

Purified anti-mSP antibodies were incubated with each protein in the presence of DENV to measure blocking activity of such antibodies.

Findings: In febrile subjects, antibody levels against C-type Lectine were higher in control subjects (n=23) than in febrile (n=34) and DENV-infected (n=48) participants (p=0.0422). In contrast, antibodies against Aegyptin were significantly higher in DENV-infected (viremic) patients (p=0.0266). Interestingly, we found that antibodies against ADA were not significantly different among groups (p=0.3769). In vitro testing showed a decrease of DENV infectivity in Vero cells exposed to mSP if they had been preincubated with antibodies (p=0.0361)

Interpretation: In the field, humans are exposed predominantly to uninfected mosquito saliva via mosquito bites. In the mosquito vector, DENV infection alters the expression of salivary proteins. Chronic exposure to either normal or modified saliva proteins induce an immune response that may protect or predispose people to excessive viremia and severe symptoms during DENV infection.

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Abstract #: 02CD014

An evaluation of children's personal health practices and school performance in a public primary school in Kisoro, Uganda

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Program/Project Purpose: The right to health is listed in the Universal Declaration of Human Rights as a right to which all human beings are entitled. Unfortunately, this right has failed to be realized in much of the developing world due to poor knowledge of citizens regarding health and hygiene, as well as a lack of adequate resources and facilities. This has ultimately led to the spread of communicable diseases and continues to plague much of the African continent.¹ According to the World Health Organization (WHO), in 2008, the percent of deaths due to communicable diseases was 8% in developed countries compared to 68% in developing parts of the world.² In the same year in Uganda, the WHO reported the percent of deaths resulting from communicable diseases, such as lower-respiratory infections and diarrheal diseases, to be 76%.³ Children in particular bear a disproportionate amount of the disease burden due to inadequate sanitation and insufficient hygiene leading to school absenteeism and in severe cases, death.^{4, 5} Past studies among school-aged children in Colombia, Ethiopia, and Kenya have shown that despite an awareness of the importance of hygiene, very few children actually practice an adequate amount of sanitation.

Structure/Method/Design: This study employed the KAP (Knowledge, Attitudes, and Practice) model at Katarara Primary School, a government funded school located in Kisoro, Uganda, to evaluate hygiene practices, student background, and school attendance and performance in 119 students using a survey instrument. Students from grades 4 through 6 were recruited using an informed consent process with the help of a local translator. The survey was administered orally with the help of the translator.

Outcomes & Evaluation: Although no association was found between health practices and school performance, a surprising percent (100%) of students were aware of the health consequences of unhygienic behavior. This knowledge of the students attests to the strong health education program at Katarara. However, the students did not have an opportunity to employ their knowledge to perform safe health practices due to limited facilities at the poorly funded government school.

Going Forward: The second part of this project was to inform an interventional and education program on safe and effective hand washing techniques. Hand washing stations supplied with soap and water were built on school grounds in an attempt for students to employ their health knowledge to effective health practices. A follow up study on the effectiveness of the intervention in improving hygienic practices as well as a study comparing these results to the health knowledge and practices of students in schools across the country would better inform a public health initiative in Uganda in reducing the spread of communicable diseases.

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Abstract #: 02CD015

Effectiveness of provider initiated HIV testing and counseling in children in Cameroon

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Background: In 2011 in Cameroon, only 13.8% of children eligible for antiretroviral therapy (ART) actually received it. Barriers to children receiving ART include delayed diagnosis and parents refusing HIV testing for their children. Provider initiated HIV testing and counseling (PICT) refers to HIV testing and counseling routinely recommended by health care providers to persons attending health care facilities as a standard component of HIV care. PICT helps in early identification of HIV-infected children, facilitates follow-up care and prevention measures that will ensure that children remain uninfected and healthy. The PICT approach also aids in early initiation of ART in infected children and parents. To date, no study has been conducted at a regional or national level in the pediatric population with regards to HIV testing using the PICT approach. The purpose was to evaluate HIV testing rates after PICT.

Methods: A descriptive cross-sectional pilot study of 5 month duration (September 2012 to January 2013) was conducted in the Regional Hospital Limbe. The Regional Hospital Limbe is a major referral hospital providing healthcare in the Southwest Region of Cameroon. Its pediatric unit records an average of 550 admissions per year. All hospitalized children aged 2 months to 15 years within the study period were recruited. Authorization to conduct study was obtained from the regional delegation of health and the administrative authorities of the hospital. After acquiring parental/legal guardian informed consent (written and/or verbal), blood samples from children and their parents were tested using an HIV rapid test following the national algorithm. For infants

Findings: The participants were 128 hospitalized children. The mean (\pm SD) age of the children was 57(\pm 48) months. Of the 128 children, 52% were female. Children were accompanied by their mothers (70%), fathers (20%), and grandparents/aunts (11%). Of the 128 children, 17 (13%) had previously been tested for HIV, 4 of whom were HIV positive. In the current study, parents accepted HIV testing for 110 of the remaining 111 children, of whom 5 were HIV positive. One of 15 mothers tested was HIV positive.

Interpretation: Parents and caretakers of hospitalized children nearly universally accepted the recommendation to test their children for HIV, and were willing to be tested themselves. This study identified 5 additional children with HIV infection, more than doubling the number of children with diagnosed HIV infection in this group. This study showed a higher acceptance of HIV testing compared to previous reports, possibly related to competent, on-site PICT. In contrast to other studies in this area, a small sample size and shorter duration of follow-up are major limitations. Given

the high HIV prevalence among children, we recommend routine HIV screening for all children hospitalized in pediatric units.

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Abstract #: 02CD016

A systematic review and meta-analysis of HIV prevention interventions for socioeconomically disadvantaged ethnic minority women in OECD member countries

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Background: Recently there have been many encouraging developments in the global effort to combat HIV and AIDS. The latest data collected by UNAIDS on the status of the disease showed a 33% reduction in new HIV cases since 2001 and a decrease of 700,000 deaths annually since the peak in 2005. 1 Within the 34 countries that make up the Organization for Economic Cooperation and Development (OECD), public health efforts have been successful in reducing the incidence of AIDS and improving the survival of those infected with HIV. 2 However, the incidence of new HIV infections remain stubbornly high with socioeconomically deprived communities, and women in particular, making up a disproportionate number of new cases. 3 There is a need for a greater understanding of the prevention interventions which can successfully educate this population, change behaviors associated with transmission and ultimately reduce the spread of sexually transmitted diseases such as HIV. The aim of this work was to identify, characterize and evaluate health interventions aimed at preventing HIV infection in women from socioeconomically disadvantaged ethnic minority groups in OECD countries.

Methods: A systematic review was undertaken of available publications related to HIV prevention interventions for socioeconomically deprived ethnic minority women in OECD member countries. Specific search strategies were designed for the databases Medline (Ovid), CINAHL, Embase, Scopus, and Web of Knowledge. Other searches were also done using relevant keywords in different databases such as Cochrane Library, CRD Databases, metaRegister of Controlled Trials, EURONHEED, CEA Registry, and European Action Program for Health Inequities, among others. When possible, a meta-analysis was performed using standardized mean differences to obtain aggregate estimates of effect size with 95% confidence intervals. Two reviewers independently extracted all the information and critically appraised the studies.

Findings: We identified 34 articles analyzing 43 different prevention interventions with a total number of 13,318 participants. All of the interventions were carried out in the United States. The majority of the interventions were based on cognitivebehavioral models directed principally at reducing risky behaviors and were culturally adapted to the target population. Most programs obtained some benefits over control groups in the outcome measures of HIV knowledge, risk related behaviors and STD transmission reduction. A meta-analysis of 5 randomized controlled trials showed a 41% reduction in STD transmission rates (RR = .59; 95% CI .46-.75; $p < 0.05$).

Interpretation: HIV prevention interventions for socioeconomically deprived ethnic minority women are efficacious at improving knowledge of HIV, reducing risky behaviors associated with transmission as well as reducing the transmission of STD's. Future prevention programming should incorporate the identified characteristics associated with successful behavior modification and disease prevention. Additional research is needed of this population outside of the United States.

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Abstract #: 02CD017

Proximate context of HIV-related stigma and utilization of skilled childbirth services in Uganda

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Background: A recent mixed-methods study of pregnant women in Kenya by Turan et al. (2012) suggested that women may avoid facility births due to fears of HIV testing and involuntary HIV disclosure. In the context of Uganda, which recently adopted the B+ option and passed a bill that forces mandatory HIV testing for all pregnant women and allows HIV disclosure by providers, the stigma of HIV may undermine efforts to reduce maternal mortality and prevent mother-to-child HIV transmission. Motivated by this hypothesis, we analyzed data from the 2011 Uganda Demographic and Health Survey to estimate the association between the proximate context of HIV-related stigma and delivery in a health facility.

Methods: The study sample consisted of women aged 15-49 who had heard of HIV and who had given birth in 2007-11. We fitted logistic regression models to the data, with delivery in a health facility (for the most recent birth) as the outcome. The two exposures of interest were anticipated stigma (wanting HIV infection in one's family to remain secret) and an index of social distance (unwillingness to engage in interpersonal contact with HIV-positive persons in different scenarios). For each participant, we modeled her proximate context of stigma by aggregating these two measures across all other survey respondents in her village. Estimates were adjusted for socio-demographic factors, socioeconomic status, parity, antenatal care, and geographic distance.

Findings: Of 4898 women, 62% (n=3030) delivered in a health facility for their most recent birth. In multivariable regression models we observed a statistically significant, negative association between facility delivery and the individual social distance index (AOR = 0.86; 95% CI, 0.80-0.94). When community-level social distance was added to the model, it had a statistically significant negative association with facility delivery (AOR = 0.55; 95% CI, 0.40-0.74) and the effect of individual-level social distance was reduced (AOR = 0.91; 95% CI, 0.85-0.99). Neither the proximate context of anticipated stigma (AOR = 1.27; 95% CI, 0.62-2.59) nor individual-level anticipated stigma (AOR = 1.04; 95% CI, 0.90-1.19) had statistically significant associations with facility delivery.

Interpretation: We found that a greater intensity of expressions of social distance in the community was associated with a reduced odds of health facility delivery among women in Uganda, even after accounting for the social distance index measured at the individual level. Despite limitations of not having data on women's HIV status and statistically insignificant association between anticipated stigma and facility delivery, the correlation between social distance and facility delivery is robust to sensitivity analysis even after restricting sample to women who gave birth in 2010-11. Reducing the structural stigma of HIV will be needed to achieve the twin goals of reducing overall maternal mortality and preventing mother-to-child HIV transmission.

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Abstract #: 02CD018

Assessment of longitudinal efficacy of community based intervention for schistosomiasis in Mara District, Lake Victoria region of Tanzania