

Program/Project Purpose: HIV and AIDS continue to be a major developmental challenge for Zambia, which has one of the highest HIV prevalence rates in the world. There is limited information and services available for key populations (KP) such as female sex workers (FSW), people who inject drugs (PWID) and men who have sex with men (MSM) due to the illegal status of these high-risk populations. It is recognized that stigma and discrimination increase the risk of HIV exposure or limit access to treatment services. Estimates suggest that KP may be HIV epidemic drivers in Zambia.

The goal of the partnership, which is funded by the US President's Emergency Plan for AIDS Relief (PEPFAR), is to strengthen the capacity of Chreso Ministries in Zambia to conduct sensitivity trainings as a way to mitigate the impact of HIV on KP by increasing health care worker (HCW) awareness and understanding, reducing the stigma and discrimination experienced by KP, and improving access to crucial health and allied care and support services.

Structure/Method/Design: The University of South Carolina (USC) and Chreso Ministries, a faith-based, nonprofit, charitable NGO which provides HIV care to >40,000 individuals in Zambia, partnered to conduct a comprehensive needs assessment, develop and adapt a standardized sensitivity training package, administer baseline knowledge and attitude assessments and provide initial training sessions.

Outcome & Evaluation: Initial assessments found limited services available for KP, particularly MSM and PWID. HCW were unaware of needs of MSM and PWID populations, and few MSM and PWID were engaged in care. HCW scored poorly on baseline knowledge and attitude assessments. Two, one-day training sessions were conducted in Livingstone and Lusaka. Forty-one HCW participated. HCW leaders from Chreso Ministry came to USC for additional mentorship. The number of individuals from KP seeking care at Chreso Ministries has increased.

Going Forward: To further increase HCW capacity to provide care to KP moving forward, partners will engage members of KP groups in an advisory board to better inform service needs. In addition, partners will develop a train-the-trainer curriculum and handbook.

Source of Funding: American International Health Alliance Twinning Program.

Abstract #: 2.018_INF

One Health Student Club Model: Preparing the Future Workforce to Address Infectious Disease Threats in Rwanda

S. Muhizi¹, R. Kibuuka¹, I. Rwego², C. Porta³; ¹University of Rwanda, Kigali, Rwanda, ²University of Minnesota, Kampala, Uganda, ³University of Minnesota, Minneapolis, Minnesota, USA

Program/Project Purpose: Rapid and effective response to infectious disease threats requires multidisciplinary collaboration. Despite recognition of the human, animal, and environmental interface that underlies most infectious diseases and subsequent emerging pandemic threats, pre-service educational programs (e.g., veterinary sciences, public health, nursing, medicine) continue to be siloed

with rare opportunities to understand and experience the benefits of multidisciplinary collaboration. The purpose of the One Health Student Club Model is to provide students from varied disciplines with didactic and clinical experiential learning activities that benefit students and communities and address relevant zoonotic infectious disease threats.

Structure/Method/Design: The University of Rwanda One Health Student Club organized in 2012 and has over 900 members on four campuses around the country. Students have a leadership structure, and organize themselves with support from University faculty. A range of activities take place on campus, in communities, and at demonstration sites (ie, ideal geographic settings that include human, animal-livestock and wildlife, and environmental interactions conducive to zoonotic diseases) such as Akagera National Park. Examples of these activities are community outreach campaigns addressing infectious diseases, vaccination campaigns, and conducting community-partnered research on infectious diseases. Through community-based observations, interviews with community members and stakeholders, educational interventions (ie, radio shows, drama/sketches), and post-event student and faculty debriefing, the students realize significant growth in appreciating the importance of multidisciplinary efforts to address global infectious disease threats.

Outcome & Evaluation: The One Health Student Club Model has demonstrated anecdotal successes, with students expressing appreciation for gained insight, education, and hands-on community-based experience. Graduating students who have participated in club activities are beginning to work professionally across Rwanda in medicine, nursing, public health, veterinary medicine, environmental health sciences, and other fields. These students bring a depth of appreciation for multidisciplinary collaboration and multi-sectoral efforts that is unprecedented.

Going Forward: Multi-disciplinary clubs afford students learning opportunities not available in traditional discipline-specific curricula. Barriers to developing multidisciplinary undergraduate or graduate programs persist, which makes the extracurricular club model ideal for developing key competencies in our future workforce. Growth in One Health Student Clubs in numerous Central and East African countries, as well as many Southeast Asian countries, demonstrates belief in this model being critical to equipping students to eliminate infectious disease threats.

Source of Funding: USAID#AID-OAA-A-15-00014.

Abstract #: 2.019_INF

Stigma among Women Living with HIV in Nepal: A Double Burden of Disease and Disparity

S.S. Rai¹, S. Dhakal¹, J. Yasuoka¹, K. Kikuchi¹, D.R. Singh², B. Pandey³, M. Jimba¹; ¹The University of Tokyo, Tokyo, Japan, ²National Center for AIDS and STD Control, Ministry of Health, Nepal, Kathmandu, Nepal, ³Leprosy Control Division, Ministry of Health, Nepal, Kathmandu, Nepal

Background: Globally, women living with HIV feel the most burden of HIV stigma. They not only face stigma of having HIV, but also other multiple stigmas associated with gender disparities

they face in the society. HIV stigma among women is even more pronounced in developing nations because of preexisting socioeconomic inequalities and subjugating gender norms. However, the experience of stigma among women particularly living in South Asian countries like Nepal remains underexplored. This study aimed to focus on Nepalese women and determine the extent of HIV stigma experienced by them, and identify the associated factors.

Methods: This cross-sectional survey was conducted from June to August 2015 among 512 women living with HIV. Study participants were recruited from six local HIV network organizations and four HIV clinics from far-western, western, and central regions of Nepal with the highest proportion of women living with HIV. The main outcome variable was HIV stigma measured by Berger HIV stigma scale. Data from 506 participants were analyzed after excluding those with missing data. Multiple linear regression was used to examine HIV stigma and its associated factors.

Findings: The mean HIV stigma score among women was 114.3 (SD 29.4, standard score range: 40–160). Those from urban areas and engaged in sex work perceived higher levels of HIV stigma ($p < 0.001$ and $p = 0.033$). Gender-related discrimination was associated with higher level of HIV stigma ($p = 0.027$). Support from friends and HIV network and satisfaction with HIV-related health-care were associated with lower levels of HIV stigma ($p < 0.001$, $p < 0.001$, and $p = 0.019$).

Interpretation: High burden of HIV stigma exists among women living with HIV in Nepal compared to those from neighboring India and China. HIV stigma was particularly high among those who resided in urban areas and were engaged in sex work. Gender disparity is one of the main predictors of HIV stigma. The findings warrant special programs targeted towards reducing HIV stigma among women, particularly in urban areas and among sex workers. This study reinforces the need to stress on existing disparities among women living with HIV in poor developing countries like Nepal and strengthen HIV response's focus on them through gender-responsive policies, programs and services.

Source of Funding: None.

Abstract #: 2.020_INF

In Vivo Antibacterial Activity of Dadih and Dadih Ice Cream Toward *Salmonella typhimurium* Development

S. Rezvi¹, A. Eka Putra², T. Faadhila²; ¹Andalas university, Padang, Sumatera barat, Indonesia, ²Andalas University, Padang, Indonesia

Background: Dadih is one of Indonesia's heritage foods from Minangkabau, West Sumatra. This traditional food contains probiotics. The health benefits of dadih probiotic have been proven. However, in the original form, dadih has sour taste, rendering it less favorable by many people. To overcome the taste problem and increase its acceptance, dadih can be modified into ice cream. Moreover, a study showed that ice cream supports the availability of probiotics. We aimed to prove that dadih processed into ice cream retains its benefit for health by observing the in vivo antibacterial activity toward *Salmonella typhimurium*.

Methods: An experimental study with randomized post-test only control group design was conducted on 20 mice divided equally into five groups. Group K as control; group P1, P2, P3, P4 was given ice cream with dadih concentration 75%, 50%, 25%, 0% respectively, for two weeks. All groups exposed to 200 µl 108 CFU/ml of *Salmonella typhimurium* on day 14 to 16a. Digestive tracts were isolated and microbiology test for colony count was conducted using SS agar. One-way Anova and Tukey tests in SPSS15 were used to analyze the data. A P-value less than 0.05 considered significant.

Findings: The result showed that the bacterial count is lower in the treatment groups compared to control (P1:5,60±0,21; P2:6,36±1,40; P3:6,90 ± 1,27; P4:7,37 ± 0,22 vs. K:7,53 ± 0,15; $p < 0.05$). It is indicated that is better for health to consumed ice cream which contain dadih than pure ice cream. And the antibacterial activity of dadih ice cream increased consistently with increasing concentration.

Interpretation: This study proves that dadih modified into ice cream retains its ability to keep our body healthy and can act as antibacterial agent. Further study is needed to pave the way for dadih ice cream as a novel functional food.

Source of Funding: None.

Abstract #: 2.021_INF

Missed Opportunities for Early Infant Diagnosis in Rural Nigeria: An Analysis from the MoMent Study

U.C. Anaba¹, C. Isah², H. Omari³, M. Cbarurat³, N. Sam-Agudu³; ¹Institution, Federal Capital Territory, Abuja, Nigeria, ²Institute of Human Virology Nigeria, Abuja, Nigeria, ³University of Maryland, Baltimore, Baltimore, USA

Background: Less than 10% of HIV-exposed infants (HEI) in Nigeria receive EID by the recommended age of 2 months. Low EID uptake means delays in time to infant ART initiation, leading to missed opportunities for lifesaving treatment. The MoMent Nigeria study, an interventional PMTCT implementation research study, evaluated EID uptake and cascade losses amongst HEI at Primary Healthcare Centres (PHCs) in rural North-Central Nigeria.

Methods: Within this prospective cohort study, HEI were followed up to 62 days of age. HIV status was determined by DNA PCR, and results were collected for pooled analysis. EID uptake was calculated as the number of HEI presenting for DNA PCR test divided by the number of live-born HEIs. To further evaluate missed opportunities, EID uptake was analyzed by 3 domains: HEI who presented for DNA PCR and actually received testing at first presentation; HEI who presented but were not tested at first presentation; and lastly proportion of HEI that got tested and had results available.

Findings: There were 403 live HEI births. EID uptake was 301/403 (75%). Out of 301 HEI who presented, only 162 (54%) received same-day testing. Lastly, out of 205 EID DNA PCR samples actually collected, only 120 (58%) had available results after at least 3 months post-test.