



**Abstracts of 7th
International Conference on
Global Public Health 2022**



Unique Conferences Canada Publication

Abstracts of 7th International Conference on Global Public Health 2022

Bali, Indonesia

17 - 18 October 2022

Abstracts

2022

**Unique Conferences Canada Publication
Toronto, Canada**



Published by

Unique Conferences Canada

Unique Conferences Canada
Suite 2201, 250 Young Street,
ON M5B 2L7
Canada

info@uniqueca.com
[http:// www.uniqueca.com](http://www.uniqueca.com)

Published in Canada
October 2022

ISBN 978-1-988652-55-9



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KEYNOTE SPEECH

Ready for the next Pandemic!?

Dr. Klaus Irrgang

*Associate Professor of Wellness, Chair of Department of Wellness,
Faculty of Science, Burman University, Canada*

In all likelihood, there will be another pandemic! Most likely caused by a virus too. Readiness depends on a variety of factors that can be divided into four categories: worldwide, country level, local and personal. All are of utmost importance, but this presentation will emphasize the personal level of readiness. On the worldwide level stands the UN with the WHO. Surveillance of any potentially critical detection of threat is their responsibility, together with swift communication of vital information about specifics that can help initiate a global response. National disease monitoring institutions can also help here. On a national and local level, the readiness depends on the capacity and deployment of the health promotion and health care system in place. Readiness on a personal level involves all dimensions of wellness: physical (optimal nutrition, appropriate exercise, personal hygiene and physiotherapy), psychosocial, occupational and environmental. Vaccine hesitancy has been identified as a major threat to world health; it has played a major role in the current/past pandemic. Strategies to combat misinformation are needed in all four categories. Distrust in scientific investigation and information propagated by individuals and groups via social media is one of the main problems, while access to effective prevention and treatment is another. Reaching and maintaining a high level of wellness combined with an approach of caution on a personal level is the best prevention strategy, while home remedies, continued practice of health principles and know when to access the health care system is of vital importance when encountering the disease agent.

KEYNOTE SPEECH

Climate Change: Perspectives for Global Mental Health

Paul Illingworth

Head of the Leicester School of Allied Health Sciences, Faculty of Health & Life Sciences, De Montfort University, Leicester, England

Climate change is the most important global health challenge today. It's greater than Covid-19 and that has been a massive challenge. The impact of climate change is on everyone, young, older, rich, poor, urban and rural. The high income through to lower income countries. None are immune. The reason why it is, in my opinion, the most important global health challenge today – there is no vaccine for it and never will be. Climate change can be seen in many forms (deforestation, floods, fires, draught and rising temperatures). Increasingly human activity, especially in the last 50 years is acknowledge as single most cause. The impact of climate change is significant on humans, rural communities, often in Low- and Middle-income countries (LMICs) suffer draughts and failed crops, starvation and the growth in various diseases. However, a growing area of concern is the impact of climate change and natural disasters, including Covid-19 pandemic, on the mental health of Global populations. This paper offers a perspective on climate change and mental health and the growing burden on LMICs in particular. A potential solution is also suggested.

Challenging Systemic Racism for Health Equity: Mobilizing Solidarities for Change Through COVID-19

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²*Academic Director, Community Engaged Research and Relationships, Office of Community Engagement, School of Social Work, McMaster University, Hamilton, Ontario, Canada*

This paper reviews the advocacy efforts, community organizing, establishment, operation, and lessons learned from a project in Hamilton, ON to find the first ever COVID-19 clinic for Black & other racialized people, people with disabilities and those experiencing barriers to access to COVID-19 vaccinations. Community advocates, academics, health leaders who are from and serve Black and other racialized and marginalized groups in Hamilton responded to the overwhelming impacts of COVID-19 on marginalized Black and other racialized groups in Hamilton through relational solidarities that allowed for community members to lead the design, and operation of the clinic, to serve those most in need, with the knowledge and expertise most capable of such an intervention. Through resistance of officials to take action, racist backlash, problematic organizational and institutional responses to the need of Black and other racialized community leaders, the Restoration House clinic advocates and community leaders responded to needs by maintaining focus on community through collective solidarities. The Restoration House model offers several contributions to how we think about community/public health advocacy, organizing and operational interventions through crises and beyond.

Keywords: *Health equity, Anti-Racism, Community-Based Research/Advocacy*

Determinants for COVID-19 Vaccine Hesitancy in the General Population: A Systematic Review of Reviews

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Background: Vaccination against SARS-CoV-2 is one of the most effective strategies to combat the COVID-19 pandemic. Although multiple COVID-19 vaccines are approved for global use, vaccine hesitancy poses a substantial risk for global health. Therefore, the aim of this umbrella review is to identify those factors that influence COVID-19 vaccination hesitancy in the general population. This is necessary to improve the effectiveness of future vaccination programmes.

Methods: PubMed, Embase, Scopus, PsycINFO, the Cochrane Database of Systematic Reviews, Epistemonikos and PROSPERO were searched on 21st December 2021. This review included reviews which investigated factors of intention, willingness, or hesitancy of COVID-19 vaccination in adult population, with no restriction on setting. Conceptual content analysis was used to synthesise the extracted data. The findings were presented based on Strategic Advisory Group of Experts (SAGE) Model for vaccine hesitancy.

Results: 3392 studies were identified and 31 met the inclusion criteria. The most frequently documented factors associated with COVID-19 vaccine hesitancy included contextual factors (i.e. gender, age, ethnicity, education and income level); individual and group factors (i.e. trust in the healthcare system, public health authorities, vaccine developers and governments, history of influenza vaccine); vaccine-specific factors (i.e. concern for vaccine safety, perceived vaccine barriers, perceived effectiveness and efficacy of vaccines, and concern about the rapid development of the vaccine); and disease-specific factors (i.e. fear of being infected with COVID-19, perceived severity of COVID-19, and knowledge of COVID-19).

Conclusion: There are multiple factors associated with COVID-19 vaccine hesitancy. The findings lay the foundation to further understand COVID-19 vaccination uptake and provide possible targets for intervention programmes. However, there are gaps in research concerning certain populations, including vaccination in people with mental disorders

Keywords: *COVID-19; vaccination; determinants; vaccine hesitancy*

Medical Delivery Drones as a Tool to Improve Health Equity in Sub-Saharan Africa

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Drones, also known as unmanned aerial vehicles, are autonomous or remotely piloted aircraft without onboard pilots or passengers. Drone technology is highly versatile and is currently used within the humanitarian field for purposes such as urban planning, mapping, disaster relief, environmental monitoring, and cargo delivery. Inaccessibility to healthcare and systemic health inequities continue to adversely affect many populations across Sub-Saharan Africa (SSA). Limited human and financial public health resources, rapidly rising populations, and recent infectious disease outbreaks place continuously increasing pressure on health systems. Furthermore, isolated and remote communities face compounded barriers to accessing even basic healthcare and medical supplies. This paper focuses on the application of medical delivery drones within low-income and low-resource public health systems in SSA for the transportation of medical supplies, vaccines, biological samples, and other health-related products.

Impact of Covid -19 on the Life and Livelihood of Indigenous Community in State of Kerala, India

Gopal Sekhar

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The impact of the Covid-19 pandemic has been most severe on the lives and livelihoods of the indigenous communities across the globe, including India. The adverse effect of the pandemic on tribal communities has been manifold. The tribal communities, due to their secluded lifestyle, have deficient immunity and are easily vulnerable to contagious diseases with the increased number of infections and increased mortality. The paper aims to study the adverse effect of the pandemic on the tribal community in India in general and specifically in Kerala, a state in India, during the first lockdown period from 25th March 2020 to 31st May 2020. The paper is a descriptive study where the first part of the paper highlights the plight of tribal communities. The second part focuses on the tribal belts of India. The concluding part focuses on how Covid-19 has affected the indigenous communities in Kerala. The study is based on the Report of the International Labour Organization (ILO) titled – “Implementing the ILO Indigenesness and Tribal People Convention Number 169 Towards an Inclusive, Sustainable and Just Future “, 2019 and the data from the government of Kerala Dashboard. The main result of the study where that an important sector of the economy was severely hit; the agriculture sector suffered a loss of Rs 1570.5 cr; the significant industries in Kerala include Refined Petroleum Products, Chemicals, and Pharmaceuticals, contributing 37.3% of the total value. As far as employment is concerned, the most significant industry in the manufacture of food and beverages accounts for one lakh factory workers or 32.8% of the industrial workers in the state. The tourism sector was first devastated by the Nipah outbreak and then, by the floods in 2009, was struck by the Covid-19 and lockdown. Around 80% of the sector comprises small and medium scale enterprises, and it employs about 15 lakh people, including the tribal population. They are assuming the annual income to be Rs. 45,000 Crore, the loss of income during the lockdown period is estimated to be around Rs. 20,000 Crore

Keywords: *Covid 19, Indigenous Communities, Healthcare worker, Sector of the economy*

Embracing Indigenous Knowledge in Climate Justice: Lessons from the Māori Peoples

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Indigenous populations around the world are disproportionately impacted by climate change, as colonialism and forced assimilation have systematically marginalized these traditional communities. Despite possessing an intimate knowledge of ecological sustainability, neoliberalism and structural violence have unjustly increased the vulnerability of Indigenous communities to the negative socio-environmental impacts of climate change. This paper will briefly explore the disproportionate effects of climate change on Indigenous communities in diverse global contexts, narrowing in on the experiences of Māori peoples in New Zealand. Next, it will explore the 2021 Ngaa Rauru Kiitahi Climate Change Strategy, developed by Te Kaahui o Rauru in partnership with the Ministry for the Environment in New Zealand, and identify the key socio-environmental strengths embodied in this collaborative approach. Lastly, this paper will provide broad recommendations for policy and practice as it pertains to establishing meaningful and respectful relationships between Indigenous and Westernized communities in diverse global contexts.

Keywords: *Indigenous, Māori, Climate Justice, Ngaa Rauru Kiitahi, Environmental Sustainability*

Acknowledgements: I acknowledge that this article was written on the traditional lands of the Anishinaabek, Haudenosaunee, Lūnaapéewak, and Attawandaron peoples, on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum. With this, I respect the longstanding relationships that Indigenous Nations have to this land, as they are the original caretakers. I acknowledge historical and ongoing injustices that Indigenous Peoples (e.g., First Nations, Métis and Inuit) endure in Canada, and accept responsibility as a member of a public institution to contribute toward revealing and correcting miseducation as well as renewing respectful relationships with Indigenous communities through our teaching, research and community service.

**Perceived Effectiveness, Restrictiveness, and Compliance with Containment Measures
against the Covid-19 Pandemic:
An International Comparative Study in 11 Countries**

Dr. Irina Georgieva

New Bulgarian University, Bulgaria

National governments took action to delay the transmission of the coronavirus (SARS-CoV-2) by implementing different containment measures. We developed an online survey that included 44 different containment measures. We aimed to assess how effective citizens perceive these measures, which measures are perceived as violation of citizens' personal freedoms, which opinions and demographic factors have an effect on compliance with the measures, and what governments can do to most effectively improve citizens' compliance. The survey was disseminated in 11 countries: UK, Belgium, Netherlands, Bulgaria, Czech Republic, Finland, India, Latvia, Poland, Romania, and Sweden. We acquired 9543 unique responses. Our findings show significant differences across countries in perceived effectiveness, restrictiveness, and compliance. Governments that suffer low levels of trust should put more effort into persuading citizens, especially men, in the effectiveness of the proposed measures. They should provide financial compensation to citizens who have lost their job or income due to the containment measures to improve measure compliance. Policymakers should implement the least restrictive and most effective public health measures first during pandemic emergencies instead of implementing a combination of many restrictive measures, which has the opposite effect on citizens' adherence and undermines human rights.

Keywords: *pandemic; coronavirus; containment measures; effectiveness; restrictiveness; compliance; Covid-19; public health measures; human rights; proportionality principle*

How Afghan Refugee women in Germany Navigate Reproductive Health and Overcome Challenges

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Munich, Germany*

Introduction: Increasing number of refugee women are accessing maternity care receiving countries, including high income countries (HIC) due to unprecedented global displacement over the last two decades. Providing reproductive health for refugee women with a range of basic and unmet healthcare needs is challenging.

Method: The current qualitative study along with participatory research includes data from 18 in-depth interviews (13 female Afghan refugees age 20-40 years old and 5 German volunteers 25-70 years old) in a suburb of Munich /Germany, as well as field notes and observations collected while accompanying refugee families as a translator as they interfaced with health care providers, to explore Afghan refugee women's experiences accessing reproductive health and develop their own self-help competencies negotiating the health system for reproductive health individually and within their communities.

Results: Participants have mentioned their difficulties they had to overcome, especially related to language barriers and medical/comorbidity issues (e.g., missing vaccinations, tuberculosis). The crucial role of volunteers is another theme which was emphasized by the participants that allows women refugees to overcome the barriers they face in accessing health care.

Nine from thirteen of the refugee women shared their experiences and challenges during the pandemic in focus groups through photovoice and photo elicitation, this process was conducted via social networks due to the Covid19 lockdown. This sharing of experiences via participatory meetings was uplifting and could promote the women's self-confidence and empower others in their community

Keywords: *Women refugee, Reproductive health, Photo voice*

Impacts of Climate Change on Egyptian Population and the Role of Public Health to Mitigate its Hazards

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Abstract: A variety of factors, both natural and human, can influence the earth's climate system making adverse changes.

Health impacts: direct, Ecosystem- mediated health impacts, indirect deferred and displaced health impacts.

Measuring the environmental burden of diseases: Environmental health comprises those aspects of human health, including quality of life, that are determined by physical, chemical, biological, social and psychosocial factors in the environment. The WHO (2006) estimated the burden of diseases from modifiable environmental factors. Globally, an estimated 24% of the disease burden (healthy life lost) and estimated 23% of all deaths (premature mortality) was attributed to environmental factors (WHO, 2006). Also, nine out of ten persons around the world inspire polluted air and 13 million deaths annually die due to environmental causes related to climatic changes, (WHO and UNICEF, 2022).

Egyptian Sustainable Developmental Strategy Vision 2030 developed on better quality of live, Preserves the rights of future generations in a more secure and adequate water supply. Working in this direction, many activities had going to implement. Presidential environmental and health initiatives going to better health for all with stress on the needy communities e.g poor villages, bad infrastructure and unhygienic areas, handicapped population, women in bad situations and old age groups. On hospital levels many initiatives going to better quality health services and close waiting time for attain the service.

In October 2020 the World Bank approved a 200 million dollars project for Egypt to improve air quality, combat climate change and reduce emissions of air pollutants and global warming. Population will be protected from climate change by essential package of public health interventions. Sustainable Development Goals (SDGs) report (2018) explores Egypt's current development trajectory to 2030 across areas of human and economic development. It then presents five alternative scenarios designed to help explore the impact of different policies on economic and social development indicators. Using the International Futures (IFs) modeling platform, these scenarios are evaluated in terms of their ability to accelerate progress towards achieving many of the targets set in the United Nation's (SDGs) and Egypt's SDS, referred to as Vision 2030 (Ministry of Planning, Monitoring and Administrative Reform, 2016). Egypt announced it will be the host of the UN Climate Change Conference COP 27 in 2022.

Public health professionals are the key keeper for community needs and health promotion activities beside their role in surveillance and management of environmental changes especially that related to industrial and occupational safety measures.

Keywords: *Egypt, climate changes, public health,*

Perceptions of School Management on the relationship between School Nutrition and Development of Non-communicable Dis-eases in a rural South African District: A Qualitative Study

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Background: Globally, noncommunicable diseases (NCDs) were responsible for 41 million deaths in 2016, with the majority of these occurring in low and middle-income countries. These diseases were on the rise as a result of unhealthy, low-quality, and unbalanced diets, which resulted in overweight and obesity. The National School Nutrition Programme (NSNP) was created to regulate the foods sold to schoolchildren.

Aim: The aim of the study was to ascertain school management teams' perspectives on the relationship between the NSNP and the development of lifestyle diseases.

Methodology: A phenomenological qualitative study using Focus Group Discussions among 16 purposively selected members of the School Management Teams were conducted in Mt Frere, Eastern Cape in 2016. The narrative data was analyzed using Tesch's eight-phase thematic analysis approach.

Results: The data analysis revealed two themes (NSNP and the vendor system) and six sub-themes. The NSNP was viewed as making a significant contribution to children's food security, thereby improving academic output.

Conclusion: However, reengineering of the NSNP was need through improved budgeting and inclusion of breakfast in the menu to control NCDs risk factors. The current implementation of the vendor system did not support reduction of NCDs risk factors. Improved implementation of the guide to vendor system is needed.

Keywords: *Nutrition program; vendor system; obesity; non-communicable diseases*

Driver of Health Workers Engagement: The Role of Organization Culture and Servant Leadership in The Indonesian Private Hospital

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In recent years, many studies in topic of employee engagement had generated finding that engagement become an important factor in providing successful services of the healthcare organization. The objective of this study is to find out the role of organizational culture and servant leadership on employees engagement in private hospitals. The research sample of 118 front line health workers had randomly taken from health workers of two private hospitals in Indonesia. This study designed in a survey method and used questionnaires to measure the strength of health workers engagement, organizational culture and servant leadership. The research findings generated some promising results that both organizational culture of its hospital and the servant leadership of health workers' supervisor have strong positive effect on health workers' engagement. The role of organizational culture has stronger effect on health workers' engagement than the servant leadership. This research results recommends to foster work-values in maintaining organizational culture of the hospitals and increased the spirit of service from supervisor toward his/her employee subordinate.

Keywords: *Engagement, Organizational Culture, Servant Leadership.*

Communicating Uncertainty: A Journalist's Experience Reporting on Covid-19

Jason Gale, BA (Intl Studies), MA (Health Security)

Bloomberg News, Melbourne, Australia

A novel virus that causes a new disease which spreads globally is a hot story for the world's media. How deadly is this disease? How does it spread? Can it be treated or prevented with a vaccine? Where did it come from? What are the long-term health implications of having the disease? The same questions posed by health authorities, clinicians and scientists were shared by journalists, who also experienced the same challenges finding answers. When a new disease emerges, no individual or organization has a monopoly on the facts; data are scant and emerging, the science is often conflicting and uncertain, and multiple biases and confounders can obscure the accuracy of critical information. Jason Gale began reporting on Covid on Jan. 3, 2020, making him one of the first Western journalists to appreciate the importance of the emerging disease. It launched a journey that was simultaneously exhilarating, exhausting, frustrating and rewarding. Gale will reflect on:

- how he was alerted to SARS-CoV-2's emergence
- his interpretation/misinterpretation of early warning signs
- his approach to information-gathering
- "joining the dots" when knowledge is missing or incomplete
- "information overload"
- declarative statements
- finding reliable resources
- lessons learned

The challenges Gale faced mirror the complexities of communicating uncertainty. Gale's experience and insights can help inform strategies and approaches which others can use to more helpfully keep the public apprised of the scientific evidence as it unfolds, how to interpret the emerging information, and how to guide individuals toward making the best decisions for themselves, their households and their communities. The media played a key role in informing the public about the risks posed by Covid and how to respond to them. Communicating uncertainty was as difficult for journalists as it was for health authorities, clinicians and researchers. It's crucial that all involved in risk communication learn from their shared experience to guide more helpful strategies for responding to this and future outbreaks.

Impact of Health Promotion Networks in Nepalese Villages

Mire Sugino¹, Ashish Shah², Aashish Khadka², Subash Pandey², Sunny Mandal², Sheeta Maharjan², Sukrti Shrestha², Prashanta Bhattarai², Sareesha Shrestha², Minakshi Dahal³, Biraj Thapa², Shashi Singh², Ranjana Jha², Bimash Shrestha², Baburam Acharya⁴, Neelam Lama⁵, Manjyoti Tamang⁵, Takeshi Naito⁶, Motoji Sawabe⁷, Masayuki Kanbara⁸

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Health promotion is vital for rural villages where access to health services is poor and health expenditures become a huge burden. Nepal is the poorest country in South Asia; therefore, being healthy is a key to survival during the economic crisis worsened by COVID-19 problems. The authors' project team has been implementing health programs for community members, including schoolchildren in rural villages. Interaction between community members and the project team has empowered the health management ability of community members and the project team.

This study was conducted in cooperation with village committees for one village in Lalitpur District in the Kathmandu Valley, two villages in Makwopur District, and one village in Kaski District from August 2018 to March 2022. For community adult members, blood pressure and weight were measured, then body mass index (BMI) was checked. For school students, height, weight, and vision were measured class by class. The measurement data were recorded on individual recording sheets. Health education was delivered accordingly. In Makwopur District, a one-day health camp was held by the community in January 2021.

Blood pressure was within normal range for most of the adults examined. The BMI levels tended to be slightly higher than normal for community members over age 30. Additionally, height and weight of school students tended to be lower than average. Most students had good eyesight. Adult participants from these villages enjoyed the rare opportunity to have their blood pressure and weight measured. Through the health program, community members shared ways to improve health habits and ideas with each other, and they discussed health service needs with the project team. The one-day health camp in Makwopur District provided consultations with medical doctors and dental treatment in cooperation with health professionals from the Kathmandu area.

Community members improved their health behaviors after receiving health education and their personal data (e.g., blood pressure, weight, BMI). At the same time, project members acquired a deeper understanding of the reality of health needs in local communities, and interactions with community members encouraged the development of their health promotion networks.

Pregnancy Outcomes Affected by COVID-19, Large Obstetrics and Gynecology Cohort in Southern Vietnam

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Objective: Comparison of outcomes between infected and non-infected COVID-19 pregnancy at the largest obstetrics and gynecology hospital in southern Vietnam.

Materials and Methods: A retrospective study was conducted at gestational age (GA) 28-42 weeks, , who terminated of pregnancy and had a real-time PCR test for SARS-CoV-2 at Tu Du Hospital. Demographic, clinical, laboratory, and epidemiological data were collected from hospital electronic-medical-records. Diagnosis and screening of SARS-CoV-2 used Real-time-PCR.

Results: July to October 2021, 9,246 pregnant with GA of 28- 42 weeks were delivered, including 664 infected with COVID-19 and 8,582 non infected. The cesarean section (CS) rates of pregnant with and without COVID-19 were 47.3% and 46.0%. At GA 32-34 weeks, the rate of CS with COVID-19 was 5.07 times higher than without. The rate of postpartum hemorrhage (PPH) and the APGAR score between these two groups were similar. The mortality rate of infected pregnancy was 2.26%.

Conclusions: COVID-19 infection increased the CS rate in the group of preterm pregnancies from 32 to less than 34 weeks. COVID-19 did not increase the risk of complications related to adverse pregnancy outcomes such as PPH, Apgar scores, the ratio of stillbirths, deaths due to malformation, and fetal deaths in labor.

Keywords: *COVID-19, SARS-CoV-2, Pregnancy, Outcome, Vietnam*

Prevalence of Digital Media Use and its Health Consequences in Children Aged 2 to 5 Years

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Background: The duration of time spent on screen of electronic or digital media like mobile phones or television, etc is defined as screen-time. Digital media expansion and COVID 19 pandemic has made children more inclined towards screen time as compared to physical activity.

Materials and Methods: Cross-sectional study on children aged 2–5years was conducted for 1 year. (2021 - 2022). Parents were asked to self-fill a designed questionnaire. Impacts on physical and mental health were assessed by paediatrician and psychologist.

Results: 650 children (354 boys, 296 girls) participated in the study. Mean parental screen time was 6.4 hrs. ± 2.32 and 4.95 ± 2.34 hrs for children. 98.75 % children had screen time more than that recommended for age. Children were exposed to screen time at tender age of 3 months. Covid 19 increased screen time by more than 1 hour in 92% of children. Most common gadget used was mobile phones (n=628,96.6%) followed by television (n=511, 78.7%). Screen time had negligible effect (p=0.611) on nutritional status of children. However, it had significant effect on psychosocial behaviour (p=0.05), ophthalmologic problems (p=0.03) sleep cycle (p=0.00) and academic performance (p=0.002). Fathers' occupation (p=0.00), age of onset of screen time (p=0.00), parental setting of time limit for screen time (p=0.009) were significant contributors to increase screen time.

Conclusion: Findings suggest poor awareness among parents/caregivers regarding negative impact of high screen time on children along with abnormal psychological behaviour among children when they were stopped from accessing screen. A higher level of evidence can be generated in future by conducting longitudinal follow up studies.

Keywords: Screen Time, Addiction, Behaviour, Health

Utility of Acanthosis Nigricans and Skin Tags as a Screening Tool for Risk of Developing NCDs: A Cross Sectional Study at a Tertiary Care Health Facility in Lucknow

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Background: There has been a sudden increase in the burden of Non-Communicable Diseases (NCDs) and a decreasing trend of communicable diseases (epidemiological transition) in India in last three decades. Identifying the individuals with NCDs (or) at risk of developing NCDs would help to curtail the probabilities of worse outcomes in future by urgent promotive, preventive or curative actions taken in time. Cutaneous markers like Acanthosis Nigricans (AN) and Skin Tags (ST) may be supportive evidence in identifying people at risk of developing NCDs.

Objective: The objective of the present study was to estimate the prevalence of AN and ST in study population and also to explore association between presence of AN & ST with BMI, Random Blood Sugar (RBS) levels, and other popular measures of assessing risk of metabolic disorders/NCDs like Waist to Height ratio, Indian Diabetes Risk Scores (IDRS) in study population, so as to see their utility as a risk predictor.

Material and Methods: It was a hospital based cross sectional study of two months duration. Sampling frame was constituted by healthy hospital staff (nurses, paramedical workers) and apparently healthy patient attendees coming to the hospital. Total sample size was 152. Convenience sampling was utilized to select the participants from the sampling frame. Data was collected with the help of a questionnaire, followed by inspection for presence of AN/ST on nape of neck and axilla by member of the research team.

Results: The prevalence of AN comes out to be 19.08(95% CL=12.76-25.40) and ST comes out to be 28.29 (95% CL=21.05-35.53). Association was observed between various biophysical and personal characteristics and presence or absence of AN/ST. It was observed that AN/ST were more in people having high BMI values, high waist to height ratio and individuals having high IDRS score.

Conclusion: Cutaneous markers like AN/ST may be utilized as important screening tool in public health for identifying people at risk of developing NCDs along with other usual measures. Further research is desirable to validate the findings.

Co-creating Sexual and Reproductive Health Interventions with Adolescents: The Experience from Rajasthan, India

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Despite a clear policy recognizing the need for special programmatic attention for adolescents, almost all existing programs in India face critical challenges in effectively delivering Sexual and Reproductive Health information and services, leading to early marriages and teenage pregnancies. Teenage pregnancies directly threaten women's sexual and reproductive health and well-being. States like Rajasthan with high adolescent pregnancy rates demand better solutions.

To reduce teenage pregnancies in the state, IPE Global¹ implemented project Udaan², adopting a multisectoral approach. Improving Sexual and Reproductive Health was one of the critical components of the project. A Human-Centered Design (HCD) approach was adopted to co-create an effective sexual and reproductive health intervention relevant to adolescents. The HCD implementation took around two years with activities spread over 4 key phases - inception and inspiration, ideation, prototyping³ and piloting. Five potential solutions emerged after a series of iterative explorations.

Of the five potential ideas, the in-school SRH education pilot emerged as a cost-effective, sustainable, and most effective mode of reaching adolescents in culturally sensitive rural geographies, as evidenced by the independent evaluation of the pilot. The pilot intervention successfully covered over 21,000 adolescent boys and girls across 66 government high schools in the Bari block of District Dholpur in Rajasthan. An independent evaluation of the pilot suggested a significant increase in the awareness of contraceptive methods in the intervention area from 24 per cent to 50 per cent. Contraceptive self-efficacy, a measure of girls' agency, increased by 18 per cent in the intervention area. Further, qualitative findings showed a significant improvement in SRH awareness and service utilization. The pilot was successfully scaled up from 66 schools to 287 schools across the district and from an external facilitator-driven model to a sustainable teacher-driven.

Keywords: *Sexual and reproductive health, teenage pregnancy, adolescent health*

¹ A development sector organization working for women and girls empowerment

² A five-year project committed to reducing teenage pregnancies in Rajasthan, India

³ Prototyping is an integral part of design thinking and user experience design in general because it allows us to test our ideas quickly and improve on them in an equally timely fashion

A Scopus-based Bibliometric Analysis of the Status of Covid-19 in Nursing

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Objective: To gain insight into the latest research progress, research hotspots and development trends of novel coronavirus pneumonia (COVID-19) in nursing, to objectively reflect the scientific contributions and impact of relevant institutions and countries in this field, to analyze global research routines and trends since the outbreak of Covid-19, and to provide a bibliometric reference for global nursing systems.

Methods: The literature related to the field of nursing included in the Scopus database from January 1, 2020 to June 1, 2022 was searched, and duplicate and irrelevant papers were excluded. The included literature was visually analyzed using VOSviewer software and Citespace software to summarize the source journals, important research institutions, core research countries/regions, and highly cited papers, and to cluster the topics and analyze the research hotspots in nursing.

Results: A total of 5814 articles were retrieved, and the number of publications in nursing-related journals from 2020 to 2022 were 1368, 3104, and 1342, respectively. The top 3 journals in terms of number of articles published are International Journal of Environmental Research and Public Health, BMJ Open, and Journal Of Nursing Management; the top 3 institutions in terms of number of articles published are Harvard Medical School, Johns Hopkins University, and The top 3 institutions in terms of number of articles published were Harvard Medical School, Johns Hopkins University, and Emory University; the top 3 countries in terms of number of articles published in this field were the United States (1530, 26.36%), the UK ranked 2nd (525, 9.05%), followed by China (478, 8.24%); research hotspots in the nursing field during the epidemic mainly included psychological conditions of nursing staff, burnout, quarantine, personal protective equipment, etc. Organizational management issues.

Conclusion: There is a steady increase in the number of publications of relevant research globally. Universities are the backbone of innovative research, with the United States leading the world in the number of studies, while China is a world leader in the number and quality of papers. Mental health and burnout concerns in nursing are likely to be the focus of future attention, including psychological factors such as work stress, burnout, and risk of infection, as well as social factors such as isolation, social distance, and health care, and hardware aspects such as personal protective equipment and life-saving medical conditions.

Risk Factors of Stunting in Toddlers Aged 6-59 Months in The Work Area of Public Health Centre Laonti, South Konawe Regency, Southeast Sulawesi Province

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Background: Indonesia Toddlers Nutrition Status Survey (SSGBI) in 2019 reported that the prevalence of stunted and severely stunted toddlers reached 27,7%. Specifically, Southeast Sulawesi Province had a stunting prevalence of 30,0%. Laonti, a district located in South Konawe Regency is known as a very remote area and 63,2% of its area is covered by coastal.

Objective: To investigate the risk factors of stunting in toddlers aged 6-59 months in the work area of Public Health Centre Laonti, South Konawe Regency, Southeast Sulawesi Province

Method: This research used an observational study with a case-control approach. The samples were selected by simple random sampling with total 122 toddlers consisting of 60 cases and 62 control. Stunting was assessed by z-score height for age and analyzed by WHO Anthro 2005. Family income, history of exclusive breastfeeding, birth weight, nutrition status during pregnancy, history of diarrhoea and acute upper respiratory tract infection was measured using questionnaires and growth monitoring book. Toilet availability, clean water facility, and wastewater disposal by observation. Height was measured using microtoise and infantometer. Data analysis used Chi-Square statistical test.

Result: There is a relationship between family income ($p=0,000$; $OR=7,925$), birth weight ($p=0,001$; $OR=8,429$), nutrition status during pregnancy ($p=0,001$; $OR=4,503$), history of diarrhoea and acute upper respiratory tract infection ($p=0,046$; $OR=2,6$), toilet availability ($p=0,001$; $OR=3,83$), clean water facility ($p=0,001$; $OR=6,138$), and waste water disposal ($p=0,002$; $OR=3,231$). There is no relationship between the history of exclusive breastfeeding ($p=0,212$) and the incidence of stunting in the working area of Public Health Centre Laonti, South Konawe Regency.

Conclusion: Family income, birth weight, nutrition status during pregnancy, history of diarrhoea and acute upper respiratory tract infection, toilet availability, clean water facility, and wastewater disposal are the risk factors for stunting incidence in Laonti

Keywords: *Stunting, Toddler, Rural Area*

RajPushT – an Approach to Implement Evidence-based Equity-focused Nutrition Interventions

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Globally and in India, the Global Nutrition targets are not met. The 2021 Global Nutrition Report identifies 150 million children as stunted and 45 million as wasted. India owns almost half of this burden. The 2022 National Family Health Survey of India (NFHS-5) confirms no change in the levels of stunting and wasting amongst children and worsening Anaemia amongst women in the last five years.

Despite the economic growth in India in the past two decades, the state of malnutrition has remained undeterred in direct contradiction to the understanding that macroeconomic growth is essential in improving health and nutrition status in developing countries⁴. Regional inequities around socio-economic determinants like income, education, age, and social groups lead to disparity in the state of nutritional indicators⁵. Evidence suggests that while increased economic resources at the household level can help address some of these inequities, the challenges of age, social group, and ethnic and cultural vulnerabilities need extremely localized behavioral interventions⁶.

Rajasthan, a state in western India, performs poorly on maternal and child nutritional indicators. RajPushT, a program implemented by IPE Global and supported by the Children's Investment Fund Foundation, aims to improve the status of low birth weight and wasting in vulnerable tribal areas. The program combines conditional cash transfers with a behaviour change strategy to address complex nutritional challenges at the household and community level. The program has monitored anthropometric data for 100,000 women, 140,000 new-borns and 50,000 children and conducted multiple rounds of surveys of 12,000 sample sizes each to assess the impact of the interventions on nutrition outcomes.

The program result shows a 7%-point increase in dietary diversity for women and an 11% point amongst children, a 7%-point rise in weight gain during pregnancy, a 21% increase in adherence to early initiation of breastfeeding, and 40% in exclusive breastfeeding. All these indicators strongly correlate with exposure to behaviour interventions when adjusted for age, education, caste, sanitation and drinking water facilities.

The paper will establish the theory of change that improving household resources and combining them with localised communication interventions can influence nutrition-specific behaviours across socio-economic groups.

Keywords: *Maternal/Child Nutrition, Behavior change, diet diversity, IYCF practices*

⁴ <https://scholar.google.com/citations?user=vs8Os6UAAAAJ&hl=en&oi=sra>

⁵ <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0011392>

⁶ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3050933/#pmc.1000424-World1>

How has Climate Change Influenced Scrub Typhus Incidence in South Korea?

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Background: Global warming has compromised human health by increasing the incidence of infectious diseases. Scientific evidence is required to expand our knowledge of the association between meteorological factors and the incidence of infectious diseases. Our study focused on meteorological factors, such as ambient temperature, relative humidity (RH), and scrub typhus incidence.

Objective: We aimed to investigate the long-term effects of temperature and RH increase on the incidence of scrub typhus in South Korea.

Method: Meteorological data were combined with weekly scrub typhus cases reported in South Korea from 2001 to 2019. A generalized additive model was used to explore the nonlinearity of the lagged association between the meteorological variables and weekly scrub typhus incidence. The long-term association between meteorological factors and scrub typhus incidence was explored as follows: annual mean temperature or the number of heatwave days per year from 2001 to 2019 was subtracted from the past 30 years' mean and then regressed to annual scrub typhus incidence.

Results: Weekly scrub typhus incidence had a V- or U-shaped relationship with the mean temperature or RH 15 weeks prior. Above threshold temperature (14.9°C to 17.0°C), scrub typhus incidence increased by 1.85% (95% CI: 1.5, 2.2) per 0.1°C increase in mean temperature 15 weeks ago. Annual incidence increased by 3.7% (95% CI: 2.7%, 4.8%) and 2.5% (95% CI: 1.6%, 3.3%) per 0.1°C increase in annual mean temperature and per one day increase in heat-wave days, respectively.

Conclusion: An increase in mean temperature or RH in summer was associated with an increase in weekly scrub typhus incidence in the fall. An increase in the annual mean temperature or the number of heatwave days per year was associated with an increase in annual incidence during 2001–2019.

Keywords: *climate change, temperature, humidity, scrub typhus, incidence, infections*

Breast Cancer Prevention: Health Literacy among Women Living in the Multicultural Community of Southern Thailand

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Breast cancer is now a public health global concern as it has become the most common cancer diagnosed among women. Insufficient knowledge about breast cancer prevention and screening are common causes of breast cancer development. This paper examines the health literacy related to breast cancer and prevention among women living in the multicultural community of southern Thailand. 410 participants were selected through a stratified random sampling method. The data was analyzed using descriptive (percentage, mean and standard deviation) and inferential statistics (ordinal logistic regression: multivariate). It showed that the overall health literacy level of breast cancer was low. There was about one-third of participants indicated adequate health literacy about breast cancer (33.7%). 47 women (18.3 %) had limited health literacy whereas 64 (15.6%) had desirable health literacy. The mean and standard deviation of the overall scores of breast cancer health literacy were 84.3 (13.2) out of 100 %. Breast cancer prevention practice illustrated poor outcomes (68.0%). Factors related to health literacy about breast cancer included religion, occupation, history of a breast abnormality, and level of practicing breast cancer prevention. The findings suggested that sufficient health literacy about breast cancer prevention is a critical health promotion approach that can assist health care providers to promote and strengthen better knowledge among at risk group of women in southern Thailand.

Keywords: *health literacy; breast cancer prevention; multicultural community*

Forecast the Pandemic with Mobility and Vaccine Information

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Objectives:

- Find a suitable method to simulate human mobility
- Construct an advanced model to forecast the Covid-19 cases for the upcoming week
- Provide recommendations for health care providers regarding vaccination and treatment
- Forecast Covid-19 cases for the upcoming week

Human mobility is a primary driver of infectious disease spread. However, each person's activities cannot be tracked thoroughly, so the change of Covid-19 cases caused by human mobility cannot be monitored. Knowing nothing about Covid-19 transmission makes it difficult for the CDC to predict when Covid-19 peaks will occur, and therefore, it is difficult for the CDC to propose timely measures to prevent and reduce transmission.

This presentation proposes using Google Mobility Report to simulate human mobility. The data shows how visits to places are changing in each geographic region. With this data, human mobility changes can be used to reflect the mobility. Since Covid-19 may have seasonality, which means COVID-19 infectivity is stronger in colder climates, it is necessary to show this feature into the forecast model. Thus, Covid-19 forecast model will compose time series model and mobility simulation model to predict the influenza cases for the upcoming week.

Keywords: *Covid-19 Cases, Human Mobility, Time Series*

Embodying Transgender: Narratives of Trans Women in Online Forums

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In this paper, I will discuss the way that trans women embody their transgender identity, focusing on identity questioning, gender dysphoria, clinical gatekeeping, and medicalized narratives. Situated within the hermeneutics methodological approach, I adopted the unobtrusive research as a research method, where data was derived from online forums where trans women posted content about their perspectives and experiences of gender and gender transitioning. The thematic analysis method was used for data analysis. Findings suggest that gender identity is embodied and socially negotiated. Many trans women were initially ambivalent about their transgender identity and some continued to question their desired identity throughout adulthood. When presenting to healthcare professionals many trans women reported being expected to adopt a 'wrong body' narrative to gain access to treatment and surgery for gender transitioning and affirmation. Trans women face many challenges in being transgender person. In embodying their transgender, many interact with others in society as well as health care providers. It is crucial that we understand the ways trans women express their gender identity. Trans women have heterogeneous experiences which often do not match those of expected discourses (and diagnoses) which have implications for access to treatments to achieve their desired gender identity. I argue that transgender individuals have the right to carry out self-determination practices as a way to achieve their gender autonomy. Health care providers must understand the way trans women embody their identity as one of the myriad diverse human expressions of one's own gender.

Keywords: *Transgenderism, Trans women, Australia, Narratives, Online forums,*

Geographic Accessibility of Emergency Neonatal Care Services in Ethiopia

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Background: Measuring the physical accessibility of health services helps to understand the performance of health systems, enabling evidence-based health planning and policies. The physical accessibility of Ethiopian health services, particularly emergency neonatal care services, is unknown. The study aimed to analyse the physical accessibility of emergency neonatal care services at the national and sub-national levels in Ethiopia.

Methods: We analysed the physical accessibility of emergency neonatal care (EmNeC) services within 30, 60 and 120 minutes of travel time in Ethiopia at a national and sub-national level. We used the 2016 Ethiopian Emergency Obstetric and Neonatal Care (EmONC) survey in addition to several geospatial data sources

Results: We estimated that 21.4%, 35.9%, and 46.4% of live births in 2016 were within 30, 60, and 120 minutes of travel time of fully EmNeC services, but there was considerable variation across regions. Addis Ababa and the Hareri regional state had full access (100% coverage) to EmNeC services within two hours of travel time, while the Afar (15.3%) and Somali (16.3%) regional states had the lowest access

Conclusions: The physical access to emergency neonatal care services in Ethiopia is well below the universal health coverage expectations stated by the United Nations. Increasing the availability of EmNeC to health facilities where routine delivery services currently are taking place would significantly increase physical access. Our results reinforce the need to revise service allocations across administrative regions and consider improving disadvantaged areas in future health service planning.

Assessment of Primary Health Care in Malaysia: Quality Management Infrastructure, Innovation and Learning Components

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Introduction: The capacity components of a primary health care (PHC) system, such as governance, inputs and population health management, reflect the foundational properties of the system, enabling it to deliver high quality services. It also indicates whether the availability of policies, infrastructure and other physical and human resources, a strong population health management and effective facility management are in place.

This paper aimed to assess the capacity pillar of PHC performance in Malaysia, focusing on the measurement of quality management infrastructure, innovation and learning aspects.

Methodology: The assessment was conducted in 2019, using the Primary Health Care Progression Model, which is a mixed-method approach involving extensive document review and extraction of existing quantitative data, key-informant interviews and stakeholders' engagement. The level of performance ranges from the Level 1 (low) to the Level 4 (high), describing increasingly higher capacity and state of performance.

Results: Quality management infrastructure measure was scored 3. Primary care facilities under the Ministry of Health (MOH) are currently implementing a package of quality interventions to improve the quality of care. However, the private sector efforts on quality are based on mandatory monitoring and reporting as determined by the Private Healthcare and Facilities Services Act. Some quality improvement efforts have been initiated by groups of private PHC providers, but these are not well documented.

The innovation and learning measure was rated 2. There is an innovation hub for the public sector that serves as a repository of innovation for benchmarking and sharing. In the MOH, the Steering Committee of Innovation oversees the replication, scale up and commercialisation of innovation projects/ best practices. Innovation and learning cultures in MOH are not systemic, but there are examples of successful innovations scaled up to the state level and there are also isolated examples of innovations at the local level. However, they rarely include the private sector PHC providers.

Conclusion: The assessment provides a gap analysis on areas for improvement in strengthening quality infrastructure and the need to institutionalise the mechanism to upscale successful interventions and foster learning culture in PHC in Malaysia across the public and private sectors.

Keywords: *Primary Health Care, Quality Management Infrastructure, Innovation and Learning, Malaysia*

Efficacy of the Herbal Decoction *Varanadi Kashaya* in Managing Obesity of an Individual with Metabolic Disorders (Observational case study)

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Objective: Obesity is increasing at epidemic proportions globally giving rise to many serious non communicable diseases such as cardiovascular diseases, hypertension, type 2 diabetes and dyslipidemia. Even though there are drugs approved by Food and Drug Administration (FDA) and synthetic pharmaceuticals in the market they have many more side effects and doesn't have any direct effect on adipocytes which play the major role in making an individual obese. But several clinical studies have shown the potentiality of *Varanadi Kashaya* (VK) which is a polyherbal decoction prepared from the drugs of *Varanadigana*; mentioned in Ayurveda classic *Ashtanga Hrudaya* in suppressing adipogenesis and lipid accumulation favouring anti-obesity action without any side effect. Moreover, hypocholesterolaemic, anti-diabetic, antioxidant and free radical scavenging characteristics of the herbals which constitute VK make it a possibility to address metabolic disorders as well. However, the efficacy of VK in managing obesity of individuals with metabolic disorders has not yet been evaluated in detail. The aim of this study is to determine the efficacy of VK in an obese individual with metabolic disorders.

Materials and methods: VK was given for 30 days to an obese person with diabetes and hyperlipidaemia. The effect of VK was dictated by analysing the changes in anthropometry, Ayurveda parameters and laboratory investigations such as SGOT, SGPT, FBS, HbA1C and lipid profile. Results: High risk apple shape body was shifted into a ratio between apple and pear threshold which is of moderate risk to health problems by reducing weight/hip ratio from 0.95 to 0.84. Markedly reduction in LDL levels were observed from 112.6 mg/dl to 106.2 mg/dl. The reduction of Total cholesterol levels from 180 mg/dl to 171 mg/dl, and non-HDL levels from 132 mg/dl to 129 mg/dl were noticed in laboratory findings while some other parameters were constant throughout.

Conclusion: The results reveal the potency of anti-obesity action of VK which addresses both subcutaneous and visceral fat. Hence, opens up the potentiality of controlling obesity related metabolic disorders.

Keywords: *Ayurveda, obesity, pharmacological attributes, Varanadi Kashaya*

Structural Equation Modelling for Identification and Evaluation of Manifest Variables That Construct Factors Influencing the Condition of Babies at Birth During the COVID-19 Pandemic

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The condition of the baby at birth is an important factor in the growth and development of children. The condition of the mother during pregnancy, the quality of the mother's food intake, and the condition of the family environment. are factors that affect the baby's condition at birth. In this study, both the independent variable and the dependent variable are latent variables. This study aims to identify manifest variables from latent predictor variables in which the manifest response variables consist of infant length, infant weight, and baby health score based on several characteristics. Evaluation of the magnitude of the influence of both manifest variables on latent variables and latent predictor variables on response latent variables was modelled through the Structural Equation Modelling (SEM) approach which was completed with the PLS and AMOS algorithms. The results showed that the R2 of the PLS-SEM method was 78.6%, while the R2 of the AMOS-SEM method was 90.8%. The results of the evaluation of the measurement model through AMOS-SEM modelling are known that all manifest variables can measure the latent variables significantly. The manifest variable of arm circumference is known to be the strongest indicator for the latent variable of the condition of pregnant women, the manifest variable of Fe consumption is the strongest indicator of the latent variable of food intake of pregnant women, and the manifest variable of family sanitation is the strongest indicator of the latent variable of Family Environmental Conditions. on the other hand, the manifest variable Baby health score based on several characteristics as the strongest indicator to measure the latent variable of the baby's condition at birth.

Keywords: *AMOS-SEM, baby's condition at birth, latent variable, manifest variable.*

Maternity Health: Bypassing Phenomenon in North Moroccan Region-Case Study of Tanger City

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The bypassing concept is a phenomenon associated with hospitals in which patients receive medical services from a healthcare professional or facility located farther away than the one closest to their residence (Liu, J. J., et al., 2008). Understanding the concept and its behavior is crucial to formulate healthcare utilization policies and make cost-effective and appropriate access to care for all patients (Yaffee, A. Q., et al 2012). The bypassing phenomenon is especially frequent in emerging economies, including Morocco, and this phenomenon is especially important to address to improve maternity health issues. In this context, this research aims to describe the bypassing phenomenon in Morocco and in overall (including lack of human resource, lack of equipment and rural hospital conditions, lack of capacity including appropriate policy and investments), and to make a specific case study of the city of Tanger (Morocco), through a qualitative and/or quantitative case analysis.

Keywords: *Bypassing, public health, maternity health, hospital systems*

Conceptualising the social and psychological factors to enhance screening and testing for prostate cancer among Black men in the UK

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Despite considerable evidence that Black men in the UK are twice as likely to receive a diagnosis of prostate cancer and die from the disease in comparison to any other ethnic group (Mayor 2015), they are less likely to seek medical investigation for prostate cancer symptoms than their white counterparts. In spite of the stark racial inequalities in prostate cancer, there is a lack of understanding around low screening uptake which is a valuable tool for the early detection and prevention of the disease (Wagner et al., 2020). Pressure of masculine expectations, stigma of sexual dysfunctionality, lack of knowledge around prostate cancer, fear of outcomes, issues of mistrust/ mistreatment in healthcare have been found to play a vital role in screening and testing behaviour among black men. In the UK, intersectional research on Black men and prostate cancer is lacking. Intersectionality considers multiple axes of identity (e.g., race, class, and gender) as mutually constitutive and recognises the interlocking nature of the social categories (e.g., black/white, middle/low class and man/women) create a unique context of marginalisation and privilege (Collins 1999; Veenstra 2011; Shields 2008). The current presentation draws on intersectionality to examine the social and psychological factors in help-seeking behaviour of those at the margins of gender and race (i.e., black men) to shed light on the potential steps that can be taken to ensure effective early detection of prostate cancer among Black men.

Keywords: *Prostate cancer, Black men, UK, intersectionality, screening, and testing*