

past 30 days. Bivariate analyses yielded positive associations between high female relationship power and couples' consistent condom use (OR=3.92,  $p=0.02$ , 95% CI: 1.31-5.73), couples' SCSE and couples' consistent condom use (OR=1.33,  $p < 0.001$ , 95% CI: 1.21-1.46) as well as high female relationship power and couple's SCSE (OR=3.39,  $p=0.001$ , 95% CI: 1.77-5.01). The mediation analysis revealed that couples' SCSE explained 86% (95% CI: 0.06-0.28) of the association between high female relationship power and couples' consistent condom use.

**Interpretation:** SCSE mediates the association between high female relationship power and consistent condom use among heterosexual couples in South Africa. Future interventions that equip couples with the skills to communicate effectively about sex and HIV, and promote equitable power dynamics in sexual relationships could increase consistent condom use and prevent HIV transmission in couples.

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**Abstract #:** 01SEDH021

### The refugee health passport: a portable medical history tool that facilitates communication for newly arrived refugees in interpretation-limited, acute care settings

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**Program/Project Purpose:** In 2014 the University of Ottawa's Refugee Health Initiative (RHI), a medical student-led interest group, launched the Refugee Health Passport (RHP) pilot project. The RHP aims to address potential inequities in acute care provision, arising from language barriers between care providers and refugees. It is a patient-held medical record that provides critical information to healthcare workers; for use in acute care encounters with newly arrived refugees when interpretation services are unavailable. The RHP is implemented through the RHI Community Service Learning (CSL) program, currently in its third year of operation. This program coordinates student volunteers to assist refugees in their first year of resettlement, in partnership with the Catholic Centre for Immigrants (CCI) and the Canadian Collaboration for Immigrant and Refugee Health (CCIRH). By providing refugees with a communication tool for acute medical situations, the RHP helps fulfill RHI's three objectives: 1) To support newly arrived refugees in their first year of resettlement and to help families navigate the barriers that prevent integration into the Ottawa community, 2) To provide relevant cultural competency training to medical students, and 3) To work collaboratively with community partners to fill needs that are not currently being addressed by other program mandates.

**Structure/Method/Design:** The Refugee Health Passport is a patient-held booklet designed by students, in consultation with physician advisors, that includes: 1) A streamlined medical history relevant to acute care situations 2) Space for medical professionals to add new information, and 3) A basic medical translation tool, for the language of the passport holder. During routine medical intake interviews, medical students fill out an RHP for each new refugee client, under the supervision of a physician. Passport holders present their RHP to health care providers during future acute care encounters to facilitate communication.

**Outcomes & Evaluation:** To date, the Refugee Health Initiative - Community Service Learning program has trained 46 students as 'health brokers' for the refugee population. These students have contributed over 1500 hours of community service and provided support to 21 refugee families in Ottawa. This year the program will be serving nine new families. A formal evaluation of the CSL program is

underway in 2014-2015 and will include evaluation of the RHP through feedback from physicians, students, refugees and community partners.

**Going Forward:** Priorities moving forward are to identify and address logistical problems with the use of the RHP as it is incorporated into the RHI's medical interview. Obtaining proper informed consent and appropriate use of the passport is dependent on reliable interpretation during this medical interview. Ethical and legal questions pertaining to the passport's content and use are being reviewed with the guidance of experienced physicians and lawyers.

**Funding:** University of Ottawa Aesculapian Society CFMS Student Initiative Grant.

**Abstract #:** 01SEDH022

### Hands-on approach to psychiatric research training in India and Egypt

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**Background:** Psychiatric research lags in low and middle income countries (LMIC), partly due to a dearth of trained researchers. Though research training is available in many LMICs like India and Egypt, it suffers from a lack of resources and is, consequently, unpopular. Meanwhile, research training is relatively expensive in high income countries, so we explored the feasibility of supplementing research training in India or Egypt with mentored, focused, training in the USA. The collaborative enterprise relied on consensus building and on equitable partnership.

**Methods:** The training program, based at the University of Pittsburgh (Pitt), was initiated in 1990 in India and extended to Egypt in 2001. To be eligible, trainees need to be registered for postgraduate training at selected sites in India and Egypt. They are selected competitively and are teamed with local and US training faculty who assist each trainee to design and implement a research project; financial support is provided for the research project, and additional didactic training is offered on a case-by-case basis. Needed didactic and practical training at Pitt complements local didactic course work and local research supervision. Ethics training is mandatory. Trainees are encouraged to publish their results, use their data to seek independent funding, and join a training faculty "without walls" on graduation. Trainee progress is tracked during and after the training process.

**Findings:** The initial collaboration with Dr. Ram Manohar, Lohia Hospital, Delhi (RML) now extends to five other sites in Delhi, Hyderabad and Manesar (India); Mansoura and Cairo (Egypt). We have mentored and trained 18 individuals successfully, of whom 13 have received local faculty appointments and 8 have joined our training faculty. All the trainees received didactic and practical training at Pitt. One trainee subsequently won independent NIH funds for her post-training research. We have helped establish and equip functioning psychiatric genetics laboratories in Delhi and Mansoura. Currently, 5 research projects are in progress, of which two were developed among Indian or Egyptian collaborators with minimal US faculty involvement. We have published over 50 peer reviewed manuscripts in international journals.

**Interpretation:** It is feasible to establish, nurture, grow, and sustain research training programs with cross-site LMIC-US collaboration. The overall effect is to enlarge the research cadre and expand research activities. Our collaboration has evolved successfully to encompass "South-South collaborations." Ensuring support and enabling funds

for trainees after they graduate is a crucial component of long-term success.

**Funding:** The training was initially funded through personal resources. It has since received four rounds of competitive funding from NIH, as well as the World Health Organization, Department of Biotechnology (India), Department of Science and Technology (India), Indian Council of Medical Research, and the Egyptian Ministry of Scientific Research.

**Abstract #:** 01SEDH023

### Individual and community factors contributing to anemia among women and children living in a rural community in Baja California, Mexico

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**Background:** A disproportionately high prevalence of anemia has been found among the families of agricultural laborers in Baja California, Mexico. The purpose of this study was to measure anemia prevalence and to identify the individual and community factors contributing to causes of anemia among women and children living in a rural, agricultural community.

**Methods:** A cross-sectional study was performed in October 2012 among women (15-49 years) and their children (24-59 months) living in a rural, agricultural community in Baja California, Mexico. Recruitment of participants was performed by the random selection of community households and through the random selection of attendees at a free, temporary medical clinic. A survey comprised of demographic, socioeconomic (SES), health, and dietary questions was administered to all participants via face-to-face interview. A capillary blood sample was obtained from all participants and a HemoCue photometer was used to measure hemoglobin and diagnose anemia. A sample of venous blood was collected from anemic women and children and sent to a laboratory for analysis. Anemic participants received vitamin supplements and nutritional counseling. Six community grocery stores were also visited to ascertain the types of foods available for purchase.

**Findings:** A total of 118 women (15-49 years of age) and 25 children (24-59 months of age) participated in the study. Prevalence of anemia was 22% among women and 20% among children. Blood tests revealed all cases of anemia were due to nutritional deficiencies, with iron deficiency being the primary culprit in 100% of children and 80.8% of women. Other causes of anemia in women were vitamin B-12 deficiency (11.5%) and combined iron and vitamin B-12 deficiency (7.7%). Among women, low SES was significantly associated with being anemic ( $p=0.008$ ) and enrollment in the government assistance program Oportunidades was associated with being anemic ( $p=0.042$ ). Vitamin supplement use was protective against being anemic ( $p=0.024$ ). Dietary assessments showed limited consumption of iron absorption promoting foods. Grocery store assessments revealed at least one type of meat and citrus fruit available for purchase at each store; however, leafy green vegetables were only available for purchase at one store.

**Interpretation:** All cases of anemia were attributed to nutritional deficiencies. While vitamins are a temporary solution, improved knowledge, access, and affordability of iron absorption promoting foods is needed in this community. Government assistance programs

like Oportunidades are available, but other subsidies may be necessary, especially for low SES households.

**Funding:** none.

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### The effects of household assets inequality and conflict on population health in Sudan

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**Program/Project Purpose:** We explored the effects on health of both household asset inequality and political armed conflict in Sudan. Using the 2010 Sudan household survey, we evaluated the role of both household asset distribution (measured by the Gini coefficient) and armed conflict status at the state level. We measured associations with six health-related outcomes: life expectancy, infant mortality, height-for-age (stunting), adequacy of food consumption, teenage birth rates and vaccination coverage for young children. We hypothesize a relationship between household assets inequality, conflict and poor health outcomes in Sudan. We sought to understand the effects on health of both inequality and political armed conflict in Sudan, a northeast African country with seven international borders. Sudan's 31 million people represent diverse cultures, both Arabic and African. Sudan is a poor country, with a Human Development index of 0.41, ranking 171st of 187 countries. The country has suffered political instability since independence from Britain in 1956, with two revolutions and a 40-year civil war. Armed conflict in western Sudan and states bordering South Sudan are ongoing.

**Structure/Method/Design:** We analyzed the relationship between household assets inequality, conflict and health outcomes in Northern Sudan, using data from Sudan's recently released cross-sectional household health survey conducted in the period (March - May 2010). For most of our health outcomes, as well as for our measures of household assets and their unequal distribution. We used census data for measures of mortality rates. Data analysis: we used the statistical program "R" (a GNU free software project, <http://www.r-project.org>) to calculate Gini coefficients following the specification of two vectors:  $Gini(x, weights = rep(1, length=length(x)))$  where the first vector,  $x$ , is the z-score value of assets for each household, and where the second vector,  $weights$ , is the sampling weight for  $x$ . This second vector was necessary to calculate the Gini for Sudan as a whole since the survey sampling was a complex one, divided into various strata and clusters. Results: For each of six measures of health in Sudan, outcomes were significantly worse in the states with more unequal asset distribution, with correlation coefficients ranging between -0.56 (stunting) and -0.80 (life expectancy).

**Outcomes & Evaluation:** Wealth inequality and armed conflict predicted worse health outcomes in Sudan. Policies and public health strategies are required to address the distribution of resources and associated health problems.

**Going Forward:** Wealth redistribution in the more unequal states, as well as a political resolution of conflict, may improve population health.

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