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Background: Decreasing infant mortality was a key aim of Millennium Development Goal (MDG) 4. While many regions worldwide made substantial progress, not all attained MDG4. Defining determinants of infant mortality in settings with high rates of infant mortality can inform strategies to further decrease mortality.

Methods: Data were analyzed from the Mama Salama Study (MSS), a prospective peripartum cohort study in Western Kenya examining HIV acquisition in pregnancy to 9 months postpartum between 2011 and 2014. Cases of infant death were compared to control infants who survived to 9 months postpartum. Sub-analyses compared neonatal and perinatal mortality cases to controls. Logistic regression was used to identify determinants of infant, neonatal, and perinatal mortality using Stata® 13 software.

Findings: In multivariate case-control comparison of 34 infant deaths and 1053 control infants, independent correlates of infant mortality were preterm delivery (aOR=3.49, 95% CI 1.68-7.26), twin delivery (aOR=4.63, 95% CI 1.22-17.55), travel time to clinic greater than 1 hour (aOR=2.66, 95% CI 1.04-6.84), maternal malaria during pregnancy (aOR=3.52, 95% CI 1.40-8.86), and maternal chlamydia infection during pregnancy (aOR=3.76, 95% CI 1.37-10.30). Maternal chlamydia infection was also an independent determinant of neonatal mortality (aOR=9.56, 95% CI 2.49-36.64).

Interpretation: Improved services to detect, treat and prevent maternal and infant chlamydia and malaria, and vigilance in the care of preterm and twin deliveries may decrease infant mortality in high mortality regions.

Abstract #: *2.046_MDG*

Determining the barriers to male voluntary HIV testing in southern rural Malawi: A qualitative study

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Program/Project Purpose: Far fewer men than women within southern Malawi utilize voluntary HIV testing services despite a high HIV burden. Global AIDS Interfaith Alliance (GAIA) uses mobile clinics to bring HIV testing to rural communities yet, in 2012, only 1 man was tested for every 5 women. Understanding why men fail to come for HIV testing is important for improving programmatic targeting and implementation and is crucial to ending the AIDS epidemic.

Structure/Method/Design: This study explored the physical and social barriers hindering men's use of these services in rural southern Malawi. In partnership with GAIA, the research conducted 30 in-depth qualitative interviews with a convenience sample of village men in Mulanje district, Malawi.

Outcome & Evaluation: This study identified cultural constructs that drive the HIV epidemic and four themes around barriers and facilitators of male HIV testing. Using the 4Ps of marketing (price, place, promotion, product), these themes suggest that male HIV testing suffers from a poor marketing strategy. Current testing programs inadequately address 3 of the P's. Despite encouragement from the government and and non-governmental organizations, there is a lack of HIV awareness among men as to its importance. Interventions to encourage testing within the community have failed to successfully target men (promotion). Concerns over confidentiality and the location of testing services interact, making testing inconvenient (place). Testing is associated with a high social capital cost due to stigma and gender norms (price). Male participation rates within the region could be improved by modifying existing programs to specifically target men and their concerns about testing.

Going Forward: Despite the knowledge of the high burden of HIV and high risk of transmission within this community, there is infrequent testing among males. Modifying existing programs to better target men and overcome the male-specific barriers — awareness, convenience, stigma - could improve male testing rates and reduce HIV incidence and morbidity, impacting the epidemic across the region.

Abstract #: *2.047_MDG*

The effects of short post-delivery hospital stay on infant health outcomes at a small urban maternal and child health hospital in Kumasi, Ghana

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Background: The World Health Organization recommends that all women remain in a health facility for at least 24 hours following an uncomplicated vaginal delivery. However, in Ghana, many women are discharged sooner than recommended due to insufficient resources including bed space and staff. The objective of this study was to determine if infant mortality, infant weight gain, time to first fever or illness, number of acute hospital visits, and completion of immunizations are affected by discharge within 8 hours of delivery.

Methods: Two hundred fifty-six women with low-risk pregnancies and uncomplicated deliveries at Maternal and Child Health

Hospital (MCHH), a small urban hospital in Kumasi, Ghana, were enrolled in the study. Oral consent was obtained and the study was approved by Komfo Anokye Teaching Hospital and the Ethics Committee of the University of Chicago. The time each woman remained in the hospital determined if she was assigned to the early discharge group (<8 hours) or normal discharge group (>8 hours). Information on the pregnancy, delivery and the health of the newborn was recorded at birth. Additional health information was obtained at 1, 6, 10, and 14 weeks of age.

Findings: The early and normal discharge groups included 123 and 133 women, respectively. The median post-delivery hospital stay at MCHH was 8.9 hours. For all infants in the study, there was a nearly 100 percent completion of immunizations and no infant deaths at 14 weeks. The mean infant weight gain in the first week of life was 0.17 kg for the early discharge group and 0.25 kg for the normal discharge group (Two-Sample T-Test, P=0.1). Early discharge was not significantly associated with rhinorrhea, cough, diarrhea, fast breathing, vomiting, poor feeding, fever, or seizure.

Interpretation: We conclude that for low-risk pregnancies with uncomplicated deliveries, early discharge does not adversely affect infant health at MCHH. We attribute this outcome to an effective triage system between MCHH and a much larger neighboring tertiary care center. These results suggest that development of maternal and child health triaging systems can promote efficiency and cost-reduction in resource limited settings.

Abstract #: *2.048_MDG*

Population based survey of chronic non-communicable diseases in Dubti and Asayita towns of Afar region, Northeastern Ethiopia

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Background: We conducted population based survey to estimate the magnitudes of chronic non-communicable diseases in Dubti and Asayita towns of Afar region in northeastern Ethiopia.

Methods: We conducted a survey of 548 randomly-selected individuals in the two towns using a cluster sampling method to ensure that the individuals were representative to the towns. We utilized interviewer administered structured questionnaires which were adapted from WHO STEPS instruments. The WHO STEPS guidelines were also used to measure blood pressure (BP), pulse rate, weight, height, waist and hip circumference, and biochemical markers such as random blood sugar level, total cholesterol and triglycerides values. We collected whole blood sample after cleaning the cubital area by 70% alcohol and stored in 3 ml vacutainer tubes. After cared transportation, analysis of blood samples was done in Assaita hospital. The study was conducted after obtaining ethical clearance from the IRB of Samara University.

Findings: The specific observed prevalence for hyperstension was 17.9% (95% [CI]: 15.0%−21.0%) while the reported prevalence of hypertension was 11.7%. The prevalence of overweight (BMI ≥25kg/m^2) was 8.8% (95% [CI]: 6.0%−11.0%). Central obesity as measured by Waist to Hip Circumference (WHC) was present in 38.5% of the study population showing huge difference between women (31.2%) and men (8.0%). On biochemical analysis of blood samples 233 (70.2%) of the study participants (72.2% women and 67.4% men) had high total serum cholesterol level (given the cut of point). Regarding high triglyceride, it was detected in 228 of the study population giving overall prevalence of 68.7%. The prevalence was higher in women (72.0%) than men (65.7%). The prevalence of raised random blood glucose was 4(1.2%) (95% CI: 0.03, 2.38). With regards to the behavioral risk factors, the prevalence of smoking was 13.5% (95% confidence interval [CI]: 11.0%−16.0%), alcohol consumption 13.0% (95% [CI]: 10.0%−16.0%), consumption of fruits and vegetables below adequate level 97.9%, and low level of physical activity 18.1% (95% [CI]: 14.83%−21.30%).

Interpretation: The prevalence of chronic non-communicable diseases (CNCDs) and the magnitude of the various categories of risk factors associated with CNCDs were considerably high in the study population.

Abstract #: *2.049_MDG*