti Putra Malaysia (UPM), Malaysia. Mr. Mamun earned an MBA degree majoring in HRM & Marketing from Bangalore University, India, under the Indian Government (ICCR) Scholarship and a BBA degree majoring in Management from Southern Adventist University, Tennessee, USA. He also completed a PGD in Retail Management from ICFAI University, India. Mr. Mamun is competent in Research Methodology and Statistical Software like SPSS and PLS-SEM. He has published 30 research articles in reputed peer-reviewed journals, including Scopus (Q1), WoS, ABDC, and ABS Indexed.

**Peter Averkiou, M.D**

Associate Professor of Pediatrics at Charles E. Schmidt College of Medicine, USA

Engaging Medical Students with the Community Through Service-Learning Programs

Abstract

INTRODUCTION: Service-learning (SL) programs in medical schools illustrate one of the number of adult learning principles and practices now used in today's accredited curriculum that better prepares medical students for working with a variety of patients. **AIM:** The research aim was to assess medical students' learning experiences while participating with nonprofit organizations during an SL curricula-designed program.

METHOD: Analysis of 60 reflective essays over a three-year period from 192 medical students placed in teams of 2-4. A case study research design was employed. This iterative approach allowed the identification of themes and interpret meaning.

RESULTS: Four major themes and one overarching theme emerged that illuminated adult learning theories including: (1) transferring learning of one's skills and knowledge to community and practice; (2) articulating a variety of ways to communicate with multiple, diverse community audiences; (3) employing creative process for quality improvement strategies; (4) creating positive, trusting, and rewarding relationships; and an overarching theme: collaboration emerging almost without forethought. Medical educators may find that replicating this SL program into the curriculum infrastructure provides agency and student buy-in. A multi-prong process bringing reward to students and to the community. Reflection provides for meaningfulness from SL programs and helps student identify how experiential learning affects their professional development.

CONCLUSION: Implementing an SL program into any medical school curriculum

strengthens the adult learning theoretical delivery approach. Disseminating projects and lessons learned to and from the community also showcases experiential learning opportunities for medical students and other professionals. Many aspects of awareness from the medical students during the SL program emerged. They learned about specific aspects of community engagement. They found it a privilege to give and take many lessons from the experiences and opportunities.

Biography

Dr. Peter Averkiou is a pediatrician and an Associate Professor of Pediatrics at the Charles E. Schmidt College of Medicine at Florida Atlantic University. He is the Co-Director of the four Foundations of Medicine Courses, the Director of the Service Learning Projects, the Director of the Newborn Nursery Clinical Rotation and the Director of the Synthesis and Transition Course at the medical school.

**Priyamadhaba Behera**

*All India Institute of Medical Sciences, Bhubaneswar,
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Effectiveness of Peer-Led Intervention in Control of Non-Communicable Diseases in Rural Areas of Khordha District: A Cluster Randomized Controlled Trial

Abstract

Hypertension, diabetes mellitus, and dyslipidaemia are the leading contributors to death and disability from chronic diseases in developing countries despite affordable treatment. This study evaluates the effectiveness of a peer-led intervention versus standard care in achieving NCD control at one year in rural India. A cluster-randomized controlled trial was conducted in villages of two rural blocks of Khordha district, Odisha, from August 2023 to December 2024.) A total of 720 eligible adults (360 intervention and 360 control) with hypertension and/or diabetes and/or dyslipidaemia were recruited and allocated to two arms at the cluster level. The intervention arm received a 6-month peer-led program in addition to standard care, with sessions covering self-care, follow-up care, medication adherence, physical activity, diet, limiting substance use, and mental health and co-morbidities. The primary outcome was the mean change in blood pressure, HbA1c, and blood cholesterol at 1 year, comparing intervention with standard-care clusters. A total of 775 participants were enrolled (mean age 46.6 ± 9.1 years; 58.8% female), and 760 (98%) completed the 12-month follow-up. At baseline, hypertension was present in 85.7% of participants, dyslipidemia in 72.9%, and diabetes in 21.8%. At 12 months, the proportion with overall NCD improvement was higher in the intervention arm compared with the control arm (54.2% vs 34.5%; absolute risk difference 19.7%, 95% CI 12.6–26.9; $p < 0.001$). The intervention arm recorded greater mean reductions in systolic blood pressure (9.3 vs 5.5 mmHg; $p < 0.001$) and fasting blood glucose (23.8 vs 3.0 mg/dL; $p < 0.001$). LDL trajectories also differed

between groups, with improvement in the intervention arm and a worsening trend in controls ($p < 0.001$). The peer-led intervention improved control of NCDs (dyslipidaemia, hypertension and diabetes) compared with standard care. Integrating peer-led models within primary health systems is effective to control common NCDs in rural India.

Biography

Dr. Priyamadhaba Behera is a trained medical professional with a keen interest in public health research. He completed his MD (Community Medicine) from AIIMS, New Delhi, and MA (Population Studies) from IIPS, Mumbai. Dr. Behera is currently working as an Associate Professor at AIIMS Bhubaneswar. His key areas of interest include chronic disease care, tribal health, and epidemiology, comprehensive clinical care, community-based interventions, and innovation. He has published more than 100 research articles and 8 books/reports in peer-reviewed national and international journals. He is actively involved in 10 multicentric/multinational collaborative projects and has successfully completed 25 projects as PI/Co-PI. He has been recognized with the Prof. Bidwai Fellowship (2015), Dr. Sushila Nayar Memorial Young Leader Orator Award (2024), and the IAPSM Presidential Appreciation Award (2022–23). He served as an expert member for the national SOP on COVID-19 containment in rural and tribal areas and is a recipient of the ICMR Intermediate Grant (2024). He also served as Organizing Secretary for the 3rd IAPSM Young Leaders National Conclave National Youth Leadership Workshop.

**Dr. Rajendra Gadhavi**

*Bagchi School of Public Health, Ahmedabad University,
Ahmedabad, India*

Association between pre-gestational body mass index and post-partum glucose levels in Gujarati Indian women with gestational diabetes mellitus

Abstract

Pre-pregnancy BMI is a significant determinant of postpartum glucose levels in women with gestational diabetes mellitus, acting through mechanisms of insulin resistance and impaired β -cell function. Early identification of women with elevated BMI and targeted lifestyle interventions before and after pregnancy may help mitigate the risk of persistent postpartum dysglycemia and future diabetes.

This prospective study evaluates the association between pre-pregnancy body mass index (BMI) and postpartum glucose levels in a cohort of Indian women with gestational diabetes mellitus (GDM).

In this prospective cohort study, 53253 women from Ahmedabad, Gujarat, India, were screened for GDM, of which 6786 women were positive. A total of 3602 women with GDM had postpartum glucose levels measured within 6 weeks of delivery and were included in the analyses. After assessing demographic and clinical variables, linear regression models were generated to examine associations between pre-gestational BMI, postpartum glucose levels, birth weight, and macrosomia, adjusting for known risk factors for type 2 diabetes (T2DM).

The women in the study were young (mean age 25.1 ± 3.6 years), mostly normal weight (57.6%) or underweight (27.9%), and in their first (42.5%) or second (37.0%)

pregnancy. Pre-pregnancy BMI was an independent predictor of post-partum glucose levels after adjusting for known risk factors ($p=0.02$). Pre-pregnancy BMI was also an independent predictor of birth weight ($p<0.001$).

This is the first study to show that pre-pregnancy BMI is independently associated with post-partum glucose levels and birth weight in Gujarati Indian women with GDM. Further analyses studying other predictors of progression to T2DM in women with GDM and validation of the current results in other Indian subgroups are needed.

Biography

Dr. Rajendra N. Gadhavi is a senior medical epidemiologist and public health leader with over 22 years of experience across academia, government health systems, and international agencies. He is currently a Professor at the Bagchi School of Public Health, Ahmedabad University, India. Trained as an MBBS, MD (Preventive Medicine), MHA (USA), and PhD in Epidemiology, he has provided technical leadership to WHO country and regional offices across Asia, Africa, and the Pacific.

Dr. Gadhavi has extensive expertise in vaccine-preventable disease surveillance, immunization systems, outbreak preparedness and response, HIV/AIDS surveillance, and health program monitoring and evaluation. He has played key roles in polio eradication, measles elimination, COVID-19 response, and HIV program strengthening at the state, national, and global levels. A widely published researcher and mentor, he is committed to evidence-based policy, capacity building, and strengthening public health systems in low- and middle-income countries.

**Uche Ekezie. PhD***Redding, CA 96003, USA*

Understanding the Impact of Boundary-spanning Employee Displacement by Artificial Intelligence (AI) on Supply Chain Innovation

Abstract

As much as AI use in supply chain (SC) management is widely acknowledged to render some SC jobs redundant, little is known about the influence of this dynamic on boundary-spanning employees (BSEs). With this in mind, our research specifically evaluates the effects of AI-induced displacement of boundary-spanning roles, as links for critical tacit knowledge, on SC innovation. We adopt a three-stage mixed-method approach. First, we interviewed SC professionals. Second, we collect SC practitioner survey data and analyze it using structural equation modeling. Then, probe further via follow-up interviews in phase 3. We find that, in addition to influencing SC innovation, BSE displacement is instrumental in exchanging tacit knowledge with SC partners and ensuring trust in SC partners, revealing the complex relationship between AI-induced BSE displacement and interfirm trust. The study extends social network theory by showing that qualitative attributes of business ties are more important than quantitative attributes when sourcing external innovation. Our findings reinforce actor-network theory (ANT) by highlighting the role BSEs leveraging non-human “actors” –like technology– play in interorganizational collaboration. The ensuing contributions emphasize the role of BSEs as part of a human-AI hybrid, providing insight into the need for an optimal human-AI balance in the SC to ensure continuing innovation.

Biography

Dr. Uche Ekezie has some 15 years of managerial experience in Consumer-Packaged Goods and BioTech Supply Chain Management. He received his PhD from the University of North Texas. Results of Dr. Ekezie's previous research have been published in journals such as the International Journal of Logistics Management, the Journal of Business Logistics, and the Operations and Supply Chain Management Journal.



Yahaya Kudush Kawa

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Water Contamination from Gold Mining and Its Effects on Public Health in Bo District

Abstract

In Sierra Leone's Bo District, gold mining has become a major source of income for many residents. However, the environmental and health costs associated with this activity are often overlooked. Most gold mining in this region is conducted using artisanal and small-scale methods, which often involve the use of toxic chemicals, such as mercury. These chemicals are used to extract gold from ore, but often end up in nearby rivers and streams due to poor waste management practices.

Many communities in Bo rely on these same water sources for drinking, cooking, and bathing. Water tests conducted in areas near mining sites show dangerously high levels of mercury and other pollutants. Exposure to these substances, even in small amounts, can cause serious health problems. Local health centers report an increase in cases of diarrhoea, skin diseases, and respiratory issues. Long-term mercury exposure.

The issue is worsened by limited access to healthcare and the lack of public awareness about the dangers of contaminated water. Additionally, there is minimal government oversight of small-scale mining operations, making it difficult to enforce environmental safety standards.

To address this growing public health concern, immediate action is needed. This includes stricter environmental regulations, regular water quality monitoring, education campaigns, and the provision of clean, alternative water sources for affected communities. Without these measures, the health and well-being of thousands in Bo

District remain at serious risk.

Biography

Dr. Yahaya Kudush Kawa is a dedicated researcher and academic with over ten years of experience in the fields of soil and water pollution and phytochemistry. He currently serves as a faculty member in the Department of Chemistry at Njala University, where he contributes to both teaching and cutting-edge environmental research.

Dr. Kawa has an impressive academic portfolio, including thirteen peer-reviewed publications, four book chapters, and four conference abstracts presented at national and international forums. His outstanding performance during his doctoral studies earned him a Ph.D. Student Academic Excellence Award at the China University of Geosciences for the academic years 2016/2017 and 2019/2020.

He is an active member of the Society for Environmental and Public Health Practitioners of West Africa (SEPHPWA) and a Lifetime Fellow of the International Society for Development and Sustainability. His work continues to contribute significantly to environmental protection and sustainable development in West Africa.

**YANG ZONGPU**

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Governmental public health policy choices in the context of artificial intelligence medical applications: the dual logic of cost control and technological governance

Abstract

The rapid adoption of artificial intelligence (AI) in healthcare poses significant policy challenges for governments, particularly concerning balancing healthcare cost containment with effective technology governance. This study investigates how governments formulate public health policies under the dual pressures of managing rising healthcare expenditures and promoting technological innovation. Drawing upon policy dilemma theory and governance frameworks, we propose a theoretical model elucidating the interplay between cost control logic and technology governance logic in public health policy-making. Employing qualitative comparative analysis (QCA) and in-depth case studies, we analyze policy documents and expert interviews from multiple regions in China, highlighting distinct patterns and conflicts in governmental decision-making processes. The findings reveal that governments frequently navigate tensions between immediate fiscal constraints and long-term strategic investments in AI-driven medical technologies. Successful policy formulation tends to involve integrative governance strategies that simultaneously address fiscal sustainability and technological advancement. This research contributes to political science by clarifying the dual logic behind AI healthcare policies and provides actionable insights for policymakers seeking balanced and sustainable public health governance.

Biography

Zongpu Yang is a dedicated scholar with a strong academic background in politics and governments studies. He obtained his bachelor's and master's degrees from For Hays State University in the United States. Currently, he is pursuing his PhD at Universiti Putra Malaysia, where he continues to delve into the intricacies of politics and government dynamics. Yang's research interests span a wide range of topics within the politics, with a particular focus on understanding the complex interplay between government governance and digital human rights. His work has been recognized in the academic community, as evidenced by his publication in the reputable journal Technology in Society and Finance Research letters. He has Published in excess of 25 papers. This accomplishment highlights his ability to contribute meaningful insights to the field of human rights through a politics and governments lens. Yang is committed to advancing knowledge in his area of expertise and looks forward to engaging with fellow researchers and scholars at upcoming conferences and events.



Yazmín Cadena Camargo

*Faculty of Medicine, Pontificia Universidad Javeriana,
Bogota, Colombia*

Health status of Venezuelan Migrant Women in Colombia who ends up in prostitution and their children: Is Only Women's Sexual Health Relevant?

Abstract

Introduction: Venezuelan migrant women who ends up in prostitution in Colombia have negative repercussions on their health. Neither there are many studies on other health outcomes, nor do they include migrant women and their children. We aimed to describe the physical, mental and social health status of a group of Venezuelan Migrant Women and their children.

Methods: 24 Venezuelan Migrant Women and their 31 children were evaluated. Through an evaluation with mixed methods approach, we carried out an evaluation of their physical health status, in addition to screenings for depression (PHQ-9), anxiety (GAD-7), post-traumatic stress disorder (PCL-5), well-being (WHO-5) and cognitive performance (MoCA). A qualitative analysis of their narratives was also performed.

Results: All of them had a physical symptom but they were not related with sexual transmissible diseases. 89% had ≥ 1 mental disorder, with positive screenings for GAD-7 (95%), PHQ-9 (79%) and PCL-5 (63%). Their MoCA scored lower than expected in 63% of them. Most had witnessed or suffered from emotionally disturbing events before and during prostitution, besides multiple biopsychosocial risk factors in their life history. Their children commonly had hyperactivity and conduct problems, language and developmental delay, poor maternal attachment, and lack of schooling. Conclusion: The health impact for Venezuelan migrant women and their children is often not included

systematically in research and practice. Social determinants and biopsychosocial risk factors prior to prostitution should be considered at a structural level as they could reduce vulnerability to being victims of trafficking or exploitation, as well as its individual and familial consequences.

Biography

Medical Doctor of the Pontificia Universidad Javeriana, International Master of Public Health from the Hebrew University of Jerusalem (Israel), PhD from Maastricht University (The Netherlands).

Global health professional with experience in community work and leadership. Recognized researcher using qualitative approaches of different topics such as mental health, armed conflict, migration, forced displacement, gender, sexual and reproductive health, health promotion, and family medicine. Professor of the Faculty of Medicine from Javeriana University, Director of the Social and Preventive Medicine Department.



Zakari Adeiza David

Department of Microbiology, Prince Abubakar Audu University, Anyigba, Kogi State, Nigeria

Production and Evaluation of Microbial Bioactive Compounds for Antimicrobial and Gastroprotective Applications: An Industrial Microbiology Approach to Public Health

Abstract

Microbial bioactive compounds are gaining recognition for their potential in combating antimicrobial resistance and gastrointestinal disorders, both critical challenges in public health. This study applied industrial microbiology techniques to isolate and characterize microbial strains from agro-ecological environments in Kogi State, Nigeria. The metabolites extracted from these strains were tested for antimicrobial activity against ulcer-associated pathogens using agar well diffusion and minimum inhibitory concentration (MIC) assays. Anti-ulcer activity was evaluated using albino rats with ulcers induced by aspirin and ethanol, with lesion reduction scores analysed statistically using ANOVA ($p < 0.05$). Furthermore, key compounds were subjected to in silico molecular docking using PyMOL 4.2 to assess their binding affinities to pathogenic bacterial proteins. Results demonstrated significant antimicrobial and gastroprotective activities, particularly from Streptomyces-derived compounds. This study highlights the potential of bioprospecting microbial metabolites as functional public health interventions and reinforces the role of industrial microbiology in translational health solutions.

Biography

Zakari Adeiza David has PhD candidate in Food and industrial microbiology with a research focus on microbial biotechnology. He is currently a lecturer and research coordinator at the

Department of Microbiology, Prince Abubakar Audu University, Nigeria. His expertise spans ecological microbiology, bioactive compound screening, and microbial applications in health and environmental sustainability. He is actively involved in public health-focused research linking microbiology to community-based disease prevention and biodiversity conservation.

**Agus Fitriangga**

*Department of Community Medicine, Faculty of Medicine,
Universitas Tanjungpura, Pontianak Indonesia*

Regional Lifestyles, Divergent Risks: A Cross-Island Comparative Analysis of Diabetes, Obesity, and Cardiovascular Burden in West, Central, and East Indonesia

Abstract

Lifestyle-related diseases are rising sharply across Indonesia, but the pattern isn't uniform. West, Central, and East Indonesia differ in diet, physical activity, urbanisation, and healthcare access—factors that shape the burden of diabetes, obesity, and cardiovascular disease (CVD). These regional contrasts are rarely examined in one comparative framework. This study maps the magnitude and lifestyle determinants of these conditions, providing evidence for geographically tailored prevention strategies. We conducted a cross-sectional analysis using pooled secondary data from the 2021–2023 national health surveillance (Riskesdas, STUNTING-PPGBM, and district NCD registries). Three island groups were defined: West (Sumatra–Java), Central (Kalimantan–Sulawesi), and East (NTT–Maluku–Papua). Key variables included BMI, fasting glucose, hypertension status, diet quality score, physical activity level, and socio-demographic factors. Multivariate logistic regression assessed the association between lifestyle indicators and outcomes (diabetes, obesity, and CVD). Interaction terms tested regional effect modification. Across 1.2 million adults, obesity prevalence was highest in West Indonesia (28.4%), while Central Indonesia showed the fastest year-on-year rise (6.7%). Diabetes burden was disproportionately high in urban West Java and South Sumatra, whereas East Indonesia exhibited lower overall prevalence but higher rates of undiagnosed hyperglycaemia. CVD risk clustered strongly in Central Indonesia, driven by high smoking rates and limited continuity of care. Diet quality was the strongest predictor of obesity (aOR 1.62; 95% CI 1.54–1.71), while physical

inactivity had the largest effect on diabetes (aOR 1.89; 95% CI 1.76–2.03). Regional interaction modelling showed that lifestyle–disease relationships were significantly stronger in Central and East Indonesia, indicating lower resilience and weaker health-system buffers. Indonesia’s lifestyle-disease epidemic is not monolithic. West Indonesia leads the prevalence, Central Indonesia shows accelerating trends, and East Indonesia hides a high burden of undiagnosed and unmanaged cases. Prevention strategies must move beyond national uniform policies and adopt region-specific, lifestyle-driven interventions that reflect local contexts in the West, Central, and East regions.

Keywords: Lifestyle Diseases; Diabetes; Obesity; Cardiovascular Risk; Indonesia Regional Analysis.

Biography

Agus Fitriangga is a public health researcher and lecturer at the Faculty of Medicine, Universitas Tanjungpura, Indonesia. His work sits at the intersection of epidemiology, community health, and health systems strengthening, with a strong focus on high-burden and underserved regions, such as West Kalimantan and other frontier provinces in Indonesia. He has led and contributed to numerous studies on infectious diseases, non-communicable diseases, and environmental health risks affecting border and remote communities.

**Alessandro Berionni, MD**

Young WFPHA, World Federation of Public Health Associations (WFPHA), Italy

Rebuilding Trust in Public Health: Strengthening Governance Through Evidence and Global Collaboration

Abstract

Public trust in health systems and governance is essential for societal stability, economic prosperity, and effective policymaking. However, increasing polarization, the politicization of health, and the rapid spread of misinformation have severely eroded this trust, undermining confidence in institutions and weakening their ability to implement evidence-based policies. Without trust, societies struggle to respond effectively to health crises, leading to negative consequences for public health, economic stability, and democratic governance. Ensuring universal access to high-quality healthcare, promoting transparency, and fostering public engagement are key to rebuilding confidence in governance and strengthening social cohesion. To address these challenges, global collaboration is essential. Strengthening science communication, countering misinformation, and positioning public health as a unifying force can help restore credibility in governance. The complexity and interconnectedness of today's challenges highlight the need for stronger global governance structures capable of coordinating collective action and ensuring that health policies transcend national interests. The Young World Federation of Public Health Associations (Young WFPHA) is committed to tackling this issue by fostering international partnerships, equipping young leaders with the tools to promote evidence-based decision-making, and developing strategies to reinforce public trust. By investing in these efforts, political leadership can create resilient, inclusive health systems that enhance public confidence, support economic growth, and ensure sustainable, equitable health policies for future generations.

Biography

Dr. Alessandro Berionni is a Public Health resident at Vita-Salute San Raffaele University, working at the WHO Athens Quality of Care and Patient Safety Office. He chairs the Young WFPHA Working Group, leading research, communication, and advocacy. His focus includes quality of care, healthcare innovation, and workforce development. Previously, he collaborated on international projects at the Italian National Institute of Health and worked as a healthcare consultant at GSD Healthcare, advising on integrated care in Saudi Arabia. Alessandro is also a classical pianist and speaks English, Spanish, and Italian.



Alexis D.B. Buunaaim

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Evaluating Catastrophic Health Expenditures among Patients with long Bone Fractures in Ghana's Major Teaching Hospitals: A Hospital-Based Analysis

Abstract

Background: In low and middle-income countries like Ghana, out-of-pocket (OOP) payments remain a significant barrier to healthcare access, often leading to catastrophic health expenditures (CHE). This study evaluates the incidence of CHE among patients treated for long bone fractures at Ghana's major teaching hospitals, providing insight into the economic burdens faced by these patients.

Methods: This cross-sectional study analyzed data from 2,980 patients with long bone fractures treated at four major teaching hospitals in Ghana from July 2017 to July 2020. We collected demographic, clinical, and economic data, including OOP payments and patient-reported income, to assess the incidence of CHE at varying income thresholds (10%, 20%, 30%, 40%). Logistic regression models were used to identify predictors of CHE, with variables including age, gender, education, region, fracture type, injury severity, and NHIS coverage.

Results: The incidence of CHE was highest at the 10% income threshold (53.21%) and decreased with higher thresholds. Male patients incurred higher average OOP payments (\$343.68) than females (\$271.63), and patients with tibia fractures faced the highest financial burden. Educational and regional disparities were evident, with lower CHE rates among patients with higher educational attainment and those from northern regions. NHIS coverage provided limited financial relief, particularly at lower

income thresholds.

Conclusion: Long bone fractures impose a substantial financial burden on patients in Ghana, with significant gender, educational, and regional disparities in OOP payments and CHE. While NHIS provides some relief, it remains inadequate in protecting patients from financial distress. Policy interventions aimed at expanding NHIS coverage, reducing OOP payments for high-cost treatments, and addressing geographic inequities are urgently needed to improve financial protection for patients with long bone fractures in Ghana. Future research should focus on capturing long-term financial impacts and improving income data accuracy to better inform healthcare policies.

Keywords: Catastrophic Health Expenditures, Long Bone Fractures, Out-of-Pocket Payments.

**Alfred Ain Sallwa**

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Unlocking Supply Chain Integration: Key drivers and impact pathways in improving the availability of preventive medicines

Abstract

This study posits that supply chain integration (SCI) is the backbone of healthcare facilities in ensuring the availability of health commodities. To have an effective SCI, the study assesses the antecedents of SCI to identify unlock strategies and policy reforms to achieve it. The study focused on the downstream level of adolescents and youth sexual and reproductive health (AYSRH), analyzing healthcare workers' perceptions using Structural Equation Modelling (SEM). The results show that Organizational Resources (OR) are the strongest positive driver of integration. Conversely, Professional Norms (PN) showed a significant negative relationship with integration. Regulative Frameworks and Industrial Practices were not found to be directly significant predictors in this context. Crucially, Supply Chain Integration was found to be a major driver of the availability of health commodities. The study utilized institutional theory and the resource-based view to analyze external and internal antecedents of SCI; future studies can analyze using different theoretical lenses and frameworks. The findings provide a roadmap for healthcare facilities, policymakers, and regulators to proactively address commodity supply tensions and improve public healthcare facilities' resources and capabilities, enabling them to initiate an effective SCI with other supply chain members to improve the availability of health commodities. By reframing the solution to health commodity availability, the study suggests new opportunities arising from SCI implementation and new responsibilities for different healthcare stakeholders. This research offers (1) a comparative analysis of different interventions taken to improve SCI, and (2) a nuanced understanding of SCI and how it affects the availability of AYSRH commodities.

Biography

Alfred Sallwa is a Health Supply Chain researcher and analyst working in academia and in industry as a consultant. He went to Mzumbe University in Tanzania and Cardiff University in the UK for his PhD. He is a lecturer at the College of Business Education in Dar es Salaam, Tanzania. He has published over 15 papers as he works in different angles of supply chain management.

**Ashish Sniha***India*

Public health dietary challenges and associated risk factors of TB care in Raipur district of Chhattisgarh, Central India: Community based study

Abstract

Introduction: Tuberculosis (TB) is a global public health problem. Under-nutrition is most potent risk factor for Tuberculosis. Low circulating concentration of micronutrients such as B 12, D3, and minerals Iron, Zinc and selenium have been reported biological plausibility for active TB.

Material & Methods: Community Based Cross Sectional Study was conducted in 160 newly diagnosed adult Pulmonary TB Patients during June to Nov 2024. After obtaining consent patients were recruited randomly and blood sample were collected for assessment of nutritional biomarkers. Relevant Information was obtained by Predesigned Pretested Questionnaire.

Results: Out of total 160 study subjects studied mean age was 38.01 (SD+-15.69), 65% upper lower socioeconomic status & 21.9% were educated up to middle school, 28.8% were living in poor ventilated home and overcrowding observed in 39.4% households. Among all studied dietary counseling was done among 59.4% study subject of which only 20.6% study subjects were following it. Dietary gap was observed as Calorie & Protein deficient in 88.8%, 79.4% study subjects respectively while 444.73Kcal (SD+-572.98), 26.94gm (SD+-36) mean calorie & Protein deficient. Among all studied 60% had undernourished of them 11.3% found severely malnourished. Micronutrient deficiency was observed as D3 Deficient 83.4%, 80.6% anemic, 50.6% low Cholesterol,

20.6% B12 deficient, low serum iron 14.4% and serum ferritin low in 22.5% study subjects while 10% had combine micronutrient deficiency. Low level of Vit D, serum ferritin, serum iron was significantly more among undernourished TB patients as compared to normal nutrition.

Conclusion: High proportion of study subjects were undernourished with significant Calorie and protein gap found in their recommended daily intake. Dietary gap was also associated with various micronutrient Deficiencies. Identified nutrients should be incorporated in the diet through locally available food for better treatment outcome.

Key Words: Pulmonary TB, Recommended Daily Intake, Calorie Deficit, Undernutrition, Micronutrient.

**Dr. Charles Muweesi**

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Uganda*

Assessment of female students' perception on access and utilization of water and sanitation facilities for menstruation management in higher education institutions in Uganda

Abstract

The main purpose of this study was to assess female students' perception of access and utilization of water and sanitation facilities for menstruation management in HEIs. A qualitative research design was embraced, and it was exploratory while gathering responses from the participating respondents using semi-structured interviews, focus group discussions and observation from course coordinators from six faculties, student's guild leadership, and selected university managers who were purposively selected and regarded to be more knowledgeable with university affairs as far as learners' social welfare was concerned. The study found that many students did not have adequate access to water and sanitation facilities for menstruation management. They also lack adequate menstrual hygiene management education and their rights to sanitation and water facilities for menstruation management in terms of the menstrual cycle, the importance of washing body parts, and the issue of stigma during the menstruation period. The study recommended that the Directorate of Gender at the university should review and work very closely with the Department of Estates and Works to improve the maintenance and provision of water and sanitation facilities for menstruation management.

Key words: female students' perception, higher education, menstruation management, utilization of water and sanitation.

Biography

Dr. Charles Muweesi is a Director-Directorate of Institutional Advancement, Busitema University; and a Senior Lecturer of Education Foundations (Comparative and International Education) in the Department of Education, Faculty of Science and Education, Busitema University. He is a member of the University Top Management and a Senate Member. Holds a PhD in Comparative Education from Zhejiang Normal University (China), Masters of Educational Foundations and Bachelors of Arts with Education (Both from Makerere University). An old boy of Ssaku SS and Nsawo Primary School for High School and Primary respectively. He has taught thru all his work life from High School up to university, engaged in research and several community outreach programs and Projects. His Scholarly outputs have been published in Interactive Learning Environments, Review of Education, Higher Education Quarterly, Sexuality, Gender and Policy, East African Journal of Education Studies, Cogent Education among others and has widely received local and regional featuring of his research outputs in various local Universities. Charles has tracked local record in winning grants both by STI-OP and BU-RIF.

**Farhan Ahmad**

*School of Material Science and Engineering Nanjing
University of Science and Technology China , 210094*

Recent enhancement in photovoltaic cell efficiency performance, stability, and cost reduction: a review**Abstract**

Solar Photovoltaic (PV) energy, as a renewable technology, is increasingly surpassing fossil fuels and other renewable sources due to its distinct advantages. Recent advancements in PV cells, which are crucial component of PV technology, are closely linked to their materials, including silicon – carbon, cadmium telluride – group II – IV semiconductors, gallium arsenide – group III – V semiconductors, and perovskite – rear-earth transition metalloids (RT3M). This review offers depth analysis of recent developments in PV solar cells, focusing on silicon, perovskite, and perovskite/silicon tandem cells. Key factors influencing the commercialization and widespread adoption of PV technologies—such as efficiency, stability, environmental impact, and production costs—are thoroughly examined. Silicon PV cells, while leading the market, face limitations due to the Shockley-Queisser limit and complex manufacturing processes that drive up costs. Techniques like luminescence converters (LCs) are being explored to enhance efficiency close to the S-Q limit. In contrast, perovskite cells exhibit promising opto-electronic properties that could enable low-cost cells with up to 26 % efficiency. Stability and the environment are still significant issues though, with ongoing research focused on addressing these issues. Tandem PV cell technology, which combines perovskite and silicon cells, holds great potential for revolutionizing the industry. By leveraging the unique properties of both materials, tandem cells can achieve power conversion efficiencies (PCE) of up to 32 % while reducing production costs. The primary challenges here involve the perovskite component, with recrystallization and passivation techniques showing promise in mitigating these effects. The review also includes a cross-material analysis and discusses future directions for PV technology.

Biography

Farhan Ahmad is a PhD scholar at the School of Materials Science and Engineering, Nanjing University of Science and Technology (NJUST), Nanjing, China. I also serve as a lecturer at Khushal Khan Khattak University, Karak, Khyber Pakhtunkhwa, Pakistan. Additionally, I was a research associate on the HEC Project at the University of the Punjab, Lahore. My PhD research areas include 2D semiconductor electronic devices and high-mobility 2D p-type semiconductor materials. I have awarded a Best Resercher Award nominated by International Environmental Scientists Award although Scientific excellence Researcher award nominated by Physics and Quantum Physics.

I have published more than 10 SCI paper in various journals

**Florence Broussais***Tokyo, Japan*

Bridging gaps in clinical trial accessibility and reimbursement for large B-cell lymphoma therapies across Europe

Abstract

Large B-cell lymphoma (LBCL), including its most common subtype diffuse LBCL, is the most frequent aggressive lymphoma, accounting for 30%–40% of cases worldwide. It is a clinically heterogeneous disease, with outcomes influenced by molecular subtypes, co morbidities, and access to effective treatment. Although R-CHOP has long been the standard of care, approximately 30%–40% of patients relapse or are refractory to first-line therapy. Historically, salvage chemotherapy followed by autologous stem cell transplantation offered a potential cure, but only about half of patients are eligible, leaving a large unmet need for alternative therapies.

Since 2018, the therapeutic landscape has rapidly evolved with the approval of nine new treatments across 12 indications in Europe, including CAR-T therapies, bispecific antibodies, antibody–drug conjugates. However, access to these innovations remains uneven across Europe. Disparities stem from fragmented national reimbursement systems, inconsistent use of early access programs (EAPs), and geographic variations in clinical trial availability. While 29 out of 35 European countries have implemented EAPs, differences in structure, funding, and transparency create unequal opportunities for early treatment access. Furthermore, health technology assessments (HTAs) and pricing negotiations often delay or restrict reimbursement, particularly in lower income or decentralized healthcare systems.

The EU HTA Regulation (effective 2025) may harmonize clinical evaluations but will not resolve national pricing autonomy. To achieve equitable access, stronger coordination,

pricing transparency, and integration of real-world patient outcomes into decision-making are urgently needed to ensure that innovation benefits all LBCL patients, regardless of geography or system structure.

Biography

Florence Broussais-Guillaumot, MD, is a leading figure in academic clinical research in lymphoma. With a background in hematology and extensive experience in clinical research, she drives strategic projects that bridge scientific innovation with patient impact. At CALYM and LYSARC, French academic hematology group, she has overseen complex multinational studies, multi-omics initiatives, and collaborations with global pharmaceutical partners, always aiming to improve trial design, data integration, and access to innovative therapies.

Beyond her institutional role, Florence co-chairs Women in Lymphoma (WiL), a worldwide network advancing gender equity and leadership in hematology. She actively contributes to European policy dialogues on clinical trial harmonization, patient access, and health technology assessment, reflecting her commitment to equitable healthcare.

Passionate about building cross-cultural collaborations, she is now based in Tokyo, where she strengthens international partnerships in hematology and precision medicine, combining intellectual rigor with a humanistic vision of patient care.



Francisco Garrido-Garza

French Research Institute for Agriculture, Food and Environment (INRAE) Interdisciplinary Laboratory for Sciences, Innovations and Societies (LISIS) University Gustave Eiffel, Champs-sur-Marne, 77454, France

Agroecological entrepreneurship: a driving force in the sustainable transformation of agri-food systems

Abstract

Agroecological transitions are gaining attention in the scientific literature on socio-technical transitions where studies have tried to determine if and how agroecology can achieve local food security, environmental sustainability and rural development. To date, political sociologists have pointed to the contextual factors that condition the ability of national organic agriculture movements (NOAMs) to influence the direction of a transition, as there are still unresolved questions about how they organize themselves. We address this gap in the present article by exploring the role of entrepreneurship in influencing the direction of agroecological transitions. With a case study of the Tanzanian Organic Agriculture Movement (TOAM), we analyse the diverse entrepreneurial activities (i.e. practice promotion, knowledge dissemination and domestic demand consolidation) that enabled a membership-based organization to redefine institutional visions, integrate agroecological principles into business models, and embed entrepreneurship in rural communities. We find that entrepreneurship strengthens farmer autonomy and fosters sustainable rural development. These findings contribute to the literature on transitions by demonstrating that agroecological entrepreneurship is not just an activity for farmers but can be organized through balanced services provision to a diversity of stakeholders. This type of entrepreneurship thus provides direction to an agroecological transition at the national scale. The results, discussion and conclusions of this article offer potential venues to advance the global discussion in public health and preventive medicine in a Global South context, at the intersection of local sustainable food systems, food security, and societal well-being.

Biography

With an interdisciplinary background in life and social sciences, Francisco is an early-career researcher in the fields of agroecology and sustainable food systems, at INRAE (French Research Institute for Agriculture, Food and Environment). As of August 2025, he is a doctoral candidate in management studies at the University Gustave Eiffel, in France, where he is currently finalizing his thesis titled “Directionality of Agroecological Transitions: a Study of Market Constructions for Agroecology in Four Different Contexts”. His work focuses on agri-food systems transitions with a keen interest in ways of “organizing differently” food markets, by exploring their potentials to transform agri-food systems into more sustainable, fairer, and healthier. Within this scope, he has authored and co-authored in several publications across scientific journals and editorials in rural sociology and entrepreneurship, and innovation studies. As life-long and constant learner, he wishes to continue exploring and contributing research in these topics.



Associate Professor Dr. Norma Ab Rahman

*Universiti Sains Malaysia
Kubang Kerian, Kelantan Malaysia*

Accelerating Orthodontic Tooth Movement: Mechanisms, Methods, and Clinical Implications

Abstract

The duration of orthodontic treatment has long been a concern for both clinicians and patients, with prolonged treatment times increasing the risk of complications such as root resorption, caries, and reduced patient compliance. In response, a variety of techniques have been developed to accelerate orthodontic tooth movement (OTM), aiming to enhance treatment efficiency without compromising outcomes.

This lecture will provide a comprehensive overview of the biological basis of tooth movement, followed by a critical appraisal of current acceleration strategies. These include mechanical and surgical interventions such as corticotomies, piezocision, and micro-osteoperforations, as well as non-invasive adjuncts like low-level laser therapy (LLLT), vibration stimulation, pharmacological agents, and gene therapy.

We will explore the underlying mechanisms of these approaches, their clinical effectiveness, safety profiles, and potential limitations, supported by recent evidence from both experimental and clinical studies. Emphasis will also be placed on case selection, patient-centered decision-making, and the integration of these techniques into everyday practice.

By the end of the session, participants will have a deeper understanding of the available methods for accelerating OTM, enabling them to make informed, evidence-based choices tailored to individual patient needs.

Biography

Assoc. Prof. Dr. Norma is a specialist and senior lecturer at the Orthodontics Unit, School of Dental Sciences, Universiti Sains Malaysia (USM). She obtained her Doctor of Dental Surgery (DDS) degree from Universiti Kebangsaan Malaysia in 2006 and completed her postgraduate training in Orthodontics at the University of Malaya in 2013.

Assoc. Prof. Dr. Norma has held several key academic and administrative roles, including serving as the Head Coordinator of the Orthodontics Unit from December 2013 to December 2021. She was subsequently appointed as the Chairperson of the Orthodontics Program, a role she held from January 2022 to December 2024. As of January 2025, she serves as the Executive Clinic Coordinator, acting as the liaison for USAINS.

She is an active member of both the Malaysian Association of Orthodontists (MAO) and the National Specialist Register (NSR). Assoc. Prof. Dr. Norma regularly participates in national and international orthodontic conferences and has published extensively in reputable local and international journals. Her scholarly contributions have garnered multiple awards in research competitions. In recognition of her expertise, she has also been invited to speak at various local and international conferences.

In addition to her clinical and teaching commitments, Assoc. Prof. Dr. Norma serves as a peer reviewer for several Q1 and Q2 indexed journals. Her clinical and research interests include skeletal and dental malocclusion, arch expansion in young adults, acceleration of orthodontic tooth movement, laser applications in orthodontics, and the management of cleft lip and palate.

**Dr. Oren Elisha***Medana, Koifman 4, Tel Aviv, Israel*

Unlocking Healthcare Digitization: Engineering a FHIR Activation System for Legacy Data to Enable Risk-Based Healthcare

Abstract

Healthcare digitization requires the transformation of heterogeneous legacy data environments into interoperable standards based infrastructures. Hospitals and health maintenance organizations (HMOs) commonly operate proprietary schemas and locally defined ontologies that limit interoperability and delay the transition toward risk based healthcare models. This work presents a FHIR activation system that integrates formal schema engineering with AI driven semantic translation to automate the onboarding of legacy healthcare data into standards compliant FHIR platforms. The system combines structured schema mapping, ontology alignment, automated terminology normalization, and multi layer validation procedures to preserve semantic fidelity and structural integrity. Large language models assist in schema interpretation, field level semantic mapping, and controlled generation of transformation specifications, reducing manual engineering effort while maintaining traceability and auditability. Activation is treated as a reproducible and testable engineering process supported by automated structural, semantic, and completeness verification to ensure production readiness and suitability for population level risk stratification. Empirical deployments indicate that this framework accelerates institutional onboarding, improves mapping consistency, and provides a scalable foundation for interoperable, risk based healthcare delivery..

Biography

Oren Elisha, PhD, is Co Founder and CTO at Medāna, where he leads the development of production grade systems for healthcare data activation and risk based decision support. He previously served as Principal Scientist and Global Lead of AI at Microsoft, advancing applied AI initiatives from research to enterprise scale deployment. Prior to that, he held leading scientific roles at General Electric and at multiple technology driven companies, focusing on translating machine learning research into robust operational systems. Dr Elisha holds a PhD in Applied Mathematics from Tel Aviv University and serves as a lecturer at the Faculty of Engineering. His work centers on designing auditable and scalable infrastructures that transform heterogeneous data into actionable, production ready systems.



R. Yslado-Méndez

*Universidad Nacional Santiago Antúnez de Mayolo,
Ancash, Perú*

Effectiveness, usability and satisfaction of a self-administered digital intervention for reducing depression, anxiety and stress in a university community in the Andean Region of Peru: A randomized clinical trial

Abstract

Background: Evidence on digital interventions in mental health has been increasing since the last years. However, available evidence is still heterogenous and limited regarding the use of self-administered platforms in the context of university education [1,2]. Objective: We aimed to evaluate the efficacy of a self-administered digital mental health service in members of a public university to reduce symptoms of depression, anxiety, and perceived stress.

Methods: A randomized controlled clinical trial was conducted. Students, teachers, and administrative staff from a public university in Peru were included. Compared to the control group (CG), the intervention group (IG) had access to a self-administered digital mental health service comprised of 6 modules with audiovisual material. Multivariate ANCOVA models and effect size indicators (Cohen's d) were used to compare the reduction of anxiety (PHQ-9), anxiety (GAD-7), and perceived stress (PSS-10) between both groups.

Results: 55 participants participated in the IG and 30 in the CG. Age, sex, and baseline mental health characteristics were balanced. The IG had lower values of depressive symptoms, anxiety, and stress compared to the CG, as evidenced by the multivariate models and effect measures ($p < 0.05$). The IG reported a high level of subjective

commitment but a low level of satisfaction and usability regarding the digital service received.

Conclusion: Digital service for mental health self-care is effective in reducing mental health problems in members of a public university. However, its design should be optimized to improve its usability and satisfaction..

Biography

PhD in International Education from the Autonomous University of Tamaulipas in Mexico. Master's degree in clinical psychology, from the Universidad Nacional Mayor de san Marcos. She was Dean of the Faculty of Medical Sciences at the National University of Santiago Antunez de Mayolo-Perú. She was the Regional Coordinator of Mental Health in Ancash, Peru. She is a researcher at RENACYT, Peru, and has published more than 30 articles, books, and book chapters.



Seokyeong Lee

London School of Hygiene and Tropical Medicine (LSHTM); Nagasaki University School of Tropical Medicine and Global Health (TMGH)

Integrated Nutrition and Immunisation (INI) Programming for Children Under Five: A Systematic Review and Meta-analysis of Global Evidence

Abstract

Malnutrition and vaccine-preventable diseases are primary drivers of child mortality in humanitarian settings. While routine immunization offers frequent contact points, nutrition and vaccination services often operate independently. This study examined the impact of integrating nutrition services into routine immunization platforms (and vice versa) to evaluate service coverage, synergistic impact, and implementation challenges across static clinics and mobile outreach models. Following PRISMA guidelines, we searched five databases for studies published between January 2000 and December 2024. A two-stage screening process by 12 independent reviewers resulted in the inclusion of 47 studies (including RCTs, quasi-experimental, and mixed-methods) across 18+ countries. Data extraction focused on same-day, same-location delivery of interventions—including IYCF counseling, Vitamin A supplementation, and therapeutic feeding—integrated with immunization services. A meta-analysis was conducted using STATA to estimate pooled effect sizes. Evidence from the 47 studies confirms that two-way integration is feasible and increases uptake. Meta-analysis revealed that integrated IYCF counseling significantly improved exclusive breastfeeding rates (OR 2.91; 95% CI: 1.38, 6.16; $p=0.005$). Furthermore, integration significantly increased service coverage for full immunization (OR 1.90; 95% CI: 1.59, 2.29; $p<0.001$). While effective for reaching "zero-dose" children and displaced populations via mobile teams, a consistent "fidelity gap" was identified. Technical tasks, particularly anthropometric measurements, were frequently omitted or performed with low accuracy due to high

patient volume and workload. In conclusion, while integration significantly maximizes the impact of clinical contacts, the challenge has shifted from "proof-of-concept" to implementation fidelity. These findings support "one-stop-shop" models but highlight a critical need for simplified tools and standardized protocols to maintain quality in high-pressure environments..

Biography

Seokyeong Lee is a PhD candidate in the Joint Global Health programme between Nagasaki University and the London School of Hygiene & Tropical Medicine. Her research focuses on the Management of small and nutritionally at-risk infants under six months (MAMI) and their mothers. She is currently leading data analysis for MAMI programmes in Senegal and Bangladesh, evaluating scalability, cost-efficiency, and economic impact. In Ethiopia, her research assesses the predictive validity of anthropometric indicators (MUAC, WAZ, and WLZ) for adverse health outcomes to refine enrolment criteria.

With eight years of professional experience at UNICEF and the World Food Programme, Seokyeong has coordinated multi-sectoral stakeholders and conducted evidence-based analysis using health, nutrition, food security, and household expenditure data. She holds an MSc with Distinction in Nutrition for Global Health from LSHTM (2016) and a BSc from the University of Otago. She is dedicated to bridging the "fidelity gap" through robust policy guidance.



Seyed Mohammad Sadegh Tabib Loghmani

Iran

Evaluation of Potentially Toxic Elements Contamination in Dust of Sistan Region

Abstract

This study examines Potentially Toxic Elements (PTEs) contamination in urban dust from five cities in Iran's Sistan region. Sampling of Total Suspended Particulates (TSP) was performed using a high volume dust sampler. An Inductively Coupled Plasma-Optical Emission spectrophotometer (ICP-OES) was used for analysis of toxic metals. Enrichment Factor (EF), Pollution Index (PI) and Cancer Risk (CR) index of toxic elements were calculated and evaluated. Results showed Manganese (Mn) has highest concentration of (2338/43 $\mu\text{g}/\text{m}^3$) followed by chromium (410.45 $\mu\text{g}/\text{m}^3$) while, arsenic (As), had a relatively low mean concentration (28/69 $\mu\text{g}/\text{m}^3$). EF calculations revealed moderate enrichment for arsenic (EF = 2.8), chromium (EF = 2.3), and vanadium (EF = 2.1), while most other elements showed minimal enrichment (EF < 2). PI results indicated moderate pollution for arsenic (PI = 1.6), chromium (PI = 1.4), copper (PI = 1.1), vanadium (PI = 1.3), and zinc (PI = 1.1). The cancer risk assessments showed that chromium posing the greatest risk (mean cancer risk ranging from 0.02 to 0.07). Spatial analysis revealed Zabol and Zahak had slightly higher overall exposure levels. This study provides a foundation for environmental management in the Sistan region, highlighting the interplay of natural and anthropogenic factors in urban geochemistry. .

Biography

Dr. Seyed Mohammad Sadegh Tabib Loghmani acts as a dedicated researcher and expert in the fields of Civil and Environmental Engineering. He holds a Ph.D. in Civil Engineering with a focus on Construction Management and Environmental Engineering. Additionally,

he possesses a M.Sc. degree in Civil Engineering, specializing in Water and Wastewater Engineering.

Dr. Tabib Loghmani is a passionate environmental activist and a researcher in urban planning and environmental biology. Beyond his technical expertise, he is deeply committed to social services, particularly in supporting the disabled and patients with special needs, advocating for public health and social well-being.

He is also a lover of culture, with a profound interest in literature, art, and poetry. As a humanitarian scholar, Dr. Tabib Loghmani is dedicated to the preservation of the environment and the health of society, striving to use his engineering and scientific background to foster a better future for humanity.



Mahmood, Shakeel

Rural Health Research Institute, Charels SturtUniversity, Australia

A National Framework For Obesity Control: Policies And Practices For Rural, Regional And Remote Communities In Australia

Abstract

Obesity has become Australia's leading risk factor for disease, especially affecting rural and remote communities due to socio-economic disadvantages, poor access to healthcare, and food insecurity. Aboriginal and Torres Strait Islander peoples face greater risks, with notable gender disparities. Existing public health strategies overlook local needs, and urban-centric approaches often fail. Policy gaps include poor nutrition, fast-food density, and lack of culturally relevant solutions. Authors propose a three-tiered strategy: (1) a national regulatory framework, modelled on tobacco control, incorporating robust data collection, evaluation, levies, and coordinated state actions; (2) place-based, co-designed, and community-led programs; and (3) family-level interventions promoting physical activity, healthy nutrition, and culturally safe support. This integrated approach offers a pathway to address inequities and improve obesity prevention outcomes across Australia's diverse communities.

Keywords: Rural health inequities, Culturally tailored obesity prevention, Socio-economic determinants, Community-led interventions.

Biography

Since joining the University of Wales Cardiff, Jonathan has been involved with studies related to tourism related challenges and strategies in small Islands. Before joining University, Johnathan worked at a Research company as a senior researcher. Since 2011 Jonathan worked as a dean of Faculty of Marketing Management.

**Sougata panda***Chandigarh University, Punjab, India*

Effectiveness Of a Four-Week Osteoporosis E-Educational Program on Knowledge, Health Belief, and Perceived Barriers to Exercise in Indian Office Workers

Abstract

Sedentary lifestyles have a detrimental impact on health, increasing the risk of conditions such as osteoporosis, a disease of the skeleton characterised by low bone strength leading to increased risk of fragility fractures. Even among educated individuals, there is a prominent gap in knowledge regarding osteoporosis awareness, risk factors and treatment. Closing this gap requires a multi-pronged strategy that provides vital knowledge while also addressing the barriers to healthy behaviours. To do so, a questionnaire for perceived barriers to exercise in office workers and an osteoporosis e-educational booklet were developed and validated, and the effect of the e-educational booklet on the change in osteoporosis knowledge, health beliefs and perceived barriers to exercise in office workers was evaluated. The research consisted of three phases. In phase I, the perceived barriers to exercise questionnaire was developed, validated and tested for reliability. Phase II targeted the preparation and evaluation of the osteoporosis e-educational booklet. In Phase III, the e-booklet was assessed through a study conducted with participants who completed the Revised Osteoporosis Knowledge Test, Osteoporosis Health Belief Scale, and perceived barriers to exercise questionnaire for Indian Office Workers. The program was assessed through data analysis. The questionnaire for perceived barriers to exercise proved as valid and reliable; the e-educational booklet was also validated. The osteoporosis e-educational program led to a significant increase in the osteoporosis knowledge of participants, health beliefs were positively impacted, and perceived exercise barriers

were effectively addressed. Participants reported diminished obstacles (personal, professional, social, and informational) contributing to more motivation for regular physical activity. This study concluded that the four-week e-educational program for osteoporosis is effective in improving knowledge of osteoporosis, better health beliefs for osteoporosis and exercise, and lowering perceived barriers to physical activity in Indian office workers.

Biography

Dr Sougata Panda, PhD. With over a decade of academic, research, and clinical experience, holds 11 patents, multiple copyrights, and is the founder of a registered startup. His research includes collaborations with PGIMER Chandigarh, Hochschule Fresenius University (Germany), and other international institutions. He completed a global project funded by NIHR (UK), NIH (USA), and Cochrane, and received an official acknowledgement for his significant contribution to Indo-German research. His work has been featured in the New York Times (USA), Ajit (Punjab), Amar Ujala, and Himachal newspapers. Dr Panda has been selected as a judge for the QS Reimagine Education Awards, London. He has been an abstract reviewer for the World Physiotherapy Congress (2021–2024) and an invited speaker at multiple national and international forums. He has attended more than 60 workshops and conferences, and has received the Best Researcher Award and the International Star Award for Best Patent in Health Care.

**Dr. Suman Chaudhary**

*MD, Internal Medicine Dhangadhi Sanjeevani Hospital
Dhangadhi, Kailali, Nepal*

Rat bite fever presenting as localized cellulitis: The first documented presumptive case from Nepal and a call for clinical awareness

Abstract

Background: Rat bite fever (RBF) is a rare but potentially fatal zoonotic disease caused by *Streptobacillus moniliformis* or *Spirillum minus*. In Asia, it is often caused by *Spirillum minus* and may present with atypical clinical features that complicate diagnosis. Case presentation: A 35-year-old female from Far-Western Nepal developed fever and progressive localized swelling of the right hand eight days after a rat bite. Classic systemic features like rash, polyarthritides, and lymphadenopathy were absent. Laboratory tests showed neutrophilia, thrombocytopenia, and elevated CRP, while blood culture was negative. Despite negative microbiological result, a presumptive diagnosis of *S. minus* RBF was made based on epidemiological context, incubation period, and clinical presentation. She was treated with a combination of intravenous ampicillin, doxycycline and surgical wound debridement. She completed a course of oral antibiotics and recovered fully.

Conclusion: This case represents the first documented presumptive case of *Spirillum minus* RBF in Nepal, which presented atypically. It underscores the importance of clinical suspicion over microbiological confirmation in diagnosing RBF and emphasizes considering RBF in the differential diagnosis of febrile patients with cellulitis and a history of rodent exposure. Early initiation of empiric antibiotic therapy and timely surgical intervention can prevent serious complications. This case highlights RBF as an under-recognized zoonotic disease in Nepal and the need for greater clinical awareness and strengthened public health measures focused on rodent control.

Biography

Japanese Encephalitis Associated With Quadriplegia: The First Reported Case of Nepal
Suman Chaudhary et al. Clin Case Rep. 2025.

**Surama Manjari Behera***IMS and SUM Hospital, Odisha 751019, India***From Prevalence to Practice: Understanding Menstrual Cup Uptake, Predictors, and Women's Lived Experiences in Asia****Abstract**

Effective menstrual hygiene management is essential for women's health, particularly in low-resource settings. Menstrual cups, though sustainable, safe, and cost-effective alternatives to disposable menstrual products, remain underutilized across Asia. This study integrates findings from a systematic review, a cross-sectional study, and a qualitative inquiry to provide comprehensive insights into menstrual cup uptake, unmet need, predictors, and women's lived experiences. A systematic review of 13 studies involving 257,347 participants across Asian countries revealed a pooled prevalence of menstrual cup usage of 2.68% (95% CI: 1.24%–5.67%), with substantial heterogeneity. Complementing this, a cross-sectional study among 538 women in Eastern India found a similar prevalence (2.79%) and a markedly high unmet need (95.58%), despite 339 participants expressing willingness to use menstrual cups. Knowledge emerged as the strongest predictor of use (aOR 10.81, 95% CI: 3.04–38.49), while barriers included reliance on sanitary pads, insufficient awareness, fear of insertion, lack of privacy, and sociocultural taboos. The qualitative component, guided by an inductive interpretive approach, identified four major thematic areas influencing uptake: menstrual hygiene and flow concerns, physical comfort, awareness and social influence, and long-term sustainability. These findings collectively highlight that menstrual cup adoption in Asia is limited not by acceptability but by knowledge gaps, social norms, and psychological barriers. Strengthening awareness, providing user support, and addressing cultural misconceptions could significantly improve uptake and promote sustainable menstrual hygiene practices.

Registration: The study protocol was registered in PROSPERO (CRD42024546114).

Ethical Approval: The study was conducted in accordance with the Declaration of Helsinki. Ethical approval was obtained from the Institutional Ethics Committee of SOA, Bhubaneswar (Ref. No.: IEC/IMS.SH/SOA/2022/427, dated 14th October 2022).

Funding: It was a non-funded study.

Biography

She is a public health professional and PhD student with multidisciplinary training in public health, population studies, and computer science. She completed her Master of Public Health from RMRC Bhubaneswar and an M.A. in Population Studies from IIPS Mumbai, supported by formal training in Health Research Fundamentals from NIE–ICMR. She also holds M.Tech and B.Tech degrees in Computer Science Engineering, providing her with strong analytical and technical skills. With experience in research and field implementation, she has contributed to 12 publications and has worked on three major projects involving vulnerable populations, including maternal and child health initiatives, NCD risk factor surveillance in underserved communities, and digital health solutions for tribal populations. Her previous work at SEARCH, Gadchiroli, and AIIMS Bhubaneswar strengthened her expertise in community engagement, data systems, and research management. Her diverse academic background and practical field experience position her strongly for advanced research and public health leadership.

**Md. Tarek Hossain***Oxford Policy Management, Dhaka, Bangladesh***Strengthening Systems for Equitable and Inclusive ECCD in Bangladesh: Insights from Policy and Data Landscape Analysis****Abstract**

Bangladesh has demonstrated a strong political commitment to Early Childhood Care and Development (ECCD) through the 2013 Comprehensive ECCD Policy. However, translating national policy into equitable, inclusive, high-quality local service delivery remains a persistent challenge. This study presents a systems-level analysis of Bangladesh's ECCD policy landscape and data availability to support this goal in enabling cross-sectoral coordination and service responsiveness.

We used the Nurturing Care Framework (NCF) as an analytical framework, reviewed 41 policy documents and 11 nationally representative datasets, and complemented this with 15 interviews with key government and non-government stakeholders. Findings reveal that while most policy areas, health, nutrition, and opportunities for early learning, are broadly aligned with NCF domains, significant gaps remain in operationalising these commitments locally. Responsive caregiving, early learning, and safety/security are under-articulated in policy and largely unsupported by data. Key findings highlight inadequate inter-ministerial coordination, a lack of designated budgets and mandates, and the absence of clear roles for local governance structures to operationalise ECCD activities. Ministries primarily operate in silos, with no effective coordinating authority to drive a unified national ECCD agenda.

Critically, 66% of ECCD-relevant interventions lack monitoring indicators, and only 6% have three or more indicators to track progress. Disaggregated data are scarce, constraining local actors' ability to identify and address disparities across gender/

socioeconomic groups and limiting their responsiveness to crises such as natural disasters. Interviews further underscored the lack of quality assurance at subnational levels and insufficient investment in local institutional capacity.

The research calls for renewed investment in local governance mechanisms to enable integrated, community-responsive ECCD delivery. It underscores the importance of robust monitoring systems and inclusive data to ensure equitable access for all children, especially the most vulnerable. These insights are critical for revising CECCD Policy and advancing localised, inclusive ECCD systems in Bangladesh and comparable contexts across the Asia-Pacific region.

Biography

Md. Tarek Hossain is a Country Research Manager at Oxford Policy Management Bangladesh, leading technical and research components of the Thrive program funded by the UK Foreign, Commonwealth & Development Office. He oversees program research, supports evidence generation, and works closely with government and key stakeholders to strengthen Early Childhood Development policy and practice. Tarek has extensive experience in policy analysis, mixed-methods research, and program learning, with a strong focus on equity and systems strengthening in low- and middle-income contexts. He previously led a cost analysis study on COVID-19 vaccine delivery in Bangladesh and has contributed to national-level discussions on Early Childhood Care and Development. He is committed to using evidence to improve outcomes for children and families.



Abdallah Khan

Dubai Health, Dubai, UAE

Exploring Gut Barrier Dysfunction and Its Impact on Liver Cirrhosis

Abstract

Introduction: Liver cirrhosis is a progressive disease characterized by fibrosis and impaired liver function, frequently complicated by systemic inflammation. Gut barrier dysfunction, leading to increased intestinal permeability, has been implicated as a key driver of systemic inflammation and subsequent complications such as spontaneous bacterial peritonitis and hepatic encephalopathy.

Materials and Methods: A literature review was conducted focusing on recent studies (2015–2025) evaluating the pathophysiology of gut barrier impairment in liver cirrhosis and its role in systemic inflammatory responses. Studies assessing biomarkers of intestinal permeability and clinical outcomes were included.

Results: Current evidence indicates that disruption of the intestinal mucosal barrier in cirrhosis leads to translocation of bacterial products such as lipopolysaccharides (LPS) into the portal and systemic circulation. This bacterial translocation activates immune responses and systemic inflammation, exacerbating liver injury and precipitating complications. Biomarkers like zonulin and endotoxin levels correlate with severity of liver disease and systemic inflammation markers such as C-reactive protein and interleukin-6. Therapeutic interventions targeting gut barrier integrity, including probiotics, prebiotics, and rifaximin, show promise in reducing bacterial translocation and inflammatory burden.

Conclusions: Gut barrier dysfunction plays a pivotal role in mediating systemic inflammation in liver cirrhosis. Early identification and targeted therapies to restore gut barrier function may reduce cirrhosis-related morbidity and improve clinical outcomes. Toll-like receptors (TLRs), which recognize bacterial products translocated due to impaired gut permeability, are key mediators in activating inflammatory pathways and represent promising therapeutic targets. Future research should focus on randomized controlled trials evaluating gut-targeted treatments and TLR modulation to mitigate systemic inflammation and disease progression.



Chutima Samhugkanee

College of Medicine and Public Health, Ubon Ratchathani University, Thailand

Sustainable Weight Loss Through Intensive Lifestyle Modification with Meal Replacement: A 12-Case Series from Thailand with International Perspectives

Abstract

Background: Obesity has emerged as a critical global public health challenge, with the World Health Organization reporting that prevalence has nearly tripled since 1975. In Thailand, over 42% of the population is classified as overweight or obese, representing one of the highest rates in Southeast Asia. Intensive lifestyle modification (ILM) combined with meal replacement (MR) has shown promise in achieving sustainable weight loss, supported by evidence from landmark trials including the Diabetes Prevention Program and DiRECT study.

Objective: To demonstrate the clinical effectiveness of ILM+MR intervention through a 12-case series with documented outcomes at baseline, 8 weeks, and 52 weeks, contextualized within international obesity management guidelines.

Methods: Twelve participants (9 female, 3 male) from a larger retrospective cohort study (n=702) underwent the ILM+MR program consisting of soy-based meal replacements (220 kcal/serving, twice daily for 8 weeks), structured nutritional counseling, behavioral modification with group therapy, and physical activity guidance following AHA/ACC/TOS 2013 guidelines. Body weight and waist circumference were measured at baseline, 8 weeks, and 52 weeks.

Results: Mean total weight loss was 38.2 kg (35.3% of initial body weight), with mean

waist circumference reduction of 13.0 inches (33.0 cm) over 52 weeks. All participants achieved clinically significant weight loss ($>5\%$), substantially exceeding the threshold recommended by international guidelines. Weight loss ranged from 19 kg to 82 kg (24.5%-48.8%). The 100% retention rate at 52 weeks compares favorably to typical attrition rates of 30-60% in weight loss programs.

Conclusion: This case series demonstrates the potential for substantial, sustained weight loss through ILM+MR intervention, with outcomes exceeding those reported in major international studies including Look AHEAD (8.6%) and DiRECT (10 kg). The findings support the integration of comprehensive lifestyle programs incorporating meal replacement into public health strategies for obesity management, particularly in resource-limited settings where such interventions offer a scalable, culturally adaptable, and cost-effective approach to addressing the global obesity epidemic.

Biography

Dr. Chutima Samhugkanee is a Pediatric Pulmonologist. She received her Doctor of Medicine degree from Chulalongkorn University in 2000 and subsequently completed her Diplomate of the Thai Board of Pediatrics in 2006 and Diplomate of the Thai Sub-board of Pediatric Pulmonology in 2008, both from the Faculty of Medicine, Chulalongkorn University. With over 16 years of clinical experience since 2008, Dr. Samhugkanee has actively contributed to clinical research, serving as a Sub-Investigator in multicenter studies. She is a co-author of a retrospective cohort study evaluating the efficacy of intensive lifestyle modification with meal replacement for sustainable weight loss and improved body composition in obese adults, published in the Open Access Journal of Clinical Pathology Research (2025). She has completed ICH GCP training through the Human Ethics Committee of Thammasat University in 2024-2026. Her research interests focus on obesity management and public health interventions.

**Hyun Myung Oh**

*Department of Plastic Surgery, Muju health clinic,
South Korea*

A Proactive Preventive Protocol for Impaired Wound Healing in Geriatric Patients: Synergistic Integration of Neuromuscular Modulation, Biostimulation, and Hyperbaric Oxygen Therapy

Abstract

Aging is associated with a physiological decline in wound healing capacity, characterized by reduced angiogenesis, delayed re-epithelialization, and increased susceptibility to chronic ulcers. In geriatric patients, postoperative or traumatic wounds often lead to prolonged morbidity due to impaired regenerative signals and poor tissue oxygenation. This study proposes a preventive multi-modal protocol designed to preemptively address these age-related deficits and ensure robust tissue recovery.

The protocol focuses on stabilizing the fragile geriatric skin environment:

- **Mechanical Stabilization:** Intradermal Botulinum Toxin is used to minimize micro-tension around the wound, preventing "distraction" of the thinning geriatric dermis and reducing inflammation-induced scarring.
- **Biochemical Priming:** Sequential PDRN (Polydeoxyribonucleotide) injections provide essential DNA precursors and activate A2A receptors to compensate for the diminished endogenous regenerative signals in the elderly.
- **Metabolic Optimization:** Adjuvant Hyperbaric Oxygen Therapy (HBOT) overcomes age-related peripheral vascular insufficiency, delivering critical oxygen to hypoxic tissues to fuel cellular metabolism.
- **Barrier Protection:** Intensive hydration and silicone-based occlusion are maintained to support the compromised epidermal barrier function common in senile skin.

Implementation of this protocol in elderly cohorts demonstrated a significant reduction

in wound dehiscence and a shorter time to complete epithelialization. By proactively addressing the metabolic and mechanical stressors of aging skin, the transition from acute wounds to chronic, non-healing ulcers was effectively prevented. Qualitative assessments showed improved dermal thickness and better structural integrity of the healed tissue.

The "Geriatric Regenerative Pathway" shifts the focus from treating wound complications to preventing them through early biological optimization. * Clinical Impact: This approach mitigates the risk of chronic wound development, which is a major burden in geriatric long-term care.

Systemic Benefit: By accelerating healing, it reduces the need for prolonged antibiotic use and secondary surgical interventions, enhancing the overall quality of life for the elderly.

Future Practice: Integrating biostimulants (PDRN) and metabolic support (HBOT) into standard geriatric surgical workflows provides a scalable model for reducing age-related surgical morbidity.

Biography

A Plastic Surgeon with an MS from Chonnam National University. Following his residency, he now leads the Aesthetic Surgery department at Muju Health Center, specializing in innovative protocols for scarless outcomes and advanced geriatric wound healing.

**Jacob Lutta**

*Department of Mechanical and Industrial Engineering,
University of Dar es Salaam (UDSM), P.O.BOX 35131,
Dar es Salaam, Tanzania*

Unlocking Potentials of Activity Clusters for Sustainable Informal Urbanisation: Case of Mlalakuwa Neighbourhood, Dar es Salaam

Abstract

Among the features of the fast-growing cities in the Global South is informal urbanisation, which is sometimes viewed as unplanned, disorderly, and unsustainable environments. Nonetheless, activity clusters are spatial concentrations of economic, social, and cultural practices that emerge as catalysts for the creation of livelihoods and the resilience of communities within informal settlements. This study explores the potential of activity clusters in fostering spatial development, socio-economic dynamics, and livelihood patterns within the emerging informal settlement of Mlalakuwa in Dar es Salaam. Using Mlalakuwa informal settlement as a case, a mixed-methods approach that combines spatial mapping, field observations, and stakeholder interviews, the research investigates how activity clusters shape land use patterns, support local economies, and influence social cohesion among the individuals. Due to the neighbourhood's location, the open spaces are impacted and under strain, which promotes spatial development for social and economic advantages. The current city's Master Plan 2012–2032 shows Mlalakuwa surrounded by major activity clusters, which include economic hubs and public institutions. The findings reveal that these clusters play a crucial role in improving accessibility to services, enhancing economic opportunities, and strengthening local social networks, while also posing challenges related to congestion, environmental management, and infrastructure provision. The study makes the case for incorporating activity clusters into planning and urban policy frameworks as a means of achieving more equitable urban development by releasing these potentials.

Biography

Jacob Lutta is an urban design and architecture researcher from Tanzania and a PhD graduate of KU Leuven, Faculty of Architecture (Sint-Lucas). His doctoral research (2019–2023) focused on the Transformation of collective spaces within interstitial informal settlements, using Mlalakuwa in Dar es Salaam as a case study. The research explored how socio-spatial dynamics shape collective urban spaces and how these insights can inform resilient and context-sensitive urban interventions in rapidly urbanising cities. Jacob holds a Master's degree in Architecture from the Dessau International Architecture Graduate School (DIA), Anhalt University of Applied Sciences, Germany, and a Bachelor's degree in Interior Architecture from Ardhi University, Tanzania. His academic and professional experience includes teaching at the University of Dar es Salaam and Ardhi University on a part-time basis. He is also practice in architecture and interior design. His research interests include informal urbanisation, collective spaces, and urban socio-spatial processes.

**Dr. Jannatul Ferdous, MBBS, MPH**

National Institute of Preventive and Social Medicine (NIPSOM), Ministry of Health and Family Welfare, Bangladesh

Healthcare Management in Bangladesh: Integrating Hospital and Public Health Systems for Sustainable Development

Abstract

Bangladesh has achieved remarkable progress in public health over the past two decades, particularly in maternal and child health, immunization coverage, and life expectancy. However, effective healthcare management remains a critical challenge due to rapid population growth, resource constraints, and uneven distribution of services across urban and rural areas.

Objective:

This presentation explores the dual pillars of Bangladesh's healthcare management—hospital administration and public health systems—and examines strategies to strengthen integration, efficiency, and quality of care.

Methods:

A descriptive analysis was conducted using policy reviews, government health reports, and global health data. Emphasis was placed on management frameworks, digital health innovations, and human resource optimization within the national health system.

Results:

Key findings highlight the expansion of hospital infrastructure, the introduction of digital health tools, and the decentralization of primary care through community clinics. Persistent challenges include workforce shortages, limited hospital accreditation systems, and rising non-communicable disease burdens. Lessons from the COVID-19 pandemic further emphasized the importance of emergency preparedness and data-driven decision-making.

Conclusion:

Bangladesh's progress toward Universal Health Coverage (UHC) depends on effective coordination between hospital and public health management. Strengthening governance, capacity building, and international collaboration—especially with countries like Japan—can accelerate health system resilience and sustainability.

Keywords: Healthcare management, Bangladesh, hospital administration, public health, Universal Health Coverage, digital health.

**Dr. Jones A. Frimpong**

Regional Institute for Population Studies, University of Ghana, P. O. Box LG 96, Legon, Accra, Ghana and Bureau for 360 Research and Innovation Limited (BRI360), Accra, Ghana

Sex and Disability in Ghana: Sexual Partnerships and Coital Frequency Among Persons with Disabilities

Abstract

Research indicates that persons with disabilities (PwDs) can and do have fulfilling sexual lives; however, there is a paucity of literature on their sexual behaviour in Ghana. This study examines the sexual behaviour of PwDs in Ghana, focusing on the frequency of sexual intercourse and the number of sexual partners per year. The sample for the study comprises 381 respondents aged 18 years and older, living in the Greater Accra Metropolitan Area in the Greater Accra region of Ghana. Descriptive statistics, Poisson regression and binary logistic regression were employed in the analysis of primary data collected in December 2022. A little more than half of the respondents had physical disabilities (54.3%), approximately 65% had never been married, and about a quarter reported that they had never engaged in sexual intercourse. A higher percentage of males (17.5%) than females (4.1%) engaged in sexual intercourse weekly or more frequently, and those with hearing and speech disabilities also engaged in sexual intercourse frequently and had more sexual partners than those with physical and visual impairments. Socio-demographic variables associated with sexual activity included current age, marital status, religion, number of sexual partners, and employment status. The study concludes that sexual partnership and frequent intercourse are not uncommon among PwDs. There is, therefore, a need to provide accessible sexual and reproductive health services and information to PwDs. Furthermore, eliminating prejudice and stigma regarding the sexuality of PwDs is crucial for ensuring healthy behaviours.

Biography

Dr. Frimpong is an academic, demographer, and development researcher with over 16 years of experience in teaching and applied research. He holds a PhD and M.A in Population Studies from the Regional Institute for Population Studies, University of Ghana. His academic journey has been supported by prestigious scholarships, including the Andrew Mellon Doctoral Thesis Grant and the Carnegie Corporation of New York's BANGA-Africa Doctoral Scholarship. He served as an Adjunct Lecturer at the College of Distance Education, University of Cape Coast from 2020-2023 and currently serves as the Research Lead at the Bureau for 360 Research and Innovation. Jones has recently been appointed as a Lecturer at the University of Professional Studies, Ghana. His research interests comprise WASH, Sexuality and Disability. Professionally, he has led and contributed to numerous national and international research and evaluations for institutions including The World Bank, Plan International, Right To Play, UNICEF, among others.

**Kashif Iqal***Pakistan*

Mapping health vulnerabilities and resilience of Afghan migrants in the face of climate change in Pakistan

Abstract

Climate change intensifies health risks for displaced populations, particularly Afghan migrants in Pakistan who face prolonged displacement, socio-economic hardship, and limited healthcare access. This study aims to evaluate the effects of climate change on health vulnerabilities among Afghan migrants and examine the efficacy of current adaptation mechanisms and health policies in minimizing these risks. Using a mixed-methods design, we combined quantitative surveys with qualitative interviews to capture both statistical patterns and lived experiences. The findings revealed a range of climate-sensitive health risks, including respiratory and waterborne illnesses, heat-related conditions, malnutrition, and psychological distress. Women and children emerged as especially vulnerable groups. Many migrants reported financial barriers, overcrowded living conditions, and restricted access to healthcare, which heightened their exposure to climate-related health risks. The study underscores the urgent need for inclusive health policies and climate-resilient infrastructure to reduce health disparities and strengthen resilience among this marginalized population.

Keywords: Climate change · Natural hazards · Health impacts · Vulnerabilities · Adaptation · Policy response.



Lucy Cooke-Davies

*Anglia Ruskin School of Medicine, Chelmsford,
United Kingdom*

Stronger Together: Proposing the design of a test and learn community program aimed at improving wellbeing and reducing frailty in the older population

Abstract

Frailty describes a state of increased vulnerability to adverse health outcomes arising from the degradation of physiological reserve [1,2]. Whilst it is not solely age-related, it is a pronounced symptom of aging proving to be of increasing concern for healthcare systems in the UK and nationwide [3].

Although the conceptual understanding of frailty has evolved over time, recent research has highlighted the significant role of psychosocial factors such as loneliness and social isolation in its progression. Evidence suggests that individuals struggling with loneliness are almost twice as likely to develop frailty over a 4-year period [4]. Furthermore, a 2015 meta-analysis suggested that loneliness and social isolation are associated with a 26% and 29% increased risk of mortality, respectively- risks comparable to those of smoking 15 cigarettes a day or having an alcohol use disorder [5].

Despite increasing recognition of these risks, there remains limited evidence on whether interventions targeting social isolation and loneliness can prevent or slow the progression of frailty. This poster aims to suggest a way to address this gap. Here, we propose and evaluate a 10 week community-based social engagement program as a way to address this gap, with the main focus on improving elderly wellbeing and social connections- thereby reducing frailty progression amongst older adults.

Biography

Lucy Cooke-Davies is a final year medical student, graduating from Anglia Ruskin University in July 2026, with a special interest in Geriatrics and Public Health.



Magdi Mohamed Ali

United Arab Emirates Ministry of Climate Change and Environment (MoCCA), Dubai, P.O. Box 1509, United Arab Emirates (UAE)

Middle East Respiratory Syndrome Corona Virus Spread Stochastic Simulations and Control in Camels in the United Arab Emirates

Abstract

The Middle East Respiratory Syndrome Coronavirus (MERS-CoV) is a zoonotic infection disease in which dromedary camels played essential roles in its emergence, spread, and epidemiology. Since 2013, a total of 94 confirmed human cases and 12 deaths have been reported in the United Arab Emirates (UAE). In contrast, a high seroprevalence (97.1%) and (1.6%) molecular prevalence of MERS-CoV in camels were reported in UAE. The objective of this research is to recommend strategies to control MERS-CoV spread. Camel data were obtained from the Animal Identification and Registration System (AIRIS) - Abu Dhabi Agriculture and Food Safety Authority (ADAFSA). To choose the suitable MERS-CoV control strategy that can minimize the epidemic length and the number of affected camel farms, we employed the North American Animal Disease Spread Model (NAADSM) framework. This scientific approach allowed us to simulate a customized stochastic model for UAE to simulate MERS-CoV spread. Three different scenarios of MERS-CoV control strategies were simulated. These included implementing control strategy 1, restricted animal movement, and control strategy 2. Meanwhile, vaccination and animal movement control were considered control strategy 3. Animal movement control was the optimum strategy for controlling MERS-CoV spread. In such a scenario, the outbreak duration was reduced from 288 days in scenario 1 to only 36 in scenario 3, and the number of infected farms was also reduced from 3,141 to 6 farms. Scenario 3 was not considered an optimum scenario because, despite the high cost of vaccination, the control measure did not

include a significant reduction in the number of infected animals. Implementing the optimum MERS-CoV control strategy in camels requires considering its effectiveness and cost. Animal disease spread stochastic simulations, and cost-effectiveness studies aid policymakers in formulating optimum eradication policies and increasing biosecurity.

Keywords: Middle East Respiratory Syndrome Coronavirus (MERS-Cov); Stochastic Simulation Spread Modeling; Disease Spread Control; United Arab Emirates (UAE).



Mahadih Kyambade

Department of Leadership and Governance, Makerere University Business School, Kampala, Uganda

Stakeholder Engagement and Resilience of Health and Sanitation Projects in Uganda: Insights from a Qualitative Study

Abstract

This study explores how stakeholder engagement enhances the resilience of health and sanitation projects in Uganda. It examines how inclusive participation, transparency and communication, trust and collaboration, and stakeholder commitment and support contribute to project resilience. Data were collected through semi-structured interviews with 21 purposively selected participants from health and sanitation projects in the central region of Uganda. Data were analyzed thematically using NVivo 14. Results reveal that stakeholder engagement is a key driver of project resilience. Inclusive participation and transparency foster adaptability; shared decision-making and collaboration strengthen shock absorption capacity; while communication, trust, and commitment create redundancy by pooling diverse resources and expertise. Together, these processes build a social infrastructure that enables projects to withstand, recover from, and adapt to disruptions in resource-constrained environments. The findings highlight the need for policymakers, development partners, and project managers to institutionalize participatory mechanisms, transparent communication channels, and cross-sector partnerships in project design and implementation. Embedding stakeholder engagement as a resilience-building strategy can improve continuity and sustainability of health and sanitation services across Uganda. This is the first empirical study in Uganda to explicitly link stakeholder engagement with project resilience in the health and sanitation domain. By integrating Stakeholder and Resilience Theories, it advances a novel framework that conceptualizes engagement as both a relational and structural mechanism for enhancing adaptability, continuity, and redundancy in development projects.

Keywords: Stakeholder Engagement, Project Resilience, Health and Sanitation Projects, Community Participation, Uganda.

Biography

Dr. Mahadih Kyambade is a Ugandan scholar specializing in sustainability, governance, and leadership in development contexts. He holds a PhD in Business and Management and is affiliated with Makerere University. His research focuses on sustainability performance, responsible leadership, institutional governance, and resilience in health, sanitation, and infrastructure systems in Sub-Saharan Africa. Dr. Kyambade has published in reputable international journals and contributes to interdisciplinary scholarship linking governance theory with practical policy challenges. His work aligns closely with the UN Sustainable Development Goals and Uganda's national development frameworks. In addition to his research, he is actively engaged in graduate supervision, academic mentorship, and curriculum development, with a strong interest in advancing evidence-based policy and sustainable urban governance.



Dr.Meely Panda

Professor (Associate), Department of Community Medicine and Family Medicine All India Institute of Medical Sciences - AIIMS Bibinagar, Hyderabad, India

Gap Analysis, Challenges encountered, and Strengthening of Primary Health Care Service Delivery among Particularly Vulnerable Tribal Populations – PVTGs, in India

Abstract

Background - As per Census 2011, Scheduled Tribe constitutes 8.6% of India's population with rural (11.3%) & urban 2.8%. Government of India, in 1975 identified 75 separate categories of PVTGs whose health status lied in an awful condition because of multiple factors like poverty, illiteracy, lack of safe drinking water, bad sanitary conditions, difficult terrain, malnutrition, poor maternal and child health services, unavailability of health and nutritional services, superstition and deforestation. **Objective** – Thus the present study was conducted in the Tribal areas to do a Gap analysis of existing Primary health care service versus its utilization; Map the health seeking pathway and practices; and identify health system challenges among stakeholders. **Methodology** – Cross sectional, Mixed method with both quantitative and qualitative assessment in tribal districts among the Tribal beneficiaries and health care providers. A total of 810 sample was taken and 30 In depth interviews were done. 10 blocks were chosen and simple random sampling done after line listing. Data analysed by R and using grounded theory approach. **Results** – There was a 10 – 50 % deficiency of various staffs in the health centres. High attrition rates were due to the compulsory rural postings and lack of incentives. For infrastructure, electricity, drinking water, Toilets etc were also ill maintained and unutilized. Nearly 40 - 70% of centres did not use the Infantometer, thermometer, weighing scale, Hbmeter or ILRs although they were present. Although family planning services, maternal health, child health had good coverage (80 – 100 %); yet adolescent, NCD and School health service coverage were

lesser (40-50%). Most of the staff were well trained and depended on local NGOs for primary care too. Conclusion - Tribal areas in most instances are isolated, inaccessible, situated in conflict zones with migrants. There needs to be a greater involvement of all stakeholders, so that the government initiatives are well utilized. A gap analysis of the provider and receiver side will not only help in breaching this difference but also help us in formulating specific modules for the grassroot health care workers – who in most instances are the sole caregivers in these regions.

Biography

Dr. Meely Panda completed her MBBS, MD in Social and Preventive Medicine and has 12 years of experience as an academician, researcher and administrator in various fields of Public Health as well as Family Medicine. She has 70 research publications and part of 16 extramural funded projects with organisations such as WHO, ICMR, BMGF, UNICEF etc. She received the Presidential appreciation award by IAPSM for contribution towards Community medicine in 2024, Best performer PPP, ICTC by TSACS, Appreciation by ICMR, as PI of RATA Project, which received the UN Inter-Agency Taskforce Award for Assistive Technology in September 2024; Certificate of Appreciation for contributing as the National Coordinator of the “PG Lecture Series” and as the National facilitator of “Level 2 Research Methodology” under the IAPSM e Connect Academia in 2024; National Scholarship for Sports; Oration Award in the symposium held on “Smoking” conducted by National Medicos Organization; Paper nominated for Saroj Jha Award category, and many others. She has keen interest in Nutrition, Tribal Health, Geriatrics and Occupational Health.

**Mufti As Siddiq M Irzal**

*Department of Epidemiology, Faculty of Public Health,
University of Indonesia, Indonesia*

Effect of Body Mass Index on Mortality in Patients with Tuberculosis and HIV Co-Infection within the Scope of Asia Africa: A Systematic Review and Meta-Analysis

Abstract

Globally, the prevalence of TB-HIV co-infection cases in 2019 was 8.2%. In 2020, the number of deaths due to TB in people with HIV was 214,000 people, reflecting an increase from the previous year. Previous studies suggest that Body Mass Index (BMI) may be an important indicator of mortality risk in patients with TB-HIV co-infection, as malnutrition and low BMI are often associated with worse clinical outcomes. This study evaluates the effect of body mass index (BMI) on mortality among TB-HIV co-infected patients in Asia and Africa through a systematic review and meta-analysis conducted in accordance with PRISMA guidelines. Relevant cohort studies published between 2000 and 2024 were identified from databases such as PubMed, Scopus, and ProQuest, with study quality assessed using the ROBINS-E tool and data synthesized via a random-effects model. A total of seven studies involving 12,542 participants from Asia and Africa were included in the meta-analysis. The pooled analysis revealed that patients with low body mass index (BMI) had a significantly higher risk of mortality compared to those with normal or high BMI (Risk Ratio (RR) = 2.01; 95%CI: 1.63–2.48; $p < 0.00001$). Subgroup analysis showed a consistent direction of effect across both regions, with Africa (RR = 1.81; 95% CI: 1.53–2.14; $I^2 = 31\%$) and Asia (RR = 2.38; 95% CI: 1.39–4.07; $I^2 = 72\%$). No significant difference was observed between subgroups ($p = 0.34$). Overall heterogeneity was moderate ($I^2 = 64\%$). These findings indicate that undernutrition markedly increases the risk of mortality among tuberculosis and HIV co-infected patients across the Asia–Africa region.

Keywords: body mass index; mortality; tuberculosis; HIV

Biography

My experience as the person in charge of the tuberculosis program in the private sector has sparked my interest in the disease's elimination efforts. Through my studies in epidemiology at Universitas Indonesia, I aspire to actively contribute to breaking the chain of tuberculosis transmission.



Nusrat Begum Jalbani

PCSIR Laboratories Complex, Karachi, Pakistan

Health Risk Assessment and Heavy Metal Contamination Estimation in Date Palm Fruit Grown in Sindh, Pakistan: Multivariate Study

Abstract

Cadmium (Cd) and lead (Pb) are commonly found in the environment due to human activities like industrialization and development. These metals are toxic and often contaminate water, food, and edible plants, leading to human exposure. This study investigates Cd and Pb levels in 68 date samples from supermarkets across various regions of Sindh, Pakistan, including 30 samples provided by companies that export date palm fruits globally. Electrothermal atomic absorption spectrometry (ETAAS) with conventional wet acid digestion (CAD) was used for metal determination. Optimization was carried out by Plackett–Burman design (PBD), central composite design (CCD), and response surface methodology (RSM). Results indicated that Cd levels in export samples ranged from 0.012 ± 0.001 to 0.061 ± 0.004 , with an average value of 0.031 ± 0.002 mg/kg. Lead levels in these samples varied from 0.028 ± 0.001 to 0.079 ± 0.03 , averaging 0.055 ± 0.004 mg/kg. These levels were within the safety limits.

However, local market samples exhibited slightly higher Pb levels, ranging from 0.15 ± 0.01 to 0.32 ± 0.03 , with an average of 0.26 ± 0.02 mg/kg, exceeding the recommended safety limits. In contrast, the Cd content in local market samples ranged from 0.12 ± 0.01 to 0.16 ± 0.02 mg/kg, remaining below the WHO/FAO. These contaminants may originate from cultivation, water, air, transportation, processing, and so forth. The method was validated by standard addition recovery test, triplicate analysis, procedure blanks, and standard reference material (SRM). The average daily intake

(ADI) values for TMs, along with the hazard index (HI) and target hazard quotients (THQs) were calculated to assess potential health risks.

Keywords: average daily intake, date palm fruit, electrothermal atomic absorption spectrometer, hazard index, multivariate techniques, toxic metals

Biography

I am currently serving as a Principal Scientific Officer at the R&D Organization, PCSIR Laboratories Complex-Karachi, under the Ministry of Science & Technology, Government of Pakistan. Since 2022, I have been heading the Centre for Environmental Studies and also teaching as a Visiting Faculty Member in the Department of Earth and Environmental Sciences at Bahria University Karachi Campus. I earned my PhD in Analytical Chemistry from the University of Sindh, Jamshoro in 2009 and completed a postdoctoral fellowship at Erciyes University, Turkey in 2014 under the TÜBİTAK 2216 program, receiving an Appreciation Award for research excellence. I am also working as a Research Fellow at INTI International University, Malaysia, and a Technical Auditor for PNAC under ISO/IEC 17025:2017. My research focuses on environmental and analytical chemistry, particularly heavy metal contamination, green solvents, and nano-materials. I have published more than 96 articles in reputed journals with a cumulative impact factor exceeding 270.



Onike Mcharo

Catholic University of Health and Allied Science, Tanzania

The Effects of Comprehensive Reproductive Health Intervention on Reproductive Tract Infections Symptoms, and Management of Menstrual Hygiene: A Mixed Methods Study Among Secondary School Adolescent Girls in Mwanza Region

Abstract

Poor menstrual hygiene management (MHM) has been implicated in increasing RTI symptoms. The Partnering to Support Schools to Promote Good Menstrual Health and Well-being (PASS MHW) intervention was designed to address menstrual-related challenges among schoolgirls. However, no comprehensive analysis has evaluated its impact on menstrual management practices or its potential influence on reducing reproductive tract infection (RTI) symptoms. This study examined the effects of a comprehensive Menstrual and Sexual Reproductive Health (MSRH) intervention on reproductive tract infection (RTI) symptoms among adolescent girls and aimed to identify the key predictors of these changes. This was a mixed-methods secondary analysis of the PASS MHW project that involved surveys from 424 secondary school girls to assess changes in RTI symptoms and menstrual hygiene practices. In addition, 20 in-depth interviews were conducted with subsamples of girls referred for RTI treatment to assess their experience with health care services. There was a significant postintervention increase in the proportion of schoolgirls using hygienic menstrual products, increasing from 32% to 77% ($p = 0.001$). RTI symptoms presented mixed outcomes: thick, white, clumped discharge decreased from 33% to 26% ($p = 0.026$), while fish-smelling discharge increased from 6% to 16% ($p = 0.001$), with urban participants experiencing a significant increase (OR = 2.15, 95% CI: 1.31–3.52, $p = 0.002$). Younger adolescents reported an increase in genital itching, sores, and rash,

with a notable rise in redness or irritation (OR = 0.67, 95% CI: 0.46–0.98, $p = 0.039$). Referral services encounter barriers, including poor service quality, financial limitations, stigma, and issues related to obtaining consent. The PASS MHW intervention improved the use of hygienic menstrual products but had mixed effects on RTI symptoms. Some symptoms decreased, whereas others increased, especially among urban participants and younger adolescents. Barriers in referral services, including quality, cost, stigma, and consent issues, remain challenges.

Biography

A Tanzanian social scientist with an MPH and over 12 years of health research experience, Onike works at the Mwanza Intervention Trials Unit (MITU), focusing on adolescent health, sexuality, sexual, reproductive and menstrual health, gender integration in HIV prevention, and behavior change communication. She has contributed to major interventional studies, co-authored in 6 peer-reviewed publications.

**Patiman Yidilisi***School of Government, Nanjing University, China***Seeing Signals: Eye-tracking-enhanced discrete choice experiments on how platform badges steer physician selection****Abstract**

Patients' choices on telemedicine and booking platforms hinge on the quality signals they can see, and aligning those signals with how patients actually process information can narrow information asymmetries in credence-good markets like health care (Arrow 1963; Dulleck and Kerschbamer 2006). We study how visual "badges" (e.g., peer-recommendation, effectiveness, reputation) and textual profile fields shape physician choice by running two laboratory discrete choice experiments in Xinjiang, one with patients and one with clinicians, while recording gaze. Across both experiments, we find a systematic gap between stated importance and revealed attention: participants say that effectiveness is paramount, but gaze data show heavier attention to peer-recommendation badges; attention to a given badge predicts choosing a doctor carrying that badge even after accounting for alternative attributes in the choice set. When clinicians and patients view the same information, their final selections converge despite different attention patterns, implying that real-world disagreement often stems from information sets rather than preferences. Adding visual badges increases depth of information processing—participants scrutinize profiles more carefully—without uniformly shortening decision time, consistent with evidence that attention co-determines valuation in choice (Orquin and Loose 2013). Methodologically, pairing eye-tracking with discrete choice estimation improves identification of how attributes work on decisions beyond stated preferences (Lancsar and Louviere 2008). Substantively, redesigning platform signal architecture—salient yet interpretable badges tied to verifiable outcomes and patient-experience measures—can improve match quality, patient trust, and timely care access, complementing work on online reviews

and physician demand (Xu, Armony, and Ghose 2021). We outline actionable design implications for public-health systems seeking to steer patients toward appropriate clinicians while preserving transparency and equity.

Biography

Patiman is a Ph.D. candidate in the School of Government at Nanjing University. Her work investigates how non-rational influences and information asymmetries shape health-care decision making, with attention to identity cues, trust, and the design of informative signals. By combining experimental and observational approaches, she seeks to identify practical strategies that help patients and providers make better-informed choices and improve equity in access to care.



Meysam Naseri, Rahele Khosravi Nessiani

Department of Mining Engineering, Amirkabir University of Technology, Tehran, Iran

Water and wastewater treatment with nanoparticles: A new solution to prevent water-related diseases

Abstract

The provision of safe drinking water and the management of wastewater is an extremely critical contemporary public health challenge. Water supply may become contaminated with pathogenic microorganisms, toxic heavy metals, and hazardous organic compounds. The contamination of the water supply poses an extreme risk to the health of human life. At the same time, Health Engineering and Preventive Medicine, researchers are focusing on new and efficient techniques, particularly on the use of nanotechnology. This paper reviews the role of nanoparticles in the enhancement of processes applied in the treatment of water and wastewater from the perspective of public health. Due to the ability of antimicrobial activity, and the capacity to remove hazardous chemicals with their high specific surface area, silver, iron oxide, and titanium oxide nanoparticles and nanocomposites, have been shown to measurably decrease the presence of microbial pathogens and toxic pollutants. The studies reviewed have shown that the intentional application of nanoparticles can increase treatment efficiency and decrease the incidence of waterborne diseases. Sustainable technology, however, requires a study of the bio-safety and environmental impact of the nanoparticles intended to remain. The application of nanoparticles in the treatment of water and wastewater is an effective approach from the perspective of Preventive Medicine and the attainment of Public Health Objectives.

Biography

Meysam Naseri is a PhD student in Mining Engineering (Mineral Processing) at Amirkabir University of Technology. His research activities focus on bioleaching, leaching processes, wastewater treatment, nanomaterials, and biotechnology. He has actively contributed to the scientific community by submitting and presenting numerous papers at national and international conferences. In addition, he has published multiple research articles in ISI-indexed and reputable Iranian journals. He has also authored several book chapters, which are currently in the process of publication. His interdisciplinary research interests bridge mineral processing, environmental engineering, and applied biotechnology.

Rahele Khosravi is a graduate with a Master's degree in Chemical Engineering (Biotechnology). Her research interests include nanomaterials, wastewater treatment, biomarkers, cancer research, and related interdisciplinary fields. She has actively conducted research in these areas and has authored numerous scientific papers presented at various national and international conferences. In addition, she has published multiple research articles in ISI-indexed and reputable Iranian journals. Her research activities reflect a strong integration of chemical engineering, biotechnology, and biomedical applications



Rameshwor Parajuli

*Central Department of Zoology, Tribhuvan University,
Kirtipur, Nepal*

Double Burden of Malnutrition and Parasitic Infections in the Low-Middle Income Countries: An Emerging Triple Burden of Malnutrition in South Asia

Abstract

Background and Aims: The lifestyle pattern has changed drastically in recent decades. There is a huge change from few decades ago to the present day. This review study is done to know the change of lifestyle pattern manifested in the form of malnutrition and obesity/overweight (Double Burden of Malnutrition, DBM) and its link with the parasitic infection, both culminating into a Triple Burden of Malnutrition in the Low-Middle Income Countries (LMICs). DBM, a challenging issue, in today's context is one of the major problem in south Asia. This review aims at showing the real picture of today's scenario of DBM accompanied with high prevalence of parasitic infections.

Methods: Data used in this review are taken from the research articles through google search engine, different journals, websites, national surveys and other sources. Concept of search, compile, analyze and interpret is used in this study. Exclusion and inclusion criteria in research paper selections are taken into consideration in this study.

Results: Gender differences in the prevalence of Overweight and Obesity (OWOB) and underweight is not considerable in this review but rural-urban differences is notable in this review, urban areas based people with higher prevalence of OWOB and rural areas people with higher prevalence of underweight. This study finds no significant difference in parasitic infections among OWOB and underweight population. Entamoeba coli and adenovirus -36 infection may contribute to fat deposition but still further studies

required. This review study finds that DBM along with parasitic infections result into a Triple Burden of Malnutrition which is currently a disastrous condition for low-middle income countries.

Conclusion: The prevalence of DBM has been increasing worldwide, with a more rapid incline in South Asia. National economic development, changes in the food supply, urbanization, and lack of adequate physical activity are positively associated with increasing DBM. Lack of awareness regarding hygiene and sanitation, lack of policies regarding waste management and dumping are possible causes of high parasitic infections in low-middle income countries. These factors must be considered when formulating and implementing national policies and programs to fight DBM and parasitic infection simultaneously.

Keywords: Double Burden of Malnutrition (DBM), Overweight and Obesity (OWOB), Underweight, Parasites, Infections, Prevalence, Low-Middle Income Countries (LMICs).

Biography

Academic Detail

- *MSc in Zoology – Central Department of Zoology Completed in 2023 with 3.61 GPA*
- *BSc in Zoology – Makawanpur Multiple Campus Completed in 2019 with 66.8%*

Research Experience

- *Full-time research for nine months as a Principal Investigator during thesis work.*
- *Part-time research for six months as a Co-PI under the supervision of research faculties.*
- *Research and Field Supervisor for a year during CTEVT and Public Health contract tenure.*

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To assess geriatric protein nutrition gap and its associated factors – a cross-sectional study in the urban field practice area of Bangalore medical college and Research institute

Abstract

India's rapidly growing elderly population faces a largely unrecognised gap between actual dietary protein intake and age-appropriate requirements, contributing to malnutrition, sarcopenia and functional decline. Community studies using the Mini Nutritional Assessment–Short Form (MNA-SF) in South India report high proportions of older adults who are malnourished or at risk, and a recent rural study from Tamil Nadu showed that only a small minority of elders meet recommended protein intake [Ra Boornema & Aarthy, 2024]. This “geriatric protein nutrition gap” is likely to be particularly relevant in urban, cereal-based diets where high-quality protein foods are consumed infrequently. The present community-based cross-sectional study aims to estimate the prevalence of geriatric protein nutrition gap and its associated factors among individuals aged ≥ 60 years residing in the urban field practice area of BMCRI, Bengaluru. Around 200 elderly participants will be selected by simple random sampling from family folders of the Urban Health Training Centre. Data will be collected using a pre-tested interview schedule covering socio-demographic profile, morbidity, MNA-SF, anthropometry and a 24 h dietary recall with protein-focused probing. Daily protein intake will be calculated from standard Indian food composition tables and expressed as g/kg/day; intake < 1.0 g/kg/day will define a protein nutrition gap in line with recent geriatric recommendations. The prevalence of protein gap and its associations with age, sex, socio-economic status, comorbidities, MNA-SF category and simple functional indicators will be analysed using appropriate descriptive statistics and multivariable

logistic regression. Findings are expected to provide locally relevant evidence to support geriatric nutrition counselling, protein-rich diet planning and sarcopenia-prevention strategies in urban primary care settings.

Biography

Dr Tulasi B M is a first-year postgraduate in Community Medicine at Bangalore Medical College and Research Institute, Bengaluru. She completed MBBS at Kempegowda Institute of Medical Sciences. She worked with AI-based diagnostics and rural primary care. Interests include geriatric nutrition, noncommunicable diseases and applying artificial intelligence in public health.



Thank You