

The International Rehabilitation Forum: an academic consortium that builds medical rehabilitation in low resource regions through participation, mentoring, and disruptive innovation

A. Haig¹, S. Loar², T.A. Haig³; ¹University of Michigan, Ann Arbor, MI/US, ²The International Rehabilitation Forum, Denver, CO/US, ³The International Rehabilitation Forum, Corvallis, OR/US

Program/Project Purpose: The economic consequences of non-communicable diseases may relate more to a lifetime of disability than either death or health care expenditures. Medical rehabilitation and Psychiatry are proven to alter disability, save lives, decrease cost, and improve contribution to society. However the vast majority of persons with disability in low resource countries receive no rehabilitation whatsoever. It must be concluded that past academic, philanthropic, and socio-political efforts have failed. The solution may come from non-traditional strategies. Program: The International Rehabilitation Forum (IRF, www.rehabforum.org) is a not-for-profit organization built by American and international academics to advance medical rehabilitation by purposefully working outside of traditional mechanisms.

Structure/Method/Design: IRF principles include: 1) Participation: Stable executive leadership, but informal membership without dues or obligation in order to encourage low-resource participation and bypass universities' bylaws. 2) Mentoring: Identifying and mentoring rising leaders in low-resource countries and bi-cultural high-resource professional. 3) Disruptive innovation: Researching absurdities in policy and presenting these in the most politically advantageous ways. Holding inexpensive 'world congresses' in low-resource countries so the organization's local partnership can leverage the prestige. Bypassing academics to work with the famous, rich, and influential.

Outcomes & Evaluation: The nature of the strategy precludes accurate assessment of impact, however some specifics are illustrative; 1) participation: 'supporters' include 50 academic and aid organizations and at least 321 professionals from around the world. 2) Mentoring: IRF mentored the Pakistani 2014 global AuthorAID Mentor of the Year from residency through global prominence; two bicultural Americans from medical school through MD, FAAPMR, and MPH to faculty appointments; and the national leaders of rehabilitation medicine of three countries. Low-resource professionals have co-authored at least 12 publications initiated by high-resource IRF mentors. 3) Disruptive innovation: An ironic IRF expose on Psychiatry in Africa and Antarctica was published simultaneously in 5 global journals and changed WHO policy. Sham 'American' psychiatry consultations in an African trauma ward proved a profound deficit in care. An IRF-commissioned video game, 'Language Independent Functional Evaluation' has outperformed traditional functional assessments and is used on 4 continents. IRF's 'Captain Crip' videos have gained global attention. World congresses have caused promises from three universities to build rehabilitation units. An IRF meeting launched the ISPRM/WHO committee on disaster rehabilitation. Four ministries of health have now commissioned the IRF to design their medical rehabilitation policies.

Going Forward: Next steps include a 'global on-line synchronous residency training program' for isolated Psychiatrist faculty, 24-7 coverage of an African rehab unit and research center, and an on-line magazine/journal with mentoring peer-reviewers. Financial sustainability, volunteer management, and succession planning are organizational challenges. The IRF's success in disruptive innovation illustrates weak points in traditional global health strategies and may encourage others to look for non-traditional change strategies.

Funding: No funding listed.

Abstract #: 01NCD010

Knowledge of diabetes mellitus among community health workers in rural Kenya

T. Irwin¹, S.J. Ashbaugh¹, K. Mehta²; ¹Penn State College of Medicine, Hershey, PA/US, ²The Pennsylvania State University, University Park, PA/US

Background: Epidemiologists predict the economic impact and death toll due to Diabetes Mellitus (DM) will surpass the ravages of HIV and AIDS in the near future specifically in Africa. In 2008, the Kenyan government believed the prevalence of type 2 DM was around 10% and increasing. Due to physician shortages, transportation issues and cultural barriers, the most efficient method of healthcare in Kenya is through Community Health Workers (CHWs). This study was done to assess the knowledge base of the CHWs about this growing epidemic. Study also aims to identify specific areas of knowledge about DM that require further education/training.

Methods: Study Design: Meetings arranged by Kenyan Ministry of Health at six rural villages surrounding the city of Nyeri: Gichiche, Kamoko, Karima, Witima, Kagonye, and Ihuririo. Over a week's time each site was visited and the following order of events was followed: pre-test, education session, post-test and survey. Pre/Post tests consisted of 15 questions on different topics regarding DM: General pathology (n=5), Risk factors/Complications of diabetes (n=4), and Treatment/management (n=6). Participants: 133 CHWs in six regions participated, only 111 completed the survey providing demographics. They were informed of the study/education session by the director of their regional dispensary and attended on their own volition. CHWs are volunteers and have various backgrounds and professions. Mean age of the participants: ~45 (range: 25-80). Median highest level of education achieved: Form 4 (equivalent to graduating high school in the US). Female to male distribution: 71% and 29% respectively. Average number of years volunteering as a CHW: ~2.4. Participants arriving after the pre-test began were excluded. Analysis: Tests were graded and recorded for later analysis of mean raw score/percentage score using JMP software. Beginning each session, the study was explained and verbal consent was obtained. Study approval by PSU-University Park IRB.

Findings: 133 CHWs completed the study. The mean raw score on pre-test was 7.75 (95% CL: 0.404 and SD: 2.35). Pre-test yielded an average percentage grade of 52%. In addition, for each topic, a mean percentage was calculated resulting in pre-test percentage score of 37%, 68%, and 53% for general pathology, risk factors/complications of diabetes, and treatment/management, respectively.

Interpretation: This study demonstrates the CHWs' lack of knowledge about DM and a clear need to educate about all aspects of DM to improve healthcare to the poor and rural populations. Uninformed or ill-informed CHWs will not have the intended effect on the healthcare of the communities they serve. Limitations: sample population not representative of entire country. Strength: study design easily reproducible and relatively inexpensive.

Funding: Funded by The Pennsylvania State University, Global Health Center at Penn State College of Medicine, The Spirit of Life Foundation, and the Derry Presbyterian Church in Hershey, PA.

Abstract #: 01NCD011

The role of animal source foods in improving nutritional health in urban informal settlements: identification of knowledge gaps and implementation barriers

A. James, G. Palmer; Washington State University, Pullman, WA/US

Background: Childhood undernutrition is a health crisis in the rapidly expanding informal settlements of low-income countries worldwide. Nearly half of Kenyan children in the Kibera settlement, in Nairobi, were reported to be stunted, indicating low height-for-age. Stunted children are at greater risk for poor cognitive and physical health outcomes in the long-term, problems that tend to be perpetuated in subsequent generations. Animal-source foods (ASF) supply a calorically dense source of micro- and macronutrients, and supplementation with ASF has been shown to improve linear growth and cognition. Correspondingly, increasing consumption of ASF by pregnant women and children has been proposed as a means to disrupt the intergenerational cycle of undernutrition caused by food insecurity. Our objective was to review the literature regarding the dietary benefits and accessibility of ASF for the urban poor in sub-Saharan Africa, and to identify knowledge gaps relevant to improving health outcomes through increased consumption of ASF.

Methods: Our review is based predominantly on studies from Kibera and greater Nairobi. Data was derived from peer-reviewed publications whenever possible.

Findings: In Nairobi, 80% of the lowest income quintile is food insecure. Observational studies indicate that consumption of ASF is positively associated with increased weight gain in pregnancy, increased birth weight and length, postnatal infant growth, linear growth in toddlers, better cognitive outcomes, and improved physical activity levels. Despite the availability of ASF in local markets, however, the urban poor consume only 75% of the FAO's recommended minimum animal protein consumption per year. This supports that low purchasing power is a major impediment to ASF consumption. Economic data derived from household surveys in Nairobi indicates that ASF are both income and price elastic; the demand for ASF increases disproportionately with increases in income or decreases in price. Lastly, analysis of ASF value-chains revealed that the lowest income consumers purchase food from smaller retail outlets where meat and eggs are sold in larger, indivisible quantities. This precludes many from the regular purchase of ASF due to the restrictive cost. While strong evidence exists for the role of increased consumption of ASF in promoting maternal and child health, there are multiple gaps in our knowledge regarding the minimal levels of specific ASF required for healthy development in the nutritional and environmental context of crowded urban settlements. In addition, understanding which public policies and private market actions improve or jeopardize food security provide opportunities to implement change.

Interpretation: Increased consumption of ASF would decrease child stunting in the urban informal settlements, and near-term interventions are possible because ASF are readily available in local markets. Addressing the identified knowledge gaps will provide new opportunities to develop, implement, and assess interventions, including market and policy changes.

Funding: No funding was required for this research.

Abstract #: 01NCD012

Cancer incidence in Nigeria from 2009 to 2013

E. Jedy-Agba¹, E. Oga², M. Odotola¹, F. Igbino³, I. Ekanem⁴, E. Ezeome⁵, R. Hassan⁶, P. Dakum¹, W. Blattner⁷, C. Adebamowo⁸; ¹Institute of Human Virology Nigeria, Abuja, NG, ²Department of Epidemiology and Public Health, University of Maryland School of Medicine, Baltimore, MD/US, ³National Hospital Abuja, Abuja, NG, ⁴University of Calabar Teaching Hospital, Calabar, NG, ⁵University of Nigeria Teaching Hospital, Enugu, NG, ⁶Federal Ministry of Health, Abuja, NG, ⁷Institute of Human Virology University of Maryland School of Medicine, Baltimore, MD/US, ⁸University of Maryland, Baltimore, Baltimore, MD/US

Background: Cancer is now widely recognized as a significant global health issue. With the majority of the global cancer burden now shifting from the developed to the developing world and the rapidly rising incidence of cancers in low and middle income countries (LMIC); the need for improved cancer registration and accurate documentation of the burden of cancers in these regions is vital. Nigeria with about 20% of the population of Africa is a major contributor to the overall cancer burden in Africa and data about cancer in Nigeria will add significantly to knowledge about cancer in Africa. This study was done to provide insight into the burden of cancers in Nigeria. Aim: Describe the pattern of cancers in Nigeria over a 5 year period 2009 to 2013 at 3 population-based cancer registries (PBCR) that represent 3 distinct regions in the country.

Methods: This study was carried out using data from 3 PBCR; the Abuja Cancer Registry (ABCR: 2009-2013), Calabar Cancer Registry (CCR: 2009-2013) and the Enugu Cancer Registry (ECR: 2012-2013). Data was collected and entered into CanReg5 software and checked for errors including duplicates, which were excluded. Only malignant cases were included in the analysis. Age standardized incidence rates (ASRs) were calculated using the direct method and the World Standard Population. The most common cancers in both sexes were identified and are presented in this report. All ASRs are reported per 100,000 persons.

Findings: There were 4077 combined cases of cancer recorded by the ABCR and CCR registries over the 5 year time period 2009-2013. 2479 cases (60.8%) were in females and 1598 (39.2%) in males. The combined ASR for all cancers in females was 102.95 and 59.3 in males. The most common cancers reported in females were cancers of the breast (1128 cases, ASR 42.2) and cervix (414 cases, ASR 23.0). In males the most common cancer was cancer of the prostate (507 cases, ASR 29.7). The ECR recorded 1738 cases of cancer over the 2 year period 2012-2013 with 1072 (62%) in females and 666 (38%) in males. The ASR for all cancers in females was 141.9 and 86.1 in males. The most common cancers reported in women were cancers of the breast (466 cases, ASR 60.3 per 100,000), cervix (146 cases, ASR 22.6). In men cancer of the prostate was the most common. (232 cases, ASR 33.9).

Interpretation: Breast and cervical cancer were the most common cancers among Nigerian women and prostate cancer the most common in men. There is a need to sustain cancer registration efforts in the country to generate good quality data for research and cancer control.

Funding: IHV-UM Capacity Development for Research into AIDS Associated Malignancies (NIH/NCI D43CA153792) research grant.

Abstract #: 01NCD013

Reducing antibiotic use in the management of upper respiratory infections in the urgent care setting

M. Jones-Holley¹, T. Goodwin Veenema²; ¹Johns Hopkins University School of Nursing, Woodstock, MD/US, ²Johns Hopkins University School of Nursing, Baltimore, MD/US

Program/Project Purpose: Context: Antibiotics are prescribed 60% of the time for the treatment of Upper Respiratory Infections (URIs) regardless of etiology contributing to drug resistant respiratory organisms which often provide clinical management challenges to both patients and providers regardless of specialty. These practices impact patient outcomes, quality of care, antimicrobial resistance, and economics in community and hospital settings. Project Period: October 2014 – February 1, 2015 Why project is in place: URIs are the most common presenting complaint to urgent care centers across the United States. The lack of company adopted treatment guidelines