Dalla Lana
School of Public Health

Research and Practice Virtual Showcase 2020
Friday, October 30 2020

Mental Health and Environmental Health

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Name: Safa Ahmad

Program: MPH Epidemiology

Project Title: The Effect of Pod-type Device Use and Nicotine-related Characteristics on Future Vaping Behaviour in a Sample of Canadian Youth and Young Adults

Research or Practice: Research

Key Words: Mental Health and Addictions, Prevention

Abstract:

Background: A national study conducted between 2017 and 2019 found that the prevalence of vaping 20 days or more in the past month increased among Canadian youth, who may be at risk of developing nicotine dependence and smoking habits as a result. Pod-type devices, which facilitate inhalation of higher nicotine concentration than other devices, became popular after nicotine-based e-cigarettes legally entered the Canadian market in May 2018.

Objective: To determine if baseline nicotine-related factors and pod use affect future vaping behaviour in a sample of Canadian youth and young adults.

Design and Participants: Sample of 1048 participants aged 16-24 years recruited in March 2018 via social media and a recontact list from a provincial tobacco-related initiative. Online surveys were conducted in March of 2018 and 2019 (n=668).

Methods and Results: Multinomial logistic regression models were used to examine the effect of each potential risk factor on persistence in and frequency of vaping (moderate (>8 days in past month) and almost daily/daily (>23 days)) at follow-up. Each model was adjusted for demographic factors and baseline vaping frequency, substance use, and smoking status. Past-6-month pod use was more strongly associated with almost daily/daily than with moderate vaping (aRRR = 3.89, 95% CI = 1.82–8.31, P < 0.001) and with persistent than with discontinued vaping at follow-up (aRRR = 4.42, 95% CI = 2.05–9.54, P < 0.001). Frequent, rather than infrequent, baseline nicotine use was more strongly associated with almost daily/daily than moderate vaping (aRRR= 2.50, 95% CI= 1.23 –5.00, P < 0.001).

Conclusions: Baseline nicotine e-cigarette use and pod use within six months of follow-up, adjusted for demographic and substance use-related factors, were associated with more frequent vaping at follow-up in our sample of young Canadians. Mitigating vaping-related risks in this population warrants attention to their access to nicotine-based e-cigarettes.

Name: Bonnie Cai

Program: MPH Social and Behavioural Health Science (Health Promotion)

Project Title: Patient and Family Engagement: Co-designing care in British Columbia's Mental Health and Substance Use System.

Research or Practice: Practice

Key Words: Knowledge Translation, Mental Health and Addictions, Policy

Abstract: British Columbia Mental Health and Substance Use Services (BCMHSUS) provides mental health services, education, and health promotion initiatives to people with mental health and substance use issues across the province of BC. As a Project Coordinator in the Patient and Community Engagement portfolio, I performed a variety of work to support patient and family engagement under the newly created Patient Engagement Framework. Engaging patients and families as active participants and co-designers of their own care is an important component of patient-centred care that improves healthcare quality, health outcomes, and overall experiences of care at a system level. To work towards this goal, I developed a trauma-informed policy and procedure for BCMHSUS on patient and family engagement to serve as a guideline for giving patients and families a voice in the design and delivery of their mental health care. I also drafted two patient engagement playbooks called Managing Conflict and Respecting Emotions and Engaging Mandated and Incarcerated Patients, which focus on barriers and solutions to engaging patients in vulnerable circumstances. Moreover, I worked with provincial stakeholders to write the annual report for the BC Partners, which is a collaborative mental health promotion partnership between BCMHSUS and 7 provincial organizations with different mental health and substance use specialties (e.g. BC Schizophrenia Society, The Mood Disorders Association of BC, Canadian Institute for Substance Use Research, etc.). I also performed a literature review of the evidence supporting family engagement in patient- and family-centred care, and I made infographics and other visual designs to translate research and knowledge in visually appealing ways. Overall, my practicum helped me contribute towards advancing public mental health by valuing patients' knowledge, skills, and lived experience in the health system and working on a variety of initiatives to promote mental health in the province.

Name: Hoora Emami

Program: MPH Social and Behavioural Health Science (Health Promotion)

Project Title: Exploring Frontline Healthcare Worker's Stress and Recovery Off-Shift during the COVID-19 Pandemic

Research or Practice: Practice

Key Words: Infectious and Communicable Disease, Mental Health and Addictions

Abstract: I completed my practicum with 4YouandMe, a non-profit created to aid individuals who are interested in sharing health-related data using smartphones and other wearable devices so that they can better understand and navigate health conditions. The Stress and Recovery Study used the Oura ring and smartphones to track and understand the multidimensional components of stress and recovery off-shift in frontline healthcare workers during the current COVID-19 pandemic. My role in this study was actively working as a clinical research coordinator and digital participant engagement expert. This role consisted of calling participants and asking them about their overall study experience, details regarding their stress triggers, their home and work environments, and use of their Oura ring. I was responsible for maintaining contact with about 70 participants and creating contact logs after each phone call. The purpose of these phone calls is to provide support and encourage participant adherence to the study tasks. In addition to this primary role, I also completed an emerging COVID-19 hotspot map that was used in the recruitment process of the study. I outlined regions in the U.S that may become hotspots for COVID cases and may subsequently translate to a higher stressed group of healthcare workers in those areas. Additionally, I contributed to developing adherence tracking frameworks and other study materials used by team members. This study is contributing to the public health literature by using novel methodologies including digital approaches to understanding stress. Looking at digital stress responses and biometric data as signals to predict infection may inform other tools to aid in early detection. Finally, the study aims to determine whether resiliency factors and some social determinants of health modify stress and recovery.

Name: Iman Musani

Program: MPH Epidemiology

Project Title: Opioid-related hospitalizations with co-diagnoses for mental disorders in Canada

Research or Practice: Research

Key Words: Mental Health and Addictions, Opioid Surveillance, Comorbidities

Abstract: Canada is in the midst of an opioid crisis, with 19,377 opioid-related hospitalizations and 15,393 opioid-related deaths occurring between January 2016 and December 2019. At the federal government level, gaining a better understanding of the mental health profile of those who experience opioid-related harms has been identified as a priority to inform evidence-based policies and interventions. There is evidence to suggest that many people experiencing opioid-related harms also experience other mental disorders, but most of the research in this area has been conducted in US and UK populations. Using national hospital administrative data (CIHI-DAD), we examined three types of opioid-related hospitalizations and their associated co-diagnosed mental disorders from April 2018 to March 2019. Our analysis found that co-diagnoses for mental disorders are common among people hospitalized for opioid-related poisonings, opioid use disorders and adverse drug reactions from prescribed opioids. For people hospitalized for these opioid-related harms, other substance-related and addictive disorders (including disorders due to the use of alcohol, cannabinoids, cocaine, other stimulants, sedatives and hallucinogens) were the most common co-diagnosed mental disorders. We also observed age - and sex-specific differences in the presence of co-diagnosed mental disorders. These findings highlight the importance for interventions to incorporate a poly-substance use lens that accounts for varying harms by substance type and context of use. It is important to note that these data do not reflect the overall prevalence of co-occurring mental disorders among people experiencing opioid-related harms in Canada, but rather co-diagnoses for mental disorders which were deemed significant to the patient's hospital stay. The mental disorder data from our analyses reflect minimal estimates and future research is needed to determine overall co-occurring prevalence. The Government of Canada will continue to work to improve data and analysis to inform strategies and interventions to reduce opioid-related harms across the country.

Name: Gul Saeed

Program: MPH Social and Behavioural Health Science (Health Promotion)

Project Title: Resuming In-person Psychological Treatment in the Era of COVID-19: Barriers & Facilitators

Research or Practice: Research

Key Words: Patient Centred Research, Perinatal Mental Health, Psychological Treatments, COVID-19

Abstract:

Background: Patient-centered research has emerged as a promising model to adequately address the needs and preferences of patient populations with mental disorders. Effective patient-centered research actively engages multiple stakeholders, including patients, their families, and health professionals, to ensure that patients' perspectives are fully represented. The SUMMIT Trial aims to increase access to psychological treatment and implements a multi-stakeholder perspective to understand the needs/preferences of perinatal populations with symptoms of depression and anxiety. Specifically, this randomized trial examines whether Behavioral Activation (BA) delivered via telemedicine is as effective as in-person treatment. However, due to COVID-19, the study suspended in-person BA sessions and completely shifted to telemedicine. To ensure BA remains widely accessible, The SUMMIT Team strives to resume in-person treatment in the near future.

Objective: To gain perspectives of key stakeholders on the potential barriers and facilitators for participants to resume in-person BA sessions in a COVID-19 context.

Methods: The Focus Group Discussion (1 hour) was conducted via Zoom with N=10 stakeholders, including patient advocates, nurses, clinicians, and researchers. Qualitative data was coded using NVivo and content analysis was performed to quantify frequently endorsed themes.

Results: The majority of stakeholders considered resuming in-person BA sessions to be a challenge amidst COVID-19, with more barriers than facilitators mentioned overall. Most commonly endorsed barriers that participants may face when attending in-person treatment included arranging childcare (n=8; 80%) and discomfort/fear of coming to the hospital (n=7; 70%). The most widely endorsed facilitators for resuming in-person treatment during COVID-19 were clearly communicating hospital and transportation safety precautions to participants (n=7; 70%) and conducting in-person sessions at an off-site location (n=7; 70%).

Conclusion: The results can inform: 1) how and when to resume in-person BA sessions, and 2) the design and implementation of strategies to make in-person psychological treatments more patient-centered for perinatal populations during COVID-19.

Name: Yina Shan

Program: MPH Social and Behavioural Health Science (Health Promotion)

Project Title: Greenness and asthma, allergic rhinitis, and bronchitis: A systematic review and meta-analysis

Research or Practice: Research

Key Words: Environmental Health, Built Environment

Abstract:

Background: Respiratory illnesses contribute significantly to the global burden of disease. Environmental factors such as greenness may affect the etiology of respiratory illnesses; however, the mechanisms are not well-understood, and findings are inconsistent. This understanding has practical implications on promoting health through urban planning and built environment policies.

Objectives: This systematic review and meta-analysis investigated the association between greenness and the risk of asthma, allergic rhinitis, and bronchitis in the general population, including children and adults.

Methods: A systematic search of peer-reviewed literature was conducted in Web of Science, Scopus, Embase, Medline, AMED, Cochrane Library Central, CINAHL, GreenFILE, and Sociological Abstracts up to September 1, 2020. The Newcastle-Ottawa Scale was used for quality assessment. Meta-analyses were performed to assess the effect of greenness, as measured by the Normalized Difference Vegetation Index (NDVI), on asthma and allergic rhinitis.

Results: The review included 45 epidemiological studies using varying study designs, greenness measures, and outcome measures. The meta-analysis included eight studies (6 and 5 for asthma and NDVI in a 100-meter and 500-meter buffer, respectively, and 4 for allergic rhinitis and NDVI in a 500-meter buffer). The pooled odds ratios for asthma and 100-meter buffer NDVI (OR: 0.99 95%CI: 0.93-1.06; I2: 61%), asthma and 500-meter buffer NDVI (OR: 0.99 95%CI: 0.83-1.19; I2: 70%), and allergic rhinitis and 500-meter buffer NDVI (OR: 1.00 95%CI: 0.94-1.06; I2: 0%) showed no significant overall association. There were insufficient studies to conduct a meta-analysis for bronchitis.

Conclusion: The effect of greenness on asthma, allergic rhinitis, and bronchitis varied due to differences in study design, exposure and outcome measurement, covariates, and regional characteristics between studies. Standardized measures, study designs, and confounders are needed to generate comparable findings. Future studies should investigate aspects of greenness such as allergenicity and seasonality to elucidate the complex links between greenness and respiratory illnesses.