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PUBLIC HEALTH AND EPIDEMIOLOGY CONFERENCE

April 28-29, 2025
Lisbon, Portugal

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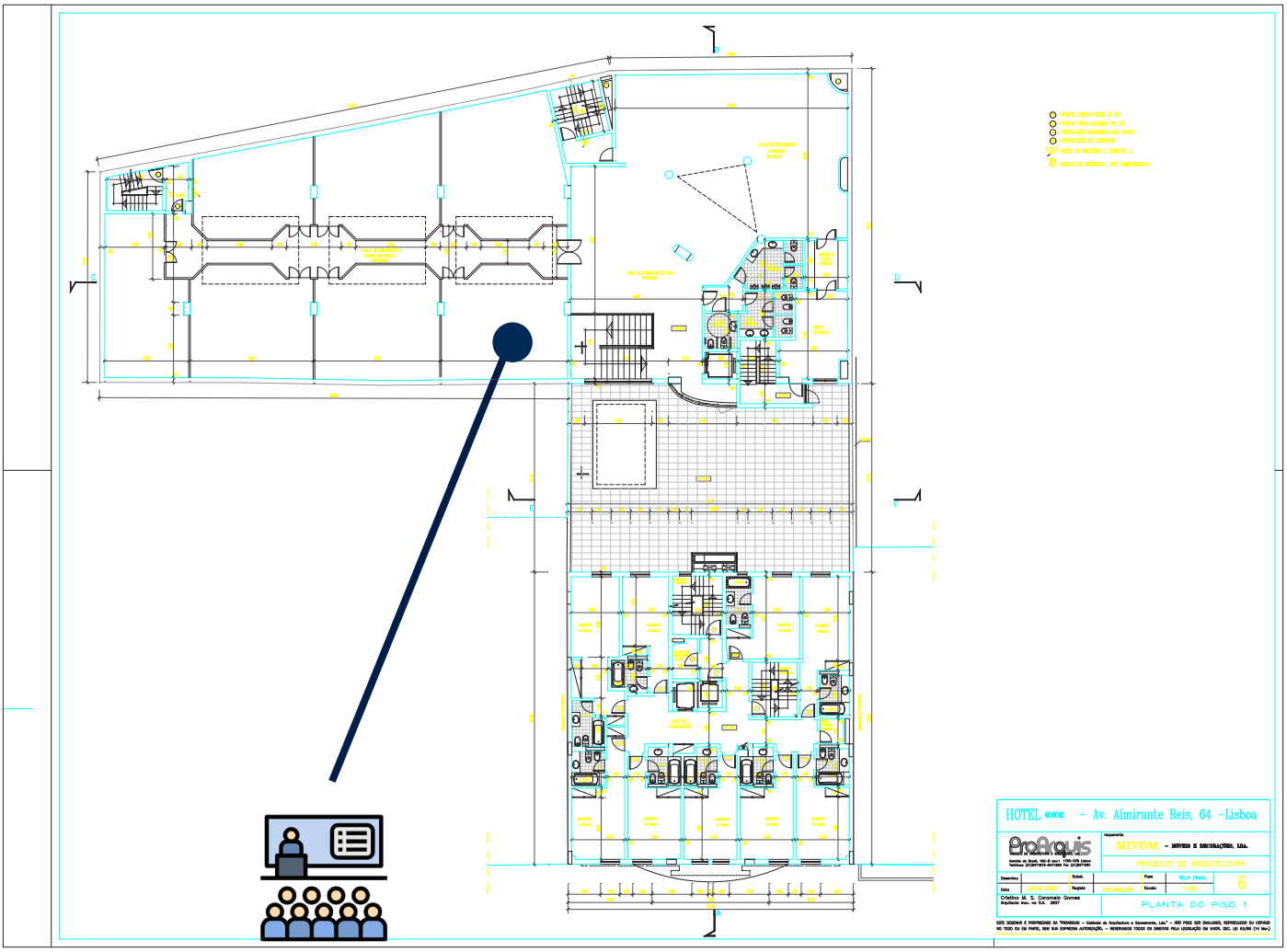
Floor Map



#ConferenceHall - **Londres**

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SCIENTIFIC PROGRAM #DAY 1 - April 28, 2025

Meeting Hall: Londres

09.00 - 09.45 **Registrations**

Moderator

Dijana Mayer, Croatian Institute of Public Health, Croatia

09.45 - 10.00 **Introduction**

Keynote Presentations	
10.00 - 10.45	**Title:** Physical Long-Term Conditions and the Effectiveness of England's NHS Talking Therapies (NHS TT) Programme for Working Age Adults
Alex Dregan, King's College London, UK	
10.45 - 11.30	**Title:** E-Cigarettes, High Sugar-Saturated Food and Toothbrushing among Youth
Dijana Mayer, Croatian Institute of Public Health, Croatia	
11.30 - 11.45	**Networking and Refreshments @ Foyer**
Oral Presentations	
Session Chair: **Dijana Mayer,** Croatian Institute of Public Health, Croatia	
Sessions: Mental Health and Sleep Disorders | Observational Epidemiology | Cancer Epidemiology | Public Health Psychology | Public Health Social and Behavioral Sciences | Public Health Policy and Education	
11.45 - 12.15	**Title:** Infection Prevention Cooperation Between Public and Institution Healthcare
Marije den Drijver, Maasstad Ziekenhuis, Netherlands	
12.15 - 12.45	**Title:** Met and Unmet Mental Health Needs: Real-World Epidemiological Challenges and Solutions in Antwerp, Belgium
Kris Van den Broeck, University of Antwerp, Belgium	
12.45 - 13.00	**Group Photo**
13.00 - 14.00	**Lunch @ Restaurant**
14.00 - 14.30	**Title:** On the Retrospective Analysis of COVID-19 Macroscopic Epidemiological Data
Manuel M Graña Romay, University of the Basque Country, Spain	

14.30 - 15.00	**Title:** How Real-World Evidence Assists Regulations for Cancer Drugs Approval Decision Making - A Systematic Review
Yujia Huo, Monash University, Suzhou Campus, China	
15.00 - 15.30	**Title:** Wellbeing Determinants Among LGBTQIA+ Adults: A Systematic Review
Graça Andrade, Instituto Politécnico de Lisboa, Portugal	
15.30 - 16.00	**Title:** "Better than Human – Until you Know it's Artificial?" Perceived Credibility of Psychological Advice from AI and Humans: The Role of Source Disclosure
Magdalena Kazimierska-Zając, Wroclaw Medical University, Poland	
16.00 - 16.30	**Networking and Refreshments @ Foyer**
16.30 - 17.00	**Title:** Understanding Mental Health in Crisis: Key Determinants of Psychological Distress in Belgium during the COVID-19 Lockdown
Zita Zsabokorszky, Hasselt University, Belgium	
17.00 - 17.30	**Title:** Substance Use by Students Involved in Physical Fight
Dijana Mayer, Croatian Institute of Public Health, Croatia	
Poster Presentations	
P01	**Title:** Polysaccharide-Based Material Enhanced with Hemp Extract for Antimicrobial Wound Healing
Dorota Chelminiak-Dudkiewicz, Nicolaus Copernicus University in Torun, Poland	
P02	**Title:** Effects of Regular Physical Exercise on Fall Prevention Among the Elderly: A Multidimensional Approach
Marília Salete Tavares, Salgado de Oliveira University, Brazil	
P03	**Title:** Assessment of Key Approaches to the Hygienic Regulation of Biocidal Products for Water Treatment in Ukraine
Sergii Garkavyi, Marzieiev Institute for Public Health of the National Academy of Medical Sciences of Ukraine, Ukraine	
Video Presentation	
VP001	**Title:** Lifestyle Medicine Enabling Technologies and Public Health
David John Wortley, International Society of Digital Medicine, UK	

Day 1 Concludes followed by Certificate Felicitation

SCIENTIFIC PROGRAM #DAY 2 - April 29, 2025

Meeting Hall: Londres

Moderator

Sofia Almeida Costa, Universidade do Porto, Portugal

Keynote Presentation	
10.00 - 10.45	**Title:** Infection Prevention in The Netherlands
Marije den Drijver, Maasstad Ziekenhuis, Netherlands	
Oral Presentations	
Session Chair: **Magdalena Kazimierska-Zając,** Wroclaw Medical University, Poland	
Sessions: Public Health Policy and Education | Food Safety | Health Behavior and Health Promotion | Environmental Health | Observational Epidemiology | Infectious Disease Epidemiology | Public Health Social and Behavioral Sciences	
10.45 - 11.15	**Title:** Associations Between Food Contaminants Exposure and Pubertal Development
Sofia Almeida Costa, Universidade do Porto, Portugal	
11.15 - 11.30	**Networking and Refreshments @ Foyer**
11.30 - 12.00	**Title:** Inferring the Effectiveness of Non-Pharmaceutical Interventions against COVID-19
Hiroshi Nishiura, Kyoto University, Japan	
12.00 - 12.30	**Title:** Development of an IoT-Enabled Closed-Loop Intelligent Community Healthcare System Integrating Real-Time Biosensing and Automated Therapy
Yujia Huo, Monash University, Suzhou Campus, China	
12.30 - 13.00	**Title:** Paediatric Dietary Inflammatory Potential: Exploring the Index's Performance including Specific Food Parameters
Sofia Martins, Universidade do Porto, Portugal	
13.00 - 14.00	**Lunch @ Restaurant**
14.00 - 14.30	**Title:** Food Poisoning Outbreak Caused by Salmonella in Jazan - Saudi Arabia June 2024
Yazeed Alharbi, Ministry of Health, Saudi Arabia	
14.30 - 15.00	**Title:** Predicting Public ICU Mortality and Hospitalization using Data: An Evaluation of Brazil's Largest COVID-19 Epidemiological Dataset
Lia Graca, Universidade Federal de São Paulo, Brazil	

Day 2 Concludes followed by Vote of Thanks

Day - 1
Keynote

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PHYSICAL LONG-TERM CONDITIONS AND THE EFFECTIVENESS OF ENGLAND'S NHS TALKING THERAPIES (NHS TT) PROGRAMME FOR WORKING AGE ADULTS

Alex Dregan[1], Amy Ronaldson[1], David Armstrong[1], Ioannis Bakolis[1], Stephani L Hatch[1] and Matthew Hotopf[1,2]

[1]King's College London, UK
[2]South London and Maudsley NHS Foundation Trust, UK

Abstract

Interventions targeting mild to moderate depression and anxiety are effective in patients attending NHS Talking Therapies (NHS TT) – a national psychological therapy service in England. The impact of multiple long-term conditions (LTCs) on key performance indicators of NHS TT services is, however, less well evidenced. Routinely collected data from NHS TT services were linked with primary care data to form a dataset of 35,814 adults aged 18-64 years who had accessed the services between August 2008 and March 2021. Cox proportional hazards models were used to assess prospective associations between pre-NHS TT physical LTCs and 'recovery' and 'reliable improvement' outcomes.

Patients with pre-NHS TT physical LTCs were less likely to achieve reliable 'recovery' after their first episode of care (adjusted hazard ratio (aHR)=0.91, 95% confidence interval (CI), 0.88 to 0.95) compared to those with no physical LTCs. A dose response relationship emerged, such that the likelihood of 'recovery' decreased with the number of LTCs (one condition: aHR=0.95, 95% CI=0.91 to 0.98; two conditions: aHR=0.88, 95% CI, 0.83 to 0.93; three conditions: aHR=0.82, 95% CI=0.75 to 0.91; four or more conditions: aHR=0.72, 95% CI, 0.61 to 0.85). Working-age users attending the NHS TT service with physical LTCs had reduced improvement on key service performance indicators. The results differ according to number and the type of LTC, as well as service attributes.

Biography

Alex Dregan is a Reader in Psychiatric Epidemiology at the IoPPN, King's College London. current research is concerned primarily with understanding the etiology, patterning, and management of complex mental and physical multimorbidity across the life-course. His methodological interests lies in the application of machine learning methods to extract meaningful insights from linked electronic health records with the aim to more comprehensively capture the multidimensional and transitional nature of psychiatric multimorbidity and its treatment. Dr Dregan substantive research has been supported through competitive funding from the UKRI MRC, NIHR, NIH (USA), and charitable organisations, as well as a growing network of national and international collaborators.

Alex Dregan
King's College London, UK

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E-CIGARETTES, HIGH SUGAR-SATURATED FOOD AND TOOTHBRUSHING AMONG YOUTH

Luka Simetin[1], Filip Simetin[1] and Dijana Mayer[2]
[1]*University of Zagreb, Croatia*
[2]*Croatian Institute of Public Health, Croatia*

Abstract

Use of electronic cigarettes, also known as vaping, has gained remarkable popularity globally during the last decade especially among young people. The studies suggest an association between electronic nicotine delivery systems use and increased risk of periodontal health while these findings align with previous research linking electronic nicotine delivery systems use to poor oral health. Special attention should be paid to the multiple recent (e-cigarettes and energy drinks) and long-known risks (infrequent toothbrushing, soft drinks, sweets and chocolates) for oral health which is the aim of this work.

Health Behaviour in School-aged Children survey was conducted in Croatia in 2022. It is anonymous and voluntary survey of 2579 boys and 2758 girls, age 11, 13 and 15. Pearson's Chi-square test, and binary logistic regression was conducted. Every day in the last 30 days, 0.6% of boys and 0.1% of girls age 11 smoked e-cigarettes, 2.0% of boys and 0.6% of girls age 13 and 3.9% of boys and 3.2% girls age 15; statistically significant gender difference was found at the age of 13 ($p= 0.008$) and at the age of 15 ($p=0.001$); 58,0% of boys and 72,2 of girls age 11, 53.9% of boys and 73.1% of girls age 13 and 55.3% of boys and 73.6% of girls age 15 brush teeth twice or more daily; statistically significant gender difference in toothbrushing was found in all three age groups ($p<0,001$).; 14.6% of eleven-year-old boys, 14.1% of thirteen-year-old boys, 14.0% of fifteen-year-old boys, and 11-year-old girls 10.0%, 13-year-old girls 14.5% and 15-year-old girls 11.7% consume soft drinks daily; boys drink soft drinks statistically significantly more often than girls in all three age groups ($p<0.001$); 31.6% of boys and 23.1% of girls age 11 drank energy drinks rarely or more often, 48.9% of boys and 48.8% of girls age 13 and 63.4% boys and 60% girls age 15; statistically significant difference between boys and girls was found at the age of 11 ($p<0.001$); sweets and chocolates more than once daily eat 11.0% boys and 12.3% girls age 11, 10.6% boys and 14.7% girls age 13 and 9.4% boys and 12.7% girls age 15; girls eat sweets and chocolates statistically more frequently than boys at ages 13 and 15 ($p<0.001$).

Biography

Dijana Mayer, MD, PhD, specialist in Epidemiology is Head of Department for Monitoring and Improving School and Youth Health at CIPH. She is a senior researcher in the H2020 project RECOVER-e. She also represents Croatia in WHO as a National focal point for tobacco. For the last decade she has been performing Global Health Professionals Student Survey (Centre for Disease Control and Prevention (CDC), World Health Organization (WHO)), and Global Youth Tobacco Survey (CDC/WHO), as a national coordinator. Also, as a member of the Croatian team she participates in European School Survey Project on Alcohol and Other Drugs (Council of Europe, Swedish Council for Information on Alcohol and Other Drugs (CAN), International Health Behaviour in School-aged Children (HBSC) research (WHO) and is part of the Schools for Health in Europe (SHE) Network as well as research team. As a scientist, she also publishes scientific papers. Her working languages are English and Croatian.

Dijana Mayer
Croatian Institute of Public Health, Croatia

No associations between toothbrushing and e-cigarettes as well as sweets and chocolate consumption were found in both gender, and associations between toothbrushing and soft drinks was found young girls. Compared to those who brush their teeth twice a day, boys who don't brush teeth twice a day had higher odds to drink energy drinks (OR 1,09 CI 1,01-1,17, p=0,027) and lower odds for soft drinks consumption (OR 0,93 CI 0,88-0,98, p=0,005) while girls who don't brush teeth twice a day had higher odds to drink energy drinks (OR 1,09 CI 1,01-1,19, p=0,047).

Daily vaping is a potentially very dangerous habit in early adolescence and is more common in boys than in girls. Pronounced gender differences were also found in other habits related to oral health, with a particular danger for adolescents who do not brush their teeth regularly and drink energy drinks. Gender specific preventive programs are needed which reveal the dangers of vaping and other oral health risks.

Day - 1
Oral

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INFECTION PREVENTION COOPERATION BETWEEN PUBLIC AND INSTITUTION

Marije den Drijver
Maasstad Ziekenhuis, Netherlands

Abstract

Traditionally the municipal health service is responsible for public healthcare. The infection prevention specialists do regular audits at for example tattoo parlors, brothels and ships. They work together with infectious diseases doctors to battle tuberculosis (TB) among other diseases. Hospitals are responsible for infectionprevention in hospitals, cater long-term stay facilities and some private practices. There was some overlap with TB control, but not much more. Since 2011 the cooperation intensified due to the outbreak of Klebsiella in Maastad hospital. Covid and Measles intensified the cooperation even further. How and what are the benefits?

Biography

Marije den Drijver was born on January 31st, 1975. She graduated as a microbiological analyst in 1998 and later, in 2010, completed her qualification as an infection prevention expert. Since 2003, She has been working at Maasstad Hospital in Rotterdam. In 2016, She became a member of the Healthcare-associated Infections and Antimicrobial Resistance Monitoring Group (SO-ZI/AMR).

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MET AND UNMET MENTAL HEALTH NEEDS: REAL-WORLD EPIDEMIOLOGICAL CHALLENGES AND SOLUTIONS IN ANTWERP, BELGIUM

Kris Van den Broeck[1], Marianne Destoop[1], Joris Michielsen[2] and Geert Dom[1]
[1]*University of Antwerp, Belgium*
[2]*Institute of Tropical Medicine Antwerp, Belgium*

Abstract

Mental health problems are highly prevalent, as are waiting lists for care. At the same time, both research and clinical practice show that there are many care seekers with unmet needs, and many whose needs are under met. In a context with financial constraints, public mental healthcare aims to organize care in alignment with the needs. However, in Belgium, there is currently a lack of local data on mental health needs, care usage, and associated financial aspects. This gap significantly hampers the development of effective mental health care.

Since 2019, five psychiatric hospitals in the province of Antwerp have been collaborating with the University of Antwerp to tackle this issue. Their goal is to deliver adequate, cost-effective care tailored to actual needs. To achieve this, they have been investing in both qualitative and quantitative research, as well as in an innovative database that tracks care usage. This report provides an update on the progress of the project so far.

Biography

Kris Van den Broeck is psychologist by training. His research at the University of Antwerp, Antwerp, Belgium, focuses on mental health care organization. He holds the Public Mental Health Fund, collaborating with Antwerp's mental health partners to improve care. He also teaches about mental health in the Master's program for General Practice and the Master of Epidemiology at the University of Antwerp.

In addition, Prof. Van den Broeck is content director of Psyche – a Flemish organisation that aims to reduce stigma around mental health, to support care seekers, and (mental) health professionals by providing them with good practices and adequate knowledge.

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ON THE RETROSPECTIVE ANALYSIS OF COVID-19 MACROSCOPIC EPIDEMIOLOGICAL DATA

Manuel M Graña Romay
University of the Basque Country, Spain

Abstract

The retrospective analysis of COVID-19 pandemic data at the macroscopic level offers great opportunities for the preparation of new coming pandemics in the near future. The data published in the Our World in Data Site up to the end of the pandemic declaration is an unbiased source for the retrospective analysis. Questions such as the homogeneity of the pandemic results across the world, the diffusion of the virus as a spatio-temporal process, and the diverse impact of measures on the mortality, can be examined without the pressure of the on-going pandemic. We can discuss the emergence of regional clusters of COVID-19 mortality, the spatio-temporal relation between epidemiological variables, such as the tests, the cases, the mortality and the pharmacological and non-pharmacological measures. This after-the-fact analysis can be also applied to validate and confirm the proficiency of predictive models of diverse flavours to forecast the actual evolution of the pandemic response. We are specifically interested in the mortality outcomes of the pandemic, as the least biased measure of pandemic impact. The research questions are therefore formulated as the existence of causal links between pandemic variables. The retrospective analysis should show that the pandemic response measures have produced a significant impact on the COVID-19 published mortality record. For pandemic preparedness, it is of radical importance to ensure that measures are taken and implemented at the appropriate time to prevent the most dramatic consequences of the pandemic.

Biography

Manuel M Graña Romay is full professor of Computer Science at the University of the Basque Country. He has been advisor of more than 45 PhD Thesis, co-authored more than 300 journal papers in topics related to the application of Computational Intelligence. His current interest is the analysis of the pandemic phenomena from a quantitative point of view, including predictive and retrospective analysis.

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HOW REAL-WORLD EVIDENCE ASSISTS REGULATIONS FOR CANCER DRUGS APPROVAL DECISION MAKING - A SYSTEMATIC REVIEW

Yujia Huo[1-3], Mengqi Yang[1], Yizhou Zhang[4], Zhengtong Chai[2,3], Jingjing Han[2,3] and Lin Zhang[1-3]

[1]*Monash University, Australia*
[2]*Monash University, Suzhou Campus, China*
[3]*Southeast University, China*
[4]*Tianjin University of Traditional Chinese Medicine, China*

Abstract

Background: With advancements in global pharmaceuticals, real-world evidence (RWE) serves as a vital supplement of Randomized Clinical Trials (RCT), which provides a comprehensive evidence chain that supports regulatory decisions. Understanding RWE's influence on global cancer drug approval can enhance Health Technology Assessments (HTAs) and government agency processes, improving cost-effectiveness, patient access to innovative treatments, and ultimately enhancing cancer patients' quality of life and survival rates.

Methods: A systematic review protocol was submitted to the PROSPERO (registration number CRD42023427677). Previous studies were searched on multiple databases: PubMed, Embase, and Web of Science, with a focus on all relevant journal articles that reported application and explanation between cancer drugs approval and RWE application published from 1980 up to 16th November 2024.

The Eligibility Criteria: Studies were eligible for inclusion if they were: 1) studies that investigated the association between cancer drugs approval decision and RWE application; 2) written in English language; and 3) peer-reviewed original research articles. Studies were excluded if they: 1) were reviews, editorials, case reports, or guideline articles; 2) did not clearly define RWE and cancer drugs approval results; and 3) studied pharmacology. If data sources were duplicated in more than one study, only the most recent study was included in this systematic review.

Data Extraction: The following data were extracted from each study: name of the journal, title, first author, year of publication, data collection period, type of study, country/region, data selection type, regulation body, funding body/agent, HTA applied status, approval result, RWE promotion action and functions of RWE in approval.

Biography

Yujia Huo received a master's degree in medical law from the University of Liverpool, England, in 2017. Since 2020, she has worked as the Vice President and Director of the President's Office at the Monash Suzhou and Monash Research Institute of Science and Technology, Suzhou, Jiangsu, China. She is committed to research & technology transforming development, high-level education, and postgraduate level and above talent training in China and Australia. She has successfully led a campus team to establish a world-leading research platform. She has published four articles in international SCI journals. As a Co-PI and CI, she has successfully won 3 competitive grants at the municipal and county levels. She also has rich management experience in industry-academia research and offshore universities, as well as rich experience in China-Australia cooperation and enterprise of various types. Her research interests encompass the UK National Health Service, clinical practice, global health technology assessment, real-world studies, cancer medication, regulatory policies, neoplastic hematologic disorders, and ethics governance.

Result: After screening the search results, 41 articles were eligible for inclusion. The United States and Europe lead in integrating Real-World Evidence (RWE) into regulatory processes for cancer therapeutics approval. The USA's 21st Century Cures Act, enacted on 13 December 2016, promotes RWE application by the FDA. Between 2018 and 2021, 17 of 69 oncology drugs approved by the FDA utilized RWE. The EMA mirrored this trend, approving 18 of 113 cancer drugs with RWE in the same period. However, access to EMA-approved innovative drugs varies among EU member states due to economic disparities. Canada has also embraced RWE. Qatar allows the use of FDA and EMA-approved cancer drugs to meet domestic needs. In Asia, RWE is not yet widely adopted in the pre-market phase but is being utilized in post-market reimbursement. Hematologic cancer drugs demonstrate a strong inclination toward RWE for regulatory approval. A forthcoming meta-analysis will study RWE's influence on Hematologic cancer drug approval, aiming to provide insights for RWE in decision-making processes [**Figure 1 & 2**].

Conclusion: Currently, RWE shows potential to be included in the evidence package that supports global regulatory decisions regarding cancer drug approvals. However, there is a global imbalance in this practice. US and Europe are in leading positions, while North America and some wealthy regions closely follow their HTAs and approval decisions. Asian countries and regions, except for Boao Hainan in China mainly use RWE for reimbursement systems.

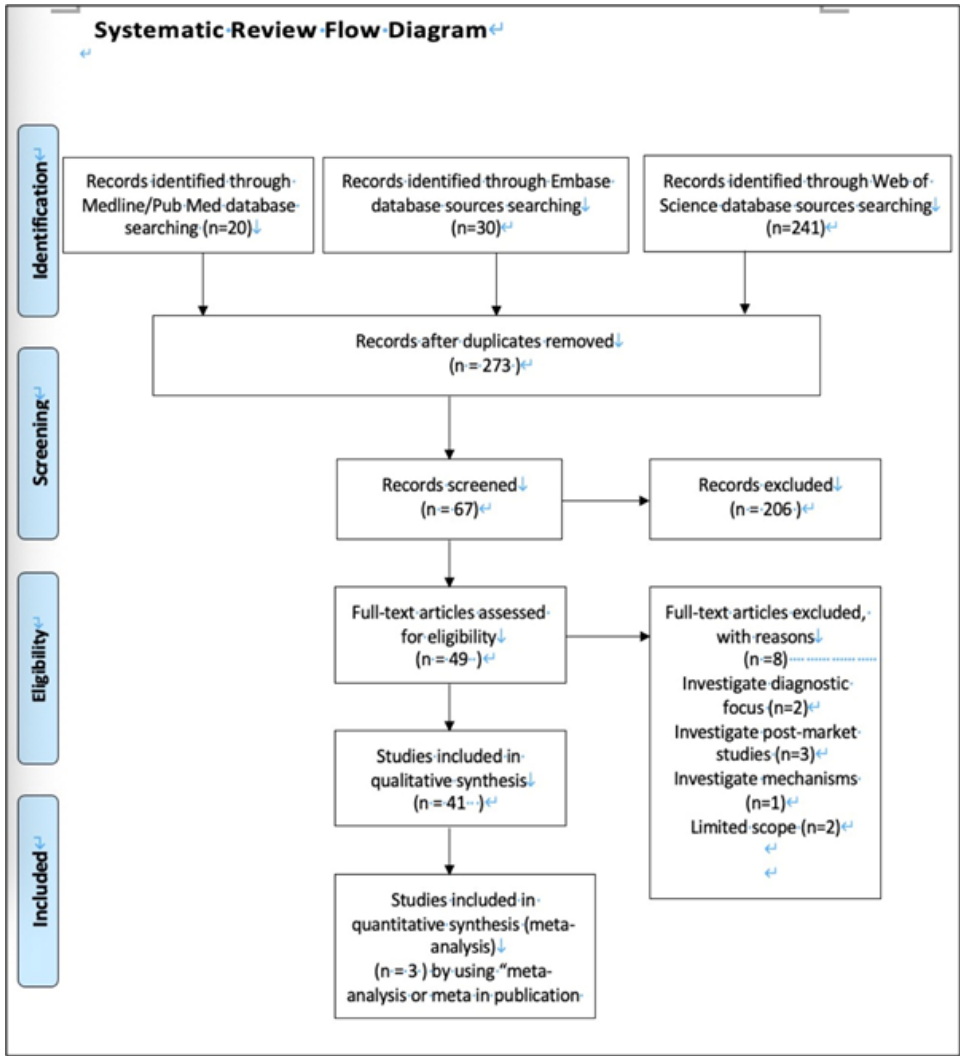

Figure 1: Systematic Review Flow Diagram

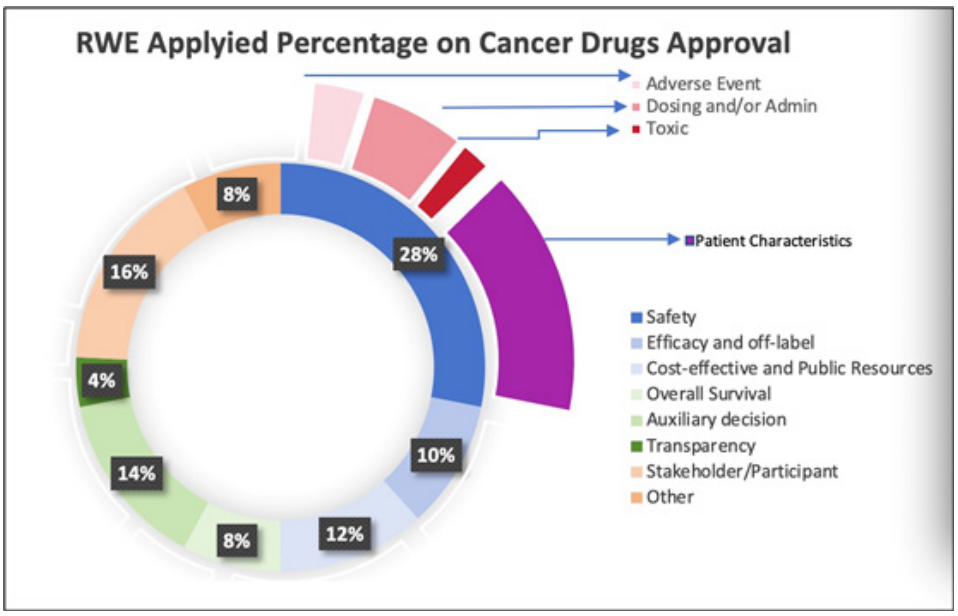

Figure 2: RWE Applied Percentage on Cancer Drug Approval

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WELLBEING DETERMINANTS AMONG LGBTQIA+ ADULTS: A SYSTEMATIC REVIEW

Graça Andrade[1], Ana Grilo[2], Teresa Tomás[1], Marina Almeida-Silva[1], Caetana Poole da Costa[3] and Maria Lemos[1]

[1]Instituto Politécnico de Lisboa, Portugal
[2]Alameda da Universidade, Portugal
[3]Unidade Local de Saúde de Lisboa Ocidental, Portugal

Abstract

Introduction: Well-being is a multidimensional concept encompassing physical, psychological, and social health (WHO, 2004). Research shows that LGBTQIA+ individuals experience significant disparities in health and well-being compared to their heterosexual and cisgender counterparts. This systematic review synthesizes the existing literature on the determinants of well-being among LGBTQIA+ individuals, adopting a framework that includes social, behavioral, psychological, and structural factors. Specifically, this review aims to (1) identify key health determinants associated with the psychological well-being of LGBTQIA+ adults and (2) analyze how these determinants influence their psychological well-being.

Methods: The systematic review was conducted in accordance with PRISMA guidelines. Searches were performed in July 2024 across six electronic databases: Europe PMC, PubMed, Web of Science, CINAHL, PsycINFO, and Scopus. Keywords and inclusion/exclusion criteria were established based on the PEO approach. The quality of the included studies was assessed using the JBI Critical Appraisal Tool.

Results: The 14 studies selected were published between 2012 and 2023 and conducted in the USA, Australia, Canada, Italy, and Portugal. These studies encompassed 19,579 individuals representing a diverse range of sexual orientation and gender minority groups. The measurement instruments varied considerably, ranging from fully validated questionnaires to author- developed items.

Six key determinants were identified: discrimination, social support, self-stigma, affirmation, self-esteem, and faith. Specifically, discrimination and self-stigma were found to negatively impact well-being. Conversely, social support, affirmation, self-esteem, and faith were positively associated with well-being; however, further research is needed to understand the role of self- esteem and faith in this context.

Biography

Graça Andrade holds a PhD in Psychology from the University of Lisbon, with a specialization in Health Psychology. She was Vice-President of the Lisbon School of Technology, where she is currently a faculty member. She was also a member of the technical committee of the National Program for the Promotion of Mental Health in Higher Education Students. She is an active member of several international psychology organizations, has numerous scientific publications, and she is an editorial team member and a peer reviewer for national and international scientific journals.

Conclusion: This review's findings enhance the understanding of well-being among LGBTQIA+ populations by elucidating the interplay between risk factors (such as discrimination and self- stigma) and protective factors (such as social support, affirmation, self-esteem, and faith). These results have important implications for public health interventions and policy reforms to reduce stigma and strengthen support networks.

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"BETTER THAN HUMAN – UNTIL YOU KNOW IT'S ARTIFICIAL?" PERCEIVED CREDIBILITY OF PSYCHOLOGICAL ADVICE FROM AI AND HUMANS: THE ROLE OF SOURCE DISCLOSURE

Magdalena Kazimierska-Zając
Wroclaw Medical University, Poland

Abstract

Artificial intelligence (AI)-based tools are gaining increasing popularity in various areas of life, including psychological counseling. Many individuals now seek information and advice regarding their mental and physical health independently, using online resources. This trend may stem from limited access to mental health professionals as well as concerns about disclosing psychological issues. Consequently, it is important to analyze the quality of AI-generated responses and compare them with those provided by qualified professionals.

The aim of the study was to compare the quality of psychological advice provided by AI and by professionals, as perceived by internet users. Additionally, the study examined the impact of disclosing the authorship of the responses (AI *vs*. psychologist) on their evaluation. Participants were asked to assess answers generated by both artificial intelligence and psychologists according to predefined criteria.

Results and conclusions are AI-generated responses were rated highly by study participants often on par with, and in some cases even better than, those provided by professionals. A key variable influencing evaluations was awareness of the authorship of the response. The findings suggest the presence of bias against artificial intelligence. Although other factors were less significant, individuals with high emotional stability were more likely to perceive AI as a credible and helpful source of psychological support. After the authorship was revealed, men evaluated AI more favorably than women, which may reflect differing expectations or attitudes toward artificial intelligence depending on gender.

The findings highlight the potential of AI-based tools in the field of psychological counseling. Such solutions may serve as valuable support in the work of mental health professionals. At the same time, there is a clear need for further research on the factors shaping the reception and effectiveness of AI-generated advice, as well as on the broader opportunities and limitations of using AI in psychological practice.

Biography

Magdalena Kazimierska-Zając is a philologist, psychologist, and clinical speech therapist specializing in neurologopedics. She is professionally affiliated with the Wroclaw Medical University, where she explores how technology – especially artificial intelligence and virtual reality – can support human well-being and everyday functioning.

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UNDERSTANDING MENTAL HEALTH IN CRISIS: KEY DETERMINANTS OF PSYCHOLOGICAL DISTRESS IN BELGIUM DURING THE COVID-19 LOCKDOWN

Zita Zsabokorszky[1], Koen Pepermans[2], Kris Van den Broeck[2], Philippe Beutels[2] and Niel Hens[1,2]

[1]*Hasselt University, Belgium*
[2]*University of Antwerp, Belgium*

Abstract

Background/Objectives: The COVID-19 pandemic significantly impacted global mental health, with the World Health Organization (WHO) reporting a 25% increase in depression and anxiety by 2022. This study aims to identify the determinants of psychological distress in Belgium as observed at the onset of the national lockdown in March 2020.

Methods: Data were drawn from the second wave of the Great Corona Study (GCS), which was conducted on 17th March 2020 and retrieved information from 332,169 respondents. The GCS was a recurrent non-probabilistic, observational survey, which collected numerous socio-demographic, economic, health, mental wellbeing and behavioral data. We used the General Health Questionnaire-12 (GHQ-12) as a binary outcome of interest, defining high psychological distress at a cutoff GHQ-12 score of 2 or 3. A random forest method was used to identify 16 potential predictors of psychological distress. A generalized additive model (gamlss) in R was then applied for model selection, refining the final model to 14 predictors.

Results: High distress levels were significantly associated with female gender, younger age, regional residence, specific household compositions, higher education, low in-person social interactions, and belonging to specific occupational groups (e.g., students, teachers, healthcare workers, part-time workers, and the unemployed). Reporting influenza-like or COVID-19 symptoms also increased distress likelihood. Conversely, perceiving strong adherence to COVID-19 safety measures, living with 4-5 cohabitants, living without children, and being retired were associated with lower distress levels.

Conclusion: These findings align with previously published research on age, gender, and occupational impacts, and - owing to the breadth of predictor variables analyzed - highlight additional risk factors such as perceived safety at public spaces. The timely data collection provides unique insights into the immediate

Biography

Zita Zsabokorszky is a second-year doctoral researcher pursuing a joint PhD between Hasselt University and the University of Antwerp. She holds master's degrees in Psychology from Károli Gáspár University of the Reformed Church in Hungary and in Global Health from Ghent University. Her research focuses on the social determinants of health, particularly addressing the state of mental health during the COVID-19 pandemic. Zita has a special interest in biostatistics and pandemic preparedness, and aims to bridge the gap between research and policy to enhance evidence-based decision-making. She is passionate about applying interdisciplinary approaches to public health research.

psychological effects of limited social interaction and occupational risks, offering valuable guidance for mental health interventions in future crises, and new directions for further research.

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SUBSTANCE USE BY STUDENTS INVOLVED IN PHYSICAL FIGHT

Luka Simetin[1], Filip Simetin[1] and Dijana Mayer[2]
[1]*University of Zagreb, Croatia*
[2]*Croatian Institute of Public Health, Croatia*

Abstract

Background and Aim: Fighting can cause severe injury and death. The aim is to determine the role of students' substance use in fighting.

Methods: Data from the 2022 Health Behaviour in School-aged Children, Croatian sample, anonymous and voluntary survey of 2579 boys and 2759 girls age 11, 13 and 15; Pearson's Chi-square and binary logistic regression.

Results: Involved in fighting in last 12 months were 42,8% boys and 25,2% girls age 11 (p<0,001), 44,8% boys and 23,0% girls age 13 (p<0,001), and 34,6% boys and 18,3% girls age 15 (p<0,001). Compared to students never involved in fighting, adjusted by age, students involved in fighting had higher adds for drunkenness (boys 11: OR 1,54, CI 1,09-2,18, p=0,015; boys age 13: OR 1,54, CI 1,09-2,18, p=0,015; boys age 15: OR 2,44, CI 1,24-4,80, p=0,010; girls 11: OR 2,44, CI 1,24-4,80, p=0,010; girls 13: OR 1,58, CI 1,24-2,05, p<0,001; girls 15: OR 1,38, CI 1,18-1,61, p<0,001) and energy drinks consumption (boys 11: OR 1,18, CI 1,03-1,34, p =0,018; boys 13: OR 1,18, CI 1,03-1,34, p =0,018; boys 15: OR 1,38, CI 1,16-1,65, p<0,00; girls 11: OR 1,38, CI 1,16-1,65, p<0,001; girls 13: OR 1,30, CI 1,12-1,50, p=0,001; girls 15: OR 1,17, CI 1,01-1,34, p=0,036). Boys had higher odds for e-cigarettes at age 13 (OR 1,34, CI 1,11-1,61, p =0,002), and cigarettes at age 15 (OR 1,12, CI 1,01-1,23, p =0,036). No associations to cannabis.

Conclusion: Substance use, namely drunkenness and energy drink, increases risk of students' fighting.

Biography

Dijana Mayer, MD, PhD, specialist in Epidemiology is Head of Department for Monitoring and Improving School and Youth Health at CIPH. She is a senior researcher in the H2020 project RECOVER-e. She also represents Croatia in WHO as a National focal point for tobacco. For the last decade she has been performing Global Health Professionals Student Survey (Centre for Disease Control and Prevention (CDC), World Health Organization (WHO)), and Global Youth Tobacco Survey (CDC/WHO), as a national coordinator. Also, as a member of the Croatian team she participates in European School Survey Project on Alcohol and Other Drugs (Council of Europe, Swedish Council for Information on Alcohol and Other Drugs (CAN), International Health Behaviour in School-aged Children (HBSC) research (WHO) and is part of the Schools for Health in Europe (SHE) Network as well as research team. As a scientist, she also publishes scientific papers. Her working languages are English and Croatian.

Day - 1
Poster

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POLYSACCHARIDE-BASED MATERIAL ENHANCED WITH HEMP EXTRACT FOR ANTIMICROBIAL WOUND HEALING

Dorota Chelminiak-Dudkiewicz[1], Miloslav Machacek[2], Jolanta Dlugaszewska[3], Kinga Mylkie[1], Aleksander Smolarkiewicz-Wyczachowski[1] and Marta Ziegler-Borowska[1]

[1]Nicolaus Copernicus University in Torun, Poland
[2]Charles University in Prague, Czech Republic
[3]Poznan University of Medical Sciences, Poland

Abstract

The rising prevalence of patients with chronic wounds has significantly stimulated research into the development of natural wound dressings characterized by enhanced properties. In the present study, we successfully fabricated polysaccharide-based materials utilizing chitosan and kefiran, strategically incorporating hemp extract to augment their biological efficacy. The materials were characterized through a range of advanced techniques, including FTIR-ATR, AFM, SEM, and thermal analysis. These analyses provided comprehensive insights into the structural and thermal properties of the films, confirming their integrity and stability. Additionally, evaluations of mechanical properties, swelling rate, and water vapor permeability underscored their suitability for application as wound dressings.

Biocompatibility assessments were conducted via in vitro experiments utilizing MRC-5 fibroblasts and erythrocytes, demonstrating that the films possess non-toxic and non-hemolytic characteristics. Notably, the materials exhibited significant antimicrobial activity against critical pathogens such as Pseudomonas aeruginosa, Staphylococcus aureus, and Candida albicans, commonly associated with wound infections. Furthermore, the films displayed antioxidant and anti-inflammatory properties and the ability to bind serum proteins—factors essential for promoting effective wound healing. These findings indicate that the developed polysaccharide-based materials infused with hemp extract possess considerable potential as antimicrobial and non-toxic wound dressings for practical clinical applications.

This work was supported by the National Science Centre Poland grant UMO-2022/47/D/NZ7/01821.

Biography

Dorota Chelminiak-Dudkiewicz is an esteemed Assistant Professor at Nicolaus Copernicus University in Toruń, Poland, within the Department of Biomedical Chemistry and Polymers. I defended my doctoral thesis with distinction in 2017. My academic journey is characterized by a profound commitment to developing advanced materials for medical applications, particularly wound care.

Currently, I serve as the Grant Manager for the ongoing project titled "The Advanced Novel Materials for Effective Bleeding and Antimicrobial Control in TCCC (Tactical Combat Casualty Care) and Medical Emergency Applications," funded by the National Science Center (NSC) Poland under the SONATA 18 grant (UMO-2022/47/D/NZ7/01821) from 2023 to 2026. This project aims to innovate materials that significantly enhance patient outcomes in emergency medical situations. Previously, I have successfully managed several notable research grants, including Preludium 10 (manager), Sonata 8 (investigator), and Opus 7 (investigator).

I received the Polish Minister of Science and Higher Education Scholarship for doctoral achievements in December 2016 and the Prof. Henryk Struszczyk Award in September 2019 for excellence in chitin and its derivatives research. My commitment to sharing knowledge has been acknowledged through multiple awards for outstanding presentations and posters at national and international conferences. My research interests encompass the modification of polysaccharides, the design of materials for wound dressing, and the development of nanomaterials for medicinal chemistry and anticancer therapies. My achievements include 30 publications, two national patents, and 2 European patent applications. Privately, I am a happy wife and mother of two wonderful children.

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EFFECTS OF REGULAR PHYSICAL EXERCISE ON FALL PREVENTION AMONG THE ELDERLY: A MULTIDIMENSIONAL APPROACH

Marília Salete Tavares[1], Sara Lucia Silveira de Menezes[1], Daniel Joppert[1], Paulo Henrique de Moura[2], Jorge Ferreira da Silva Júnior[2] and Adalgiza Mafra Moreno[2]

[1]Salgado de Oliveira University, Brazil
[2]Iguaçu University, Brazil

Abstract

Introduction: Falls among the elderly constitute a global health challenge, with millions of severe cases and over 600,000 deaths recorded annually. In Brazil, around 30% of the elderly experience falls each year.

Objective: To evaluate motor and non-motor factors associated with the risk of falls in the elderly.

Methods: This observational, cross- sectional study was approved by the Research Ethics Committee through the Plataforma Brasil system, CAAE: 67496423.6.0000.8044. The assessments were conducted at the Exercise Physiology Laboratory of the PPGCAF at Salgado de Oliveira University. The sample consisted of 48 volunteers, 24 (69±4 years) participants in the 60Up physical exercise program (G60UP), developed by the Niterói City Hall, RJ, while the remaining 24 (71±6 years) were sedentary and comprised the control group (CG). All participants signed the Informed Consent Form. The assessments included anamnesis, motor factors (Orthostatic Test, Timed Up and Go Test (TUG), and Tinetti Index for Gait and Balance) and non-motor factors (Pittsburgh Sleep Quality Index (PSQI), Mini-Mental State Examination (MMSE), and polypharmacy).

Results: The data indicate a determination coefficient (R^2=0.285), revealing that 28.5% of falls can be explained by the Tinetti Index results. Better performances in the Tinetti Index (R=0.534), shorter time in the TUG test (R=0.474) and better cognitive capacity, measured by the MMSE (R=- 0.45), are associated with a reduction in the number of falls. Additionally, polypharmacy and poor sleep quality are associated with a higher incidence of falls, with correlation coefficients of R=0.67 and R=0.336, respectively. However, there was no significant difference between the groups in anthropometric measurements, orthostatic test and body composition. It was observed that regular physical activity is associated with a lower number of falls ($p<0.05$), shorter TUG test

Biography

Marília Salete Tavares is a Master's student in Physical Activity Sciences at Salgado de Oliveira University (UNIVERSO). Postgraduate in Ergonomics from Estácio de Sá University in Rio de Janeiro. Bachelor's degree in Physiotherapy from Iguaçu University - UNIG, located in Nova Iguaçu, Brazil. Currently conducting research focused on the study of physical and psychosocial determinants of physical activity levels, concentrating on the analysis of the influence of various indicators, including anthropometry, cardiorespiratory capacity, mental health, psychological and social aspects, which can have a significant impact on physical activity behavior.

time ($p<0.05$), better scores in the Tinetti Index ($p<0.05$) and MMSE ($p<0.05$), better sleep quality ($p<0.05$) and lower use of medications ($p<0.05$).

Conclusion: The analyzed data suggest that motor factors, such as better performance in the Tinetti Index and shorter time in the TUG test, are significantly correlated with a reduction in the number of falls. On the other hand, non- motor factors, such as polypharmacy, poor sleep quality and lower cognitive capacity measured by the MMSE, are associated with an increase in the incidence of falls. Additionally, the lower number of falls is associated with regular physical activity. Therefore, promoting regular physical activities, monitoring cognitive health and carefully managing medication and sleep quality can be effective approaches in fall prevention among the elderly. Future studies with larger samples and longitudinal follow-up are recommended to confirm these findings.

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ASSESSMENT OF KEY APPROACHES TO THE HYGIENIC REGULATION OF BIOCIDAL PRODUCTS FOR WATER TREATMENT IN UKRAINE

Sergii Garkavyi, Olesia Zorina and Vadym Galaguz
Marzieiev Institute for Public Health of the National Academy of Medical Sciences of Ukraine, Ukraine

Abstract

Introduction: Ensuring the safety of drinking water requires effective treatment with biocidal agents, selected based on water composition, treatment conditions, required efficacy, potential formation of disinfection by-products (DBPs), and economic feasibility. From a public health perspective, priority should be given to advancing scientific research on the application of algaecides in open water bodies and swimming pools, as well as disinfectants for potable water systems.

In most European Union (EU) countries, drinking water is primarily disinfected using chlorine-based methods, including chlorine gas and sodium hypochlorite, either alone or in combination with ozone, ultraviolet (UV) irradiation, potassium permanganate, or ultrafiltration. Alternatives include chloramination and chlorine dioxide treatment. Chlorine dioxide demonstrates superior bactericidal, virucidal, and protozoacidal activity compared to chlorine; however, its use is limited by the formation of toxic chlorite and chlorate by-products, necessitating specialized mitigation strategies when exceeding regulatory limits. This study evaluates key approaches to the hygienic regulation of biocidal water treatment products, with a focus on chlorine dioxide as an emerging disinfectant.

Methods: The study employs comparative analysis, analytical methodologies, chemical and microbiological assessments.

Results: Unlike Ukraine, where the evaluation of biocidal products (e.g., algaecides, disinfectants) relies on hygienic assessment and production trials, EU countries require a more rigorous evaluation framework. This includes laboratory-based studies examining composition, physicochemical properties, and efficacy based on standardized methodologies. In Ukraine, disinfectants for potable water are currently assessed only through production trials, which involve monitoring microbiological parameters, residual disinfectant concentrations, and DBPs.

Between 2021 and 2023, research conducted at the Dnipro Water Treatment Plant in Kyiv, Ukraine, assessed the impact of a new disinfection approach introduced in 2020. This method

Biography

Sergii Garkavyi, MD, PhD, Associate Professor, head of the Laboratory of Laboratory of Biocides and Toxicology (ORCID: https://orcid.org/0000-0001-7344-1980). He is born in Kyiv Ukraine (1984). Graduated with Honors from Bogomolets Medical University (Kyiv, Ukraine) in 2006 (MD), Studied at Aristotle University of Thessaloniki (Thessaloniki, Greece) (2008-2011) as part of PhD course and Lund University (PhD Summer course, 2008). Defended PhD Thesis at Bogomolets Medical University (2012) (Kyiv, Ukraine). Work experience: Head of Laboratory of Biocides and Toxicology at State Institution "Marzieiev Institute for Public Health (IPH) of the National Academy of Medical Sciences of Ukraine", Kyiv, Ukraine (July 2024 – present); Manager II, Clinical Operations at Fortrea (formerly LabCorp), Kyiv, Ukraine (Dec 2020 – present) – Sr. Laboratory Assistant to Associate Professor at Bogomolets National Medical University, Kyiv, Ukraine – (August 2006 – December 2020).

incorporated dual chlorine dioxide treatment, aluminum sulfate coagulation, iron (II) chloride for chlorite minimization, and supplemental sodium hypochlorite during warmer months. The implementation of this strategy enabled the discontinuation of pre-ammonized chlorine gas disinfection, resulting in improved drinking water quality, particularly by reducing trihalomethane concentrations. Mathematical modeling of chlorite formation indicated that the risk of exceeding permissible chlorite concentrations in the Dnipro distribution network remains at the maximum acceptable level (≤1.0) when the total chlorine dioxide dose does not exceed 3.5 mg/L and the chlorite limit is ≤0.2 mg/L (per Ukrainian regulations). If the chlorite limit is increased to ≤0.7 mg/L, in accordance with EU standards, the risk of excessive chlorite formation decreases significantly (to 0.4). These findings highlight the necessity for optimized industrial testing of biocidal products to determine safe and effective application conditions.

Discussion: This study systematically identifies challenges in adopting EU-aligned hygienic regulations for biocidal water treatment products in Ukraine. The results provide a basis for policy recommendations aimed at bridging regulatory gaps and enhancing drinking water safety.

Conclusion: Modernizing Ukraine's legislative framework for biocidal product registration in alignment with EU practices is critical. Stricter composition and efficacy standards, coupled with the adoption of advanced water treatment technologies, will mitigate microbiological risks and improve public health outcomes.

Day - 1
Video Presentation

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LIFESTYLE MEDICINE ENABLING TECHNOLOGIES AND PUBLIC HEALTH

David John Wortley
International Society of Digital Medicine, UK

Abstract

Lifestyle medicine, focusing on the prevention and treatment of chronic diseases through evidence-based lifestyle interventions, is emerging as a critical component of modern public health. As the global burden of non-communicable diseases (NCDs) such as cardiovascular disease, diabetes, and obesity continues to rise, enabling technologies are playing a pivotal role in transforming how lifestyle interventions are delivered, monitored, and optimized.

This presentation explores the intersection of lifestyle medicine and enabling technologies ranging from digital health platforms, wearable devices, and mobile health applications to artificial intelligence (AI), telemedicine, and genomics. These technologies empower individuals and healthcare providers by facilitating personalized care, promoting sustainable behaviour change, and enhancing health outcomes. From AI-driven predictive analytics that assess disease risk to mobile apps that guide healthy eating, exercise, and mental well-being, lifestyle medicine technologies have the potential to scale preventive care globally.

Moreover, the integration of lifestyle medicine into public health frameworks can help address health disparities by making lifestyle interventions more accessible to underserved populations. Enabling technologies can bridge gaps in access to healthcare, particularly in remote or resource-limited settings, by offering scalable, cost-effective solutions. This synergy between lifestyle medicine and technology can also support public health campaigns aimed at reducing NCDs, improving mental health, and promoting healthier communities.

This presentation invites delegates to explore cutting-edge technologies that are revolutionizing the field of lifestyle medicine and public health. Through collaboration, research, and discussion, we aim to identify innovative strategies for integrating these tools into healthcare systems worldwide, ultimately empowering individuals to take control of their health and promoting long-term population-level wellness.

Biography

David John Wortley is CEO & Founder of 360 in 360 Immersive Experiences and a VP of the International Society of Digital Medicine (ISDM). He is a Fellow of the Royal Society of Arts and Commerce and a global thought leader and innovator on enabling technologies for health, education and the environment. He is on the editorial board of the Digital Medicine Journal. He is an Associate Member of the Royal Society of Medicine and a Visiting Fellow at the Faculty of Health and Social Sciences at Bournemouth University.

Day - 2
Keynote

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INFECTION PREVENTION IN THE NETHERLANDS

Marije den Drijver
Maasstad Ziekenhuis, Netherlands

Abstract

History of Infection prevention in the Netherlands.

The Netherlands have one of the lowest percentages of antimicrobial resistance in Europe.

How is that accomplished?

Among other measures

- Vocational education
- The implantation of a nationwide surveillance program for MRSA en CPE
- The implantation of local networks for surveillance of MRSA, CPE en infectious diseases

Biography

Marije den Drijver was born on January 31st, 1975. She graduated as a microbiological analyst in 1998 and later, in 2010, completed her qualification as an infection prevention expert. Since 2003, She has been working at Maasstad Hospital in Rotterdam. In 2016, She became a member of the Healthcare-associated Infections and Antimicrobial Resistance Monitoring Group (SO-ZI/AMR).

Marije den Drijver
Maasstad Ziekenhuis, Netherlands

Day - 2
Oral

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ASSOCIATIONS BETWEEN FOOD CONTAMINANTS EXPOSURE AND PUBERTAL DEVELOPMENT

Sofia Almeida Costa, Milton Severo, Catarina Campos Silva, Carla Lopes and Duarte Torres
Universidade do Porto, Portugal

Abstract

Endocrine-disrupting compounds, such as acrylamide (AA) and bisphenol A (BPA), are external substances usually found in air, water, food and other consumer products that may influence puberty timing onset.

This study aims to assess the association of food contaminants exposure, namely AA and BPA, individually and combined, on pubertal development in children and adolescents aged 4 to 13.

Data from four waves of the Portuguese population-based birth cohort Generation XXI was used (n = 5279). Dietary information was gathered through 3-day food diaries and categorised using the FoodEx2 classification system. Daily dietary AA exposure was estimated by merging food consumption with occurrence data from EFSA's publication. Daily BPA exposure was estimated using a random forest model that integrated food consumption data with urinary BPA levels. Linear regression models were used to test the associations between exposure to food contaminants (individually and combined), and pubertal development. Two models were performed: Model 1 adjusted for the exact participants' age, maternal age, maternal education, and the practice of leisure physical activity, and Model 2 adjusted for Model 1 plus total energy intake.

The median dietary exposure is higher in boys for both AA and BPA, decreasing with age in both sexes. After adjusting for all confounders (model 2), a significant negative association was found between individual AA exposure at 7 years (-0.007 (95% CI: -0.013, -0.002)), 10 years (-0.006 (95% CI: -0.010, -0.003)) and 13 years (-0.005 (95% CI: -0.009, -0.001)) and the pubertal development global score in girls, and a significant positive association for individual AA exposure at 13-years (0.003 (95% CI: 0.000, 0.007)) in boys. A significant positive association between BPA exposure at 10 and 13 years and a higher pubertal development global score was only found in boys. Testing the combined exposure did not significantly change the results observed for the individual exposure to each food contaminant, except for the AA association in boys that lost their significance.

Biography

Sofia Almeida Costa, graduated in Nutrition Sciences at the Faculty of Nutrition and Food Sciences of University of Porto, in 2015. Sofia was a research fellow in the project "FOCAcCIa - Food Contaminants Adiposity Cognitive - Exposure to food additives and contaminants from food processing and packaging: Defining patterns and their effects on adiposity and cognitive function from childhood to adolescence".
Currently she is integrated in Food Consumption & Sustainability Lab (Institute of Public Health of University of Porto), and is also a PhD student in Public Health (Faculty of Medicine of University of Porto), with an individual research project funded by the Fundação para a Ciência e Tecnologia (UI/BD/150785/2020). ORCID: 0000-0001-5347-0426 and Ciencia ID: D31C-3D42-3114.

Childhood and adolescent exposure to AA and BPA was associated with impaired timing of puberty onset, representing a relevant public health concern.

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INFERRING THE EFFECTIVENESS OF NON-PHARMACEUTICAL INTERVENTIONS AGAINST COVID-19

Hiroshi Nishiura
Kyoto University, Japan

Abstract

Various pharmaceutical and non-pharmaceutical interventions were carried out during the course of COVID-19 pandemic, and inferring the effectiveness in real time has constituted a pressing public health research question. Nevertheless, estimating the population impact of the intervention (e.g. self-restraint contact, vaccination, mask wearing) has not been simple, because unlike individual efficacy that can be estimated from randomized controlled trials, the indirect effect of interventions has not been negligible and, in fact, contact patterns play a key role in characterizing the transmission. Here I introduce the use of counterfactual reproduction number which incorporates counterfactual situations into the decomposed components of the effective reproduction number. Applying the concept to epidemiological evaluation of the state of emergency declaration, vaccination and mask wearing, it is shown that each intervention effort had an immense impact. The proposed concept can be applied to evaluating other existing public health interventions, e.g. routine vaccination program against vaccine-preventable diseases.

Biography

Hiroshi Nishiura is the professor of infectious disease epidemiology at Kyoto University School of Public Health and Center for Health Security. Professor Nishiura is cosmopolitan-minded, having worked for 10 years for different infectious disease modeling groups at Imperial College London, University of Tuebingen (Germany), University of Utrecht (The Netherlands) and the University of Hong Kong, before returning back to Japan in 2013. His research interests span the areas of statistical epidemiology of infectious diseases, epidemiological modeling and biomathematical formulation of the transmission dynamics of infectious diseases. He aims to answer policy-relevant questions by integrating various mathematical models with empirically observed data.

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DEVELOPMENT OF AN IOT-ENABLED CLOSED-LOOP INTELLIGENT COMMUNITY HEALTHCARE SYSTEM INTEGRATING REAL-TIME BIOSENSING AND AUTOMATED THERAPY

Yujia Huo[1,2], Leifeng[1,2], Yuzhou Wu[1,2], Linzhang[1,2] and Minsu Liu[1,2]
[1]Monash University, Australia
[2]Monash University, Suzhou Campus, China

Abstract

Background: Traditional medical care models face limitations in accessibility, early disease detection, and continuous patient engagement. To address these gaps, this project aims to develop an Internet of Things (IoT)--enabled closed-loop intelligent community healthcare system integrating advanced biosensors, automated drug delivery, and digital health management.

Methods: The system design encompasses a new generation of physiological monitoring devices embedded with real-time cardiovascular, biochemical, and vital sign sensors. It incorporates non-invasive microneedle-based biosensing and intelligent drug delivery technologies. A centralized cloud platform was built to aggregate and analyze health data using AI-driven algorithms, enabling real-time clinical alerts and personalized treatment recommendations. Furthermore, a data service model was established to serve healthcare institutions, insurers, and pharmaceutical enterprises through customized software-as-a-service (SaaS) offerings and digital twin models for disease management.

Result: Initial prototype testing demonstrated high precision in detecting vital health indicators including heart rate, blood oxygen saturation, and glucose levels, with near-zero error rates. The microneedle biosensors enabled painless, continuous sampling, significantly improving patient compliance. AI-based analysis models successfully predicted early warning signs of cardiovascular events and metabolic disorders. Integrating local healthcare infrastructure enabled pre-screening, diagnosis, treatment, and disease surveillance in a closed-loop ecosystem. This model has been practiced in Taizhou and Suzhou areas. Strategic partnerships with leading enterprises like Lepu and Mindray facilitated rapid commercialization and system validation.

Conclusion: This project offers a transformative approach to community health management by combining intelligent monitoring, automated therapy, and digital service delivery. It bridges the gap between home-based care and institutional healthcare, enabling a scalable, sustainable, and patient-centric model.

Biography

Yujia Huo received a master's degree in medical law from the University of Liverpool, England, in 2017. Since 2020, she has worked as the Vice President and Director of the President's Office at the Monash Suzhou and Monash Research Institute of Science and Technology, Suzhou, Jiangsu, China. She is committed to research & technology transforming development, high-level education, and postgraduate level and above talent training in China and Australia. She has successfully led a campus team to establish a world-leading research platform. She has published 7 articles in international SCI journals. As a Co-PI and CI, she has successfully won 5 competitive grants at the county, municipal and provincial levels. She also has rich management experience in industry-academia research and offshore universities, as well as rich experience in China-Australia cooperation and enterprise of various types. Her research interests encompass the UK National Health Service, clinical practice, global health technology assessment, real-world studies, cancer medication, regulatory policies, neoplastic hematologic disorders, and ethics governance and other unsolved global public health issues.

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PAEDIATRIC DIETARY INFLAMMATORY POTENTIAL: EXPLORING THE INDEX'S PERFORMANCE INCLUDING SPECIFIC FOOD PARAMETERS

Sofia Martins[1-3], Catarina Campos Silva[3], Milton Severo[1,2,4], Sofia Almeida Costa[1,2], Carla Lopes[1-3], Catarina Carvalho[1,2,5] and Duarte Torres[1,2,5]

[1]Instituto de Saúde Pública da Universidade do Porto, Portugal
[2]Laboratório para a Investigação Integrativa e Translacional em Saúde Populacional (ITR), Portugal
[3]Faculdade de Medicina da Universidade do Porto, Portugal
[4]Instituto de Ciências Biomédicas Abel Salazar da Universidade do Porto, Portugal
[5]Faculdade de Ciências da Nutrição e Alimentação da Universidade do Porto, Portugal

Abstract

Purpose: The Children's Dietary Inflammatory Index (C-DII) is a reference tool used to classify children's diets as pro- or anti-inflammatory (higher values relate to more pro-inflammatory diets). This index includes a smaller set of food parameters (FP) compared to the DII previously designed for adults (25 vs. 45). Therefore, the present study aims to test and compare four alternative index versions to assess the paediatric dietary inflammatory potential score (PDIPS), exploring the inclusion of different FPs and different energy-adjustment methodologies.

Methods: The PDIPS versions developed were the Complete-PDIPS (including 38-FPs), the woFLAVONOIDS-PDIPS (excluding flavonoids), the woBIOACTIVES-PDIPS (excluding FPs with important bioactive properties), and the Short-PDIPS (excluding FPs that may be overlapping in the index). Several techniques were tested to calculate each PDIPS, including unadjusted and energy-adjusted methods, using the Generalized Additive Models for Location, Scale and Shape (GAMLSS), the density model (DM), or both. Each version was applied to estimate PDIPS in 3,578 individuals from the 7-year follow-up of the Generation XXI (GXXI) birth cohort. Pearson correlations were computed between the different PDIPS and high-sensitivity C-Reactive protein (hs-CRP), leptin, and white blood cells (WBC) at 7-year follow-up.

Results: Positive and statistically significant correlations were observed between all PDIPS and levels of hs-CRP and leptin, except for PDIPSDM. No statistically significant correlations with WBC levels were observed. The best correlation coefficients were observed in the unadjusted versions, between the woFLAVONOIDS-PDIPS$_{unadj}$ and Short-PDIPS$_{unadj}$ with leptin (r=0.14), followed by the Complete-PDIPS$_{unadj}$ (r=0.12) and

Biography

Sofia Martins graduated in Nutritional Sciences from the Faculty of Nutrition and Food Sciences at the University of Porto (FCNAUP). In the final year of her bachelor's degree (2014/2015), she spent a semester in Brazil as part of a mobility programme with the Federal University of Rio de Janeiro (UFRJ), where she completed an internship and developed her bachelor's thesis. While in Rio de Janeiro, she also organized the Regional Conference on Sustainable Food and Nutrition.

The same year, she began working at the Bern University of Applied Sciences, within the Division of Health Professions, Nutrition and Dietetics. There, she contributed to several projects, with a particular focus on the NutriGed Project, food insecurity among refugees, and dysphagia. These projects resulted in multiple publications in national and international scientific journals.

By the end of 2016, Sofia began a Master of Science in Life Sciences, specializing in Food, Nutrition, and Health, also at the Bern University of Applied Sciences, from which she graduated in 2018. Her thesis work led to the publication of a scientific paper in the Medical & Clinical Research Journal.

From late 2018 until February 2022, Sofia worked in the Education Division of the Municipality of VNF, Braga, Portugal, where she developed and implemented the NutriEduca Project—an initiative aimed at improving food and nutrition literacy in community schools.

In the academic year 2020/2021, she began her PhD in Public Health at the Faculty of Medicine of the University of Porto, and in the year 2021/2022, she received a PhD Grant from the Science and Technology Foundation – FCT. Since then, she has been conducting her academic work at the Laboratory for Integrative and Translational Research in Population Health (ITR) of the Epidemiology Research Unit (EPIUnit), Porto, Portugal.

woBIOACTIVES-PDIPS$_{unadj}$ (r=0.10). Similar correlation values were found between the different versions and hs-CRP: Complete-PDIP$_{Sunadj}$, woFLAVONOIDS-PDIPS$_{unadj}$, woBIOACTIVES-PDIPS$_{unadj}$ (r=0.07), and Short-PDIPS$_{unadj}$ (r=0.08).

Conclusion: The four PDIPS$_{unadj}$ versions developed were successfully validated with hs-CRP and leptin at the 7y. Results suggest that all PDIPSunadj versions may be equally effective in estimating dietary inflammatory potential in paediatric ages. Notably, the FPs set used to estimate Short-PDIPS may warrant further exploration in future analyses and health outcomes due to its good performance and ease of implementation compared to the longer versions.

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FOOD POISONING OUTBREAK CAUSED BY SALMONELLA IN JAZAN - SAUDI ARABIA JUNE 2024

Yazeed Alharbi
Ministry of Health, Saudi Arabia

Abstract

Background: Food poisoning is becoming a very important health problem both internationally and in the Kingdom of Saudi Arabia (KSA). Salmonella species is the most important pathogen and poses a significant global public health risk.

Objectives: This report aimed to provide a detailed explanation of the outbreak, its effects, and the actions taken to address and prevent future occurrences.

Methods: A cross-sectional study, using questionnaire data gathered from164 people to evaluate instances of food poisoning in Jazan province was conducted. Interviews with affected individuals were performed and a sample for a stool lab test from them had taken. Additionally, Laboratory investigation of food samples was taken. Collection of tests such as throats swabs, nasal swabs, skin swabs and stool lab test was taken from 14 restaurant workers was performed.

Results: 164 people aged from 11 months old to 53 years old went to the emergency department in different hospitals in Jazan Province which are (Abu Arish General Hospital - King Fahad Central Hospital - Sabya General Hospital - al hakami medical group - Alemies Hospital) between 17th to 20th of June 2024. They were suffering from symptoms of nausea, vomiting, abdominal pain, fever, headache and diarrhea. On day 17th and 18th of June 2024, they ate from Restaurant which located in Abu Arish city include of (Grills, Broasted chicken, Shawarma, Appetizers, Musaqah, Rice, Pizza and Fatayir). Around 70 patients underwent to laboratory investigation for stool culture test. Salmonella germs were identified in 30 cases of 70 cases that were gone under stool lab investigations. Foods in the restaurant were tested for Salmonella and all came negative but improper storage may be the cause of this outbreak. Also, 14 restaurant workers were tested for Salmonella and all came negative result.

Conclusion: Based on the findings of the investigation, Authority fined the Restaurant to avoid future ones; the restaurant should follow proper food handling and sanitary measures.

Biography

Yazeed Alharbi is a Clinical Epidemiologist & Physician Currently pursuing advanced studies in Epidemiology and Public Health (FETP program), with a focus on the prevention, surveillance, and control of diseases at the population level. I have gained expertise in data management, statistical analysis, and field epidemiology, particularly through involvement in disease outbreak investigations. I have contributed to managing outbreaks by providing clinical care, conducting epidemiological surveillance, and assisting with control measures.

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PREDICTING PUBLIC ICU MORTALITY AND HOSPITALIZATION USING DATA: AN EVALUATION OF BRAZIL'S LARGEST COVID-19 EPIDEMIOLOGICAL DATASET

Lia Graca
Universidade Federal de São Paulo, Brazil

Abstract

Background: The dataset of public Brazilian Severe Acute Respiratory Syndrome (SRAG) provides detailed records of hospitalizations and outcomes related to respiratory conditions, including COVID-19. It tracks both demographics, clinical variables and healthcare resource allocation, offering information for public health management.

Objectives: 1) To assess the potential of SRAG to model COVID19 mortality and ICU length of stay; 2) To select the most important variables for this modeling; 3) To identify relevant information and potential gaps as evidenced by the literature; 4) To provide the groundwork to develop predictive models that can assist health managers and epidemiologists in anticipating ICU demand during future epidemiological outbreaks.

Methods: The publicly available SRAG dataset was analyzed in completeness. Data was split into training and test sets, followed by feature selection. Mortality prediction employed Logistic Regression (LR), Random Forest (RF), Artificial Neural Network (ANN) and Boosting Models (XGBoost, LightGBM, CatBoost), while ICU length of stay (LOS-ICU) used Random Forest Regression. Models were evaluated using the Receiver Operating Characteristic curves (ROC) for mortality and Mean Absolute Error (MAE), Root Mean Squared Error (RMSE) and Pearson correlation coefficient for LOS-ICU.

Results: Mortality prediction showed steady and consistent performance across models ranging from Area Under the Curve (AUC) of 0.82 (XGBoost and CatBoost) to a minimum 0.79 (LR and RF). The Boosting models achieved the highest F-1 scores of 0.81 followed closely by all other models (0.80) LOS-ICU predictions were unfeasible due to the absence of ICU specific biomarkers. Integrating missing variables would strengthen its role in supporting effective public health interventions and clinical decision-making in Brazil.

Conclusion: This research pioneered the use of a large-scale, highly granular public dataset and leveraged it for mortality prediction in COVID-19 patients in ICUs. Given the unprecedented scale and

Biography

Lia Graça is a PhD student at Universidade Federal de São Paulo, Brazil and a researcher with the CNPq-affiliated research group at the Federal Nursing School of São Paulo, focusing on Epidemiology, Systematic Reviews, and Health Policies.

specificity, this study presents both academic and managerial improvements to the field, offering transparency and generalizable solutions within public health systems.

Accepted

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HOW CAN INSIGHTS INTO FOOD SUPPLEMENT CONSUMPTION FACTORS IN PORTUGAL BE TRANSLATED INTO ACTIONABLE PUBLIC HEALTH POLICIES?

Maria João Campos and Angelina Pena
Universidade de Coimbra, Portugal

Abstract

Food Supplements (FSs) are foods with particular characteristics. Its use is rising worldwide, and many scientific and regulatory challenges are global. The impressive increase in FS consumption is causing serious concern within the scientific community. A multifaceted approach in public health policies is crucial to improve these products' correct and conscious use. Recent research reveals that socioeconomic factors, nutritional knowledge, and healthy lifestyles significantly influence this consumption, with relevant differences between healthcare professionals and the general population. Given the high prevalence of polypharmacy and its associated risks, special attention should be given to the elderly. The intervention of health professionals is crucial to mitigate these risks, promoting safe and informed FS use.

Public health policies should focus on differentiated education and informative campaigns tailored to each group, emphasising nutritional literacy, polypharmacy management, and Collaboration among health professionals to minimise food supplement-drug interactions, professional training, and continuous education for health professionals on FS. To translate these insights into actionable public health policies, we must focus on: 1) Developing educational strategies that target specific population groups, including older adults and those with varying levels of nutritional knowledge; 2) Creating clear guidelines for HPs to support informed FS recommendations and mitigate potential risks; and 3) Exploring potential regulatory measures to ensure the safety and efficacy of FSs available in Portugal.

Biography

Maria João Campos, Master in Pharmaceutical Sciences since 2008, worked for 10 years in the pharmaceutical and food supplements production industry. In 2013 concluded a degree in Nutrition Sciences. Currently, she practices clinical nutrition with children, adults and young athletes in several clinical centers in Portugal and her experience has already been institutionally recognized, becoming a specialist in Clinical Nutrition by the Portuguese Public Professional Association of Nutritionists. In 2018 she returned to the Faculty of Pharmacy of the University of Coimbra to share her knowledge of nutrition and bromatology, and since then she has been a lecturer in the Integrated Master in Pharmaceutical Sciences and the Master in Food Safety and is also developing his doctoral studies at this Institution in the area of Food Supplements. Her taste for both knowledge and the formative spirit she has, made her involved in several consulting and postgraduate training projects in the field of Food supplements. Has several oral communications about nutrition at scientific events, especially for healthcare professionals.

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PM_{10} AND $PM_{2.5}$ 1-HR EXPOSURE GUIDELINE FOR EPISODIC AIR POLLUTION INCIDENTS

Simon D. Griffiths
University of Northumbria, UK

Abstract

Brief Lay Summary: Large fires from industrial sites and wildfires are increasingly common, but less is known about the health impact of air pollution from these events than from everyday exposure. Small particles from fires are a threat to health but guidelines are based on 24hr (all day) exposures not the short durations needed to indicate health impacts during these events.

Introduction: Globally, uncontrolled open fires, such as at industrial facilities or from wildfires, are an increasing concern because of increasing frequency and the significant increases in atmosphere pollution that occur. But, unlike specific species that have 10-min to 8-hr exposure guidelines (e.g. AEGL and ERPG), particulates do not have equivalent short duration guidelines. For PM_{10} and $PM_{2.5}$ environmental exposure guidelines are averaged over 24-hrs being designed for ambient exposures. Acute exposure to significant particulate over short durations still require an exposure guideline. Extracted from an analysis of the combined monitoring undertaken at Air Quality Cell events, we propose a probability model and a Receiver Operating Characteristic (ROC) analysis to suggest PM_{10} and $PM_{2.5}$ 1hr guidelines to correlate with 24hr guidelines.

Method: Two approaches were used to generate 1-h guideline values for PM exposure: (1) data from UK major air pollution incident monitoring was used to determine a probabilistic relationship between 1-h PM_{10} or $PM_{2.5}$ measurements and exceedance data for a range of 24-h guideline values (GVs); (2) we applied Receiving Operating Characteristic statistical analysis to an extensive US PM monitoring data set (38 million hours of data), allowing the determination of 1-h threshold concentrations that predict exceedances of US EPA air quality guideline (AQI) category boundaries.

Results: We found that the maximum-observed 1-h PM concentration in any rolling 24-h averaging period is an excellent predictor of exceedances of 24-h guideline values. This has allowed us to develop de-facto 1-h GVs that correspond to a range of air quality guidance. E.g. we propose a 1-hr PM_{10} GV of 550µgm-3 for evacuation of exposed areas. Our 1-h GV for evacuation is

Biography

Simon D. Griffiths after completing an accredited BSc degree in Environmental Health in 1995 I was awarded the Environmental Health Officers' Registration Board certificate and began to practice as an Environmental Health Officer in UK local government. I have practiced in all areas of environmental health (food safety, health and safety, housing, and environmental protection) but most of post qualification experience was in the field of environmental protection where I also spent a number of years as the team manager for. In 2008 I joined the Health Protection Agency as an Environmental Public Health Scientist in the then Chemical Hazards and Poisons Division. I moved to the HPA's Health Emergency Planning Service in 2009 taking a lead role in risk management, chemical hazards, radiation, flooding, etc. in the resilience function. I joined Northumbria University in 2011 and currently lead the accredited MSc Environmental Health programme.

similar to the (withdrawn) 1–3-h average 'Recommended Action Level' for closing public buildings, which was set of 526µgm-3 for PM10/PM2.5 during wildfires.

Conclusion: This straightforward approach allows for the development of 1-hr GVs that can be used to make much more timely public health protection decisions during the response phase to an episodic air pollution incident.

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MEASURING AND ACTIVATING VAGAL NERVE ACTIVITY FOR GLOBAL SOUTHERN COUNTRIES WITH THE "EPIDEMIOLOGICAL SHIFT"

Yori Gidron[1] and Einav Levy[2]
[1]*University of Haifa, Israel*
[2]*Tel-Hai College, Israel*

Abstract

Global southern countries (GSC) have been shifting during the past decades from mortality mainly due to infectious diseases to morbidity and mortality from non-communicable diseases (NCD), a change termed the "epidemiological shift". This has profound implications for public health in regions like South America, South East Asia and Sub-Saharan Africa. In many GSC, there are insufficient economic means for monitoring the risk of and diagnosing certain chronic NCD and especially for treating them. Treatments of certain NCD (cancer, heart attacks) is often very expensive and is sadly unavailable for many people in GSC. Thus, alternative ways to estimate risk of NCD and to possibly treat them in far less expensive but evidence-based manners are urgently needed. Focusing on a protective factor can also mark a change. In this talk, I shall introduce the vagal nerve model for NCD. Vagal nerve activity is indexed by heart-rate variability (HRV), and in numerous studies, high HRV predicts a lower risk of developing diabetes, stroke and heart disease. Furthermore, high HRV predicts greater chances to survive cancer, stroke and heart attacks. One main reason for the health benefits of high vagal nerve activity is the ability of the vagus to modulate blood pressure and inflammation. Finally, emerging evidence also shows that activating the vagal nerve by HRV-biofeedback with slow paced breathing has clinical benefits in NCD like heart disease and hypertension. Such a treatment has little to zero costs. We will demonstrate these empirical findings and report a pilot application of such an initiative in a refugee camp of Ukrainians in Poland. Finally, we will suggest directions for future research and ways for implementing such knowledge for the benefit of global public health.

Biography

Yori Gidron is a prof of health psychology at the Univ. of Haifa, Israel. He specializes in neuro-cognitive modulation of health and illness. He specifically focuses on the protective roles of the vagal nerve in severe diseases. He is on the editorial board of 4 journals and works with about 10 countries and sees health research as a bridge between people.

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MC4R GENE VARIANTS AND OBESITY IN LOW-INCOME COMMUNITIES: A GEOSPATIAL STUDY

Jeane Silva
Augusta University, USA

Abstract

Obesity is a significant health risk for low-income communities, particularly African Americans. The development of obesity is influenced by genetic, social, and environmental factors that extend beyond personal choice. The genes responsible for obesity are linked to the leptin axis and the melanocortin pathway, particularly the melanocortin-4 receptor (MC4R) gene. The MC4R gene accounts for 6% of obesity cases, making it the most prevalent cause of monogenic obesity. People with a mutation in the MC4R gene may be at risk of weight gain, particularly when consuming high-calorie foods. Also, geospatial analyses of gene variants offer a promising avenue to identify risk factors in ethnic minority groups. Even though it is well documented that MC4R regulates body weight and energy balance, fewer studies have demonstrated the effect of MC4R variants in African-American subjects. Also, limited research exists on the geographical distribution of MC4R gene variants and obesity within African American communities in Georgia, USA. Thus, this study aimed to investigate the health and geospatial disparity of MC4R gene variants and obesity by analyzing community geography boundaries in the Augusta, GA, area. This study focused on these specific aims.

Aim 1: To map the spatial expression of pathogenic variants of MC4R among adult subjects, determining their prevalence and geographic distribution at the community level.

Aim 2: To investigate the link between MC4R pathogenic variants, dietary intake, and obesity in adult subjects. Our goal was to understand the complexities of obesity, which requires a geographical perspective of the frequency distribution of gene variants associated with severe obesity. Using target region sequencing, genomic DNA (gDNA) was isolated from buccal cells to genotype fifty subjects for common MC4R polymorphisms. Subsequently, their anthropometric measurements, daily macronutrient intake, and other pertinent factors were evaluated. Our initial findings show that MC4R variants were found in 36% of the participants. The percentage of genotype carriers with higher frequencies was rs34114122 (16%), rs6567166 (14%), and rs61741819 (10%), with higher frequencies in the African-American population. The study found a strong association

Biography

Jeane Silva earned a PhD in Pharmacology and is board-certified in Molecular Technology by the American Society for Clinical Pathology. She is currently an Associate Professor in the PhD program in Applied Health Sciences at the School of Public Health, Augusta University. Dr. Silva also holds a doctoral degree in Education with a focus on educational innovation. Her research focuses on genetic biomarkers, particularly monogenetic variants associated with severe obesity that impact food intake and circulating microRNAs that predict drug resistance in patients with Multiple Myeloma. Dr. Silva has significantly contributed to science by publishing over 30 research articles in peer-reviewed journals and presentations at professional conferences. Her unwavering commitment to advising students to develop critical thinking skills and cultivate a lifelong love of learning demonstrates her dedication to teaching and learning.

between calorie intake and the rs34114122 variant (p=0.0002) but not for the other variants, rs6567166 (p=0.130) and rs61741819 (p=0.374). Our research suggests that the impact of common MC4R variations on obesity and its metabolic disorders may depend on daily dietary intake. Consequently, this could pave the way for individualized dietary regimes to prevent and address obesity and its related comorbidities.

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IMPACT OF SULPHUR DIOXIDE LEVELS (SO_2) LEVELS DURING THE TAJOGAITE VOLCANO ERUPTION (LA PALMA, SPAIN) ON HEALTH: ISVOLCAN COHORT STUDY

María del Cristo Rodríguez- Pérez
Canary Health Service, Spain

Abstract

Introduction: Exposure to sulphur dioxide levels (SO_2) emissions during a volcanic eruption can produce acute health effects in the population. The objective of this study was to evaluate the acute effect of the Tajogaite eruption on respiratory and ocular symptoms in the population of La Palma included in the ISVOLCAN study (www.estudioisvolcan.com).

Methods: Prospective observational cohort study conducted among a randomly selected adult general population (n=1311) across municipalities in the western and eastern region of La Palma Island. During the participant recruitment phase (2022-2023), an epidemiological questionnaire was administered by telephone that included sociodemographic, variables related to the level of exposure to the volcano, pre- existing comorbidities and acute symptoms during the volcano eruption, including ocular, nasal/ear and lower respiratory tract symptoms (LRS) (cough, dyspnea and wheezing). Data on SO_2 levels during eruption (85 days) were collected from the meteorological station of the Canary Islands network closest to the participants' residence. The stations were divided into 3 exposure levels (high, moderate and low) according to the percentage of days during the eruption in which the 24 hours mean SO2 WHO recommendations (40 µg/m3) was exceeded.

Results: The analysis included 924 participants: 209 in low, 331 in moderate and 384 in high SO_2 exposure levels. The mean age of participants was 50.3 (±16.2) years, with 58.1% female. The median distance from participants residence to the volcano during the eruption was 7.1 km (IQR:5.9–9.2); The frequency of ocular symptomatology was 45.6%, nasal/ear was 33.7% and 37.0% for LRS.

In the adjusted logistic regression analysis (adjusted by age, gender, education level , previous co-morbidities, distance to the volcano, tobacco, use of masks and eyeglasses for protection, daily hours in outdoor environments, ash cleaning, type of cleaning tool used), an association was observed between exposure to high and moderate levels of SO_2, compared to low levels, and an increased in the likelihood of LRS (OR:1.6; 95% CI: 1.0-2.6, OR:2.0; 95% CI: 1.4-3.1; p linear trend <0.001, respectively) and nasal/ear

Biography

María del Cristo Rodríguez- Pérez is a Doctor of Medicine. Specialist in Family and Community Medicine. Researcher in cardiovascular epidemiology and type 2 diabetes within the research team of the Canary Islands CDC at UI HUNSC-GAPT. It has resulted in multiple publications and collaborations with national and international groups. Currently, she is the lead research of the ISVOLCAN cohort study.

symptoms (OR:1.5; 95% CI: 0.9-2.4, OR:1.6; 95% CI: 1.1-2.4; p linear trend 0.027,

respectively). For ocular symptomatology only differences were found between high and low SO_2 exposure (OR:1.6; 95% CI: 1.1-2.3; p=0.017).

Conclusion: This study reports a dose-response relationship between the SO_2 levels and respiratory and ocular symptomatology during the Tajogaite volcano eruption in a population that resided at an unusually proximity to the volcano.

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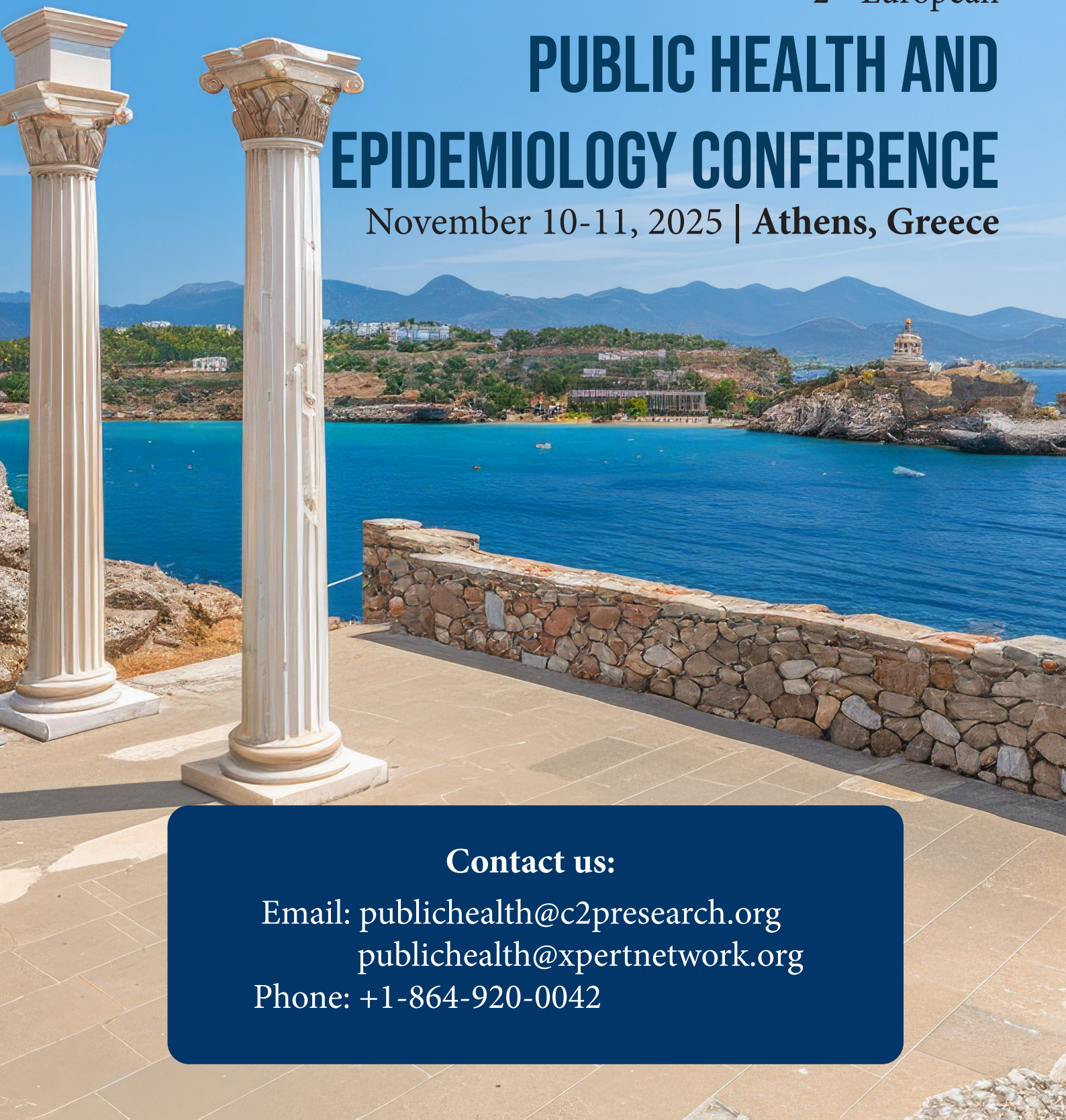

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