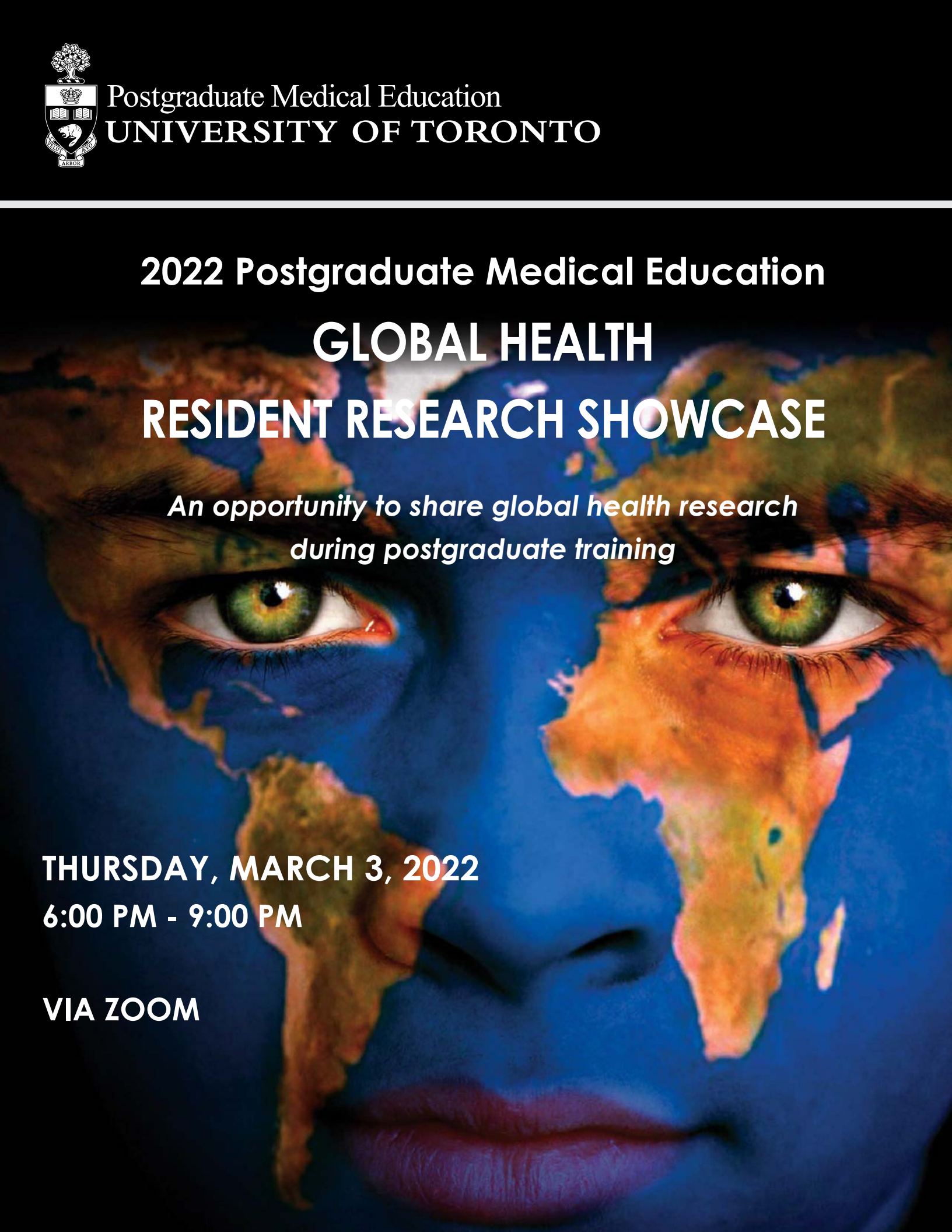
Postgraduate Medical Education
UNIVERSITY OF TORONTO

2022 Postgraduate Medical Education

GLOBAL HEALTH RESIDENT RESEARCH SHOWCASE

An opportunity to share global health research during postgraduate training



THURSDAY, MARCH 3, 2022
6:00 PM - 9:00 PM

VIA ZOOM

PROGRAM

6:15pm *Opening comment by Dr. Barry Pakes, Global Health Academic Lead, PGME*
Moderated by Dr. Hannah Thomas, Urology PGY1, University of Toronto

6:20pm #1. An old disease with a modern twist: Scurvy in a patient following a restricted diet recommended on the internet. Sonya Vukovic, Internal Medicine PGY3

6:35pm #2. Global Burden of Head and Neck Cancer:
Economic Consequences, Health, and the Role of Surgery
Jennifer Siu, Otolaryngology-Head & Neck Surgery PGY5,Tuft School of Medicine

6:50pm #3. Initiating Ethiopia's First Minimally Invasive Surgery Program:
A Novel Approach For Collaborations In Global Surgical Education
Adom Bondzi-Simpson, General Surgery PGY3, University of Toronto

7:05pm ***BREAK***

7:15pm #4. Delivering Essential Surgical Care for Lower-limb Musculoskeletal disorders in the Low-Resource Setting
Deeptiman James, Orthopedic Surgery Fellow SickKids, Toronto

7:30pm #5. Service Users and Carers' Perspectives on Borderline Personality Disorder in Pakistan: A Mixed Methods Protocol. Thea Hedemann, Psychiatry PGY3, CAMH

7:45pm #6. 'My world has been shrunk' - a qualitative study among Tamil seniors perceiving hardships and major changes in their life.
Umaharan Thamotharampillai, Psychiatry Fellow, CAMH

8:00pm ***Q & A****, Discussion moderated by Dr. Hannah Thomas*

9:00pm ***END***

ABSTRACTS

1. An old disease with a modern twist: Scurvy in a patient following a restricted diet recommended on the internet

Author 1. Dr. Sonya Vukovic, Internal Medicine PGY2
Author 2. Dr. David Frost, Internal Medicine, University Health Network Staff
Author 3. Dr. Cheryl Rosen, Dermatology, University Health Network Staff

Background. Scurvy is a life-threatening disease caused by a dietary deficiency of vitamin C. Often it is thought of as a historical condition occurring during mariner voyages centuries ago. In the developed world, scurvy predominantly affects vulnerable populations, including those with psychiatric or substance use disorders, isolated or dependent individuals, and those who follow strict dietary restrictions.

Objective: We present a rare case of scurvy, provoked by dietary health misinformation found online. Unverified diet related advice is a prevalent domain online with serious health consequences.

Methods: We present a case of a 35-year-old man with chronic interstitial cystitis (IC) who presented to hospital with a 1-week history of spontaneous ecchymoses, preceded by several months of a generalized petechial rash.

Results: Serum ascorbic acid level was undetectable at <5 umol/L. Skin biopsy showed a superficial perivascular and perifollicular lymphocytic infiltrate with focal erythrocyte extravasation supporting a diagnosis of scurvy. A dietary history highlighted a severely restricted diet consisting of quinoa and eggs for several months, with no fruit or vegetable intake. He made these changes following a recommendation from an online support group for IC, with the aim to decrease his symptoms of dysuria and frequency.

Conclusions: Our case highlights how unverified medical information, widely available online, can impact patients' health. The risks of unconventional and non-evidence-based interventions are often unknown to those recommending or implementing them. In this case, identification of health misinformation led to treatment with improvement in constitutional and mucocutaneous symptoms within days of initiating vitamin C replacement.

2. Global Burden of Head and Neck Cancer: Economic Consequences, Health, and the Role of Surgery

Author 1. Rolvix Patterson, PGY 2 Otolaryngology-Head & Neck Surgery Tuft School of Medicine
Author 2. Victoria Fischerman PGY 2 University of Colorado. Otolaryngology Head & Neck Surgery
Author 3. Mark G. Shrime, Otolaryngology-Head & Neck Surgery Center for Global Surgery Evaluation, Massachusetts Eye and Ear Infirmary, Boston, Massachusetts, USA
Author 4. Blake Alkire, Otolaryngology-Head & Neck Surgery Center for Global Surgery Evaluation, Massachusetts Eye and Ear Infirmary, Boston, Massachusetts, USA

Objective. We aimed to describe the mortality burden and macroeconomic effects of head and neck cancer as well as delineate the role of surgical workforce in improving head and neck cancer outcomes.

Methods. We conducted a statistical analysis on data from the World Development Indicators and the 2016 Global Burden of Disease study to describe the relationship between surgical workforce and global head and neck cancer mortality-to-incidence ratios. A value of lost output model was used to project the global macroeconomic effects of head and neck cancer.

Results. Significant differences in mortality-to-incidence ratios existed between Global Burden of Disease study superregions. An increase of surgical, anesthetic, and obstetric provider density by 10% significantly correlated with a reduction of 0.76% in mortality-toincidence ratio (P \.0001; adjusted R2 = 0.84). There will be a projected global cumulative loss of $535 billion US dollars (USD) in economic output due to head and neck cancer between 2018 and 2030. Southeast Asia, East Asia, and Oceania will suffer the greatest gross domestic product (GDP) losses at $180 billion USD, and South Asia will lose $133 billion USD.

Conclusion. The mortality burden of head and neck cancer is increasing and disproportionately affects those in low- and middle-income countries and regions with limited surgical workforces. This imbalance results in large and growing economic losses in countries that already face significant resource constraints. Urgent investment in the surgical workforce is necessary to ensure access to timely surgical services and reverse these negative trends.

3. Initiating Ethiopia's First Minimally Invasive Surgery Program: A Novel Approach For Collaborations In Global Surgical Education

Author 1. Adom Bondzi-Simpson, General Surgery PGY3, University of Toronto
Author 2. Melanie Keshishi, MD Program, Temerty Faculty of Medicine, University of Toronto
Author 3. C.J. Lindo, MD Program, Temerty Faculty of Medcine, University of Toronto

Objective: Complex lung diseases are among the leading causes of death in Ethiopia. Access to thoracic surgery is limited and prior to 2016 no thoracic surgeons were trained in minimally invasive surgery (MIS). A global surgical partnership was formed between an academic institution in Canada and Ethiopia. Here, we describe implementation of the first MIS training program in sub-Sahara Africa.

Methods: Retrospective cohort analysis of open versus MIS thoracic and upper gastrointestinal procedures performed at an academic institution in Ethiopia from January 1, 2016, to June 1, 2021. Baseline demographic, diagnostic, operative, and post-operative outcomes including length of stay (LOS) and complications were compared.

Results: In our bilateral model of surgical education, training is provided in Ethiopia and Canada over two years with focus on capacity building through egalitarian forms of knowledge exchange. Program features included certification in fundamentals of laparoscopic surgery , high-fidelity lobectomy simulation and hands on training. Overall, 41 open and 56 MIS cases were included in final statistical analysis. The average LOS in the MIS group was 5.2 days versus 11.0 days in the open group (p-value < 0.001). The overall complication rate was 18% (10/56) in the MIS group versus 39% (16/41) open (p-value 0.020).

Conclusions: Here we demonstrated the successful initiation of sub-Sahara Africa's first MIS program in thoracic and upper gastrointestinal surgery with over a 50% reduction in LOS and overall complications. We envision the MIS program as a template for expanding global partnerships and improving surgical care in other resource-limited settings.

4. Delivering Essential Surgical Care for Lower-limb Musculoskeletal disorders in the Low-Resource Setting

Author 1. Deeptiman James, Fellow, Orthopedic Surgery, SickKids, Toronto
Author 2. Faye M Evans, Anaesthesiology, Harvard Medical School, Boston, USA
Author 3. Ekta Rai, Anaesthesiology, CMC Vellore, India
Author 4. Nobhojit Roy, Global Public Health, Karolinska Institutet, Stockholm, Sweden

Background: Mismatched surgeon-anesthesiologist ratios often exist in low-resource settings making safe emergency essential surgical care challenging. This study is an audit of emergency essential procedures performed for lower-limb (LL) musculoskeletal disorders (MSD) when an anesthesiologist was unavailable. It aims to identify strategies for safe anesthesia.

Methods: A 5-year retrospective audit of emergency essential LL orthopedic procedures performed at remote mission hospital in Central India was performed. Out of necessity, a regional anesthesia (RA) protocol was developed in collaboration with anesthesiologists familiar with the setting. The incidence of intraoperative surgical and perioperative anesthesia complications when RA was administered by a surgeon was evaluated.

Results: During this period, 766 emergency essential LL MSDs procedures were performed. An anesthesiologist was available for only 6/766. RA was administered by a surgeon for 283/766. This included spinal anesthesia (SA) for 267/283 patients, peripheral nerve blocks for 16/283. Local infiltration and/or sedation was administered to 477/766. There were 17 intraoperative surgical complications. Anesthesia-related complications included 37/267 patients who required multiple attempts to localize subarachnoid space and SA failure in 9/267 patients all of whom had successful re-administration. Additional sedation and infiltration of local anesthetic was required in 5/267 patients.

Conclusion: Remote pre-anesthesia consultation for high-risk patients, local surgeon-anesthesiologist networking, protocol-guided management, and dedicated short duration of training in anesthesia may be considered as an alternative for delivering RA for emergency essential surgery for LL MSDs due to unavailability of anesthesiologists.

5. Service Users and Carers' Perspectives on Borderline Personality Disorder in Pakistan: A Mixed Methods Protocol

Author 1. Thea Hedemann, PGY3, Psychiatry, Centre for Addiction and Mental Health (CAMH), Toronto
Author 2. Omair Husain, Staff Psychiatrist, Supervisor, CAMH
Author 3. Ishrat Husain, Staff Psychiatrist, Co-Supervisor, CAMH

Background: Borderline Personality Disorder (BPD) is a condition characterized by significant social and occupational impairment and high rates of suicide. Stigma may cause service users to fear mistreatment and potentially create barriers to care. Patients' understanding of a BPD is also essential to care. Most BPD research has been conducted in high-income countries. More specifically, the perspectives of service users with BPD and their carers have not been researched in the Pakistani setting. These perspectives may differ from service users and carers in high income settings due to economic, cultural, and health care system differences.

Aims and Objectives: To understand lived experience of service user's with BPD and their carers in Pakistan. We hypothesize that service user's and carers understanding of BPD is heterogeneous, and their general understanding of etiology, prognosis, and treatment is limited.

Methods: We will recruit 100 service users with BPD and 100 family members/carers from 5 academic centres across Pakistan to participate in the Short Explanatory Model Interview (SEMI). The SEMI is a validated research tool, which has a semi-structured approach. Data will then be analyzed both from a qualitative and quantitative perspective.

Results/Conclusions: We have partnered with Pakistan Institute for Living and Learning (PILL) for this project, which is currently under ethics review. Results of this study will help identify current barriers that may be impeding care for service users with BPD. It will also help guide psychoeducation strategies and help culturally-adapt interventions for service users with BPD in Pakistan.

6. 'My world has been shrunk' - a qualitative study among Tamil seniors perceiving hardships and major changes in their life.

Author 1. Umaharan Thamotharampillai, Fellow, Psychiatry, Centre for Addiction and Mental Health, Toronto
Author 2. Parvathy Kanthasamy, Toronto

Background: The elderly period is not only the period of carrying increased risk for physical morbidity but also for mental health issues such as depression, dementia, and suicide. It is the period where remarkable changes and hardships in life take place, including retirement, mobility problems, dependency, chronic illnesses, etc. However, gerontology is in its early stages of knowing how these changes affect old people. This study attempts to establish a conceptual framework by which these changes and hardships affect Tamil senior citizens in Canada.

Objectives: Defining what the internal world is, knowing how changes and hardships in late life affect the internal world of the elderly population, and recognizing the association between the internal world and mental well-being.

Method: Semi-structured qualitative in-depth interviews were conducted with groups of Tamil elders who lived in the Greater Toronto Area (GTA) to discuss major changes and hardships they were encountering, how these issues were affecting them, and how they were compensating for the issues. The interviews were voice recorded and analyzed in an interpretive phenomenological tradition of thematic analysis.

Results: Those seniors who presented with psychological distress admitted that their internal world had been compromised by the hardships and changes, they indicated the compromise with the verbatim 'shrinkage of the world', and claimed the compromise of the internal world to be directly associated with a decline in their mental well-being. The participants also identified that compensations against hardships and changes such as adopting a new role prevented or restored 'shrinkage of the internal world'.

Conclusion: Negative changes and hardships during the elderly period compromise the perception of the internal world and the compromise is associated with poor mental well-being. Measures that compensate for hardships and negative changes prevent or revert the compromise and thus lift or restore the psychological well-being of elderly people.

Special Thanks to . . .

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