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Background: Tea workers have the risk of being exposed to agro chemicals. Farm workers engaged in pesticide spraying reported symptoms potentially associated with exposures to pesticides. Diverse morbid conditions and deviation in blood parameters have been reported. Effect of pesticide exposure and safety precaution among farm workers is alarming in developing countries. Aim: To find out health problems and level of alanine aminotransferase (ALT), aspartate aminotransferase (AST), haemoglobin, white blood cells, creatinine, blood sugar and acetyl cholinesterase among tea workers.

Methods: A cross-sectional study was done to enroll voluntarily participated 262 tea workers of Haldibari, Danabari and Kanyam tea estates of Nepal They were interviewed by using semi-structured questionnaire. General health check-up and measurement of blood pressure, height and weight were done. Laboratory investigations comprised acetyl cholinesterase, alanine transaminase, asparate transaminase, haemoglobin, white blood cell, creatinine and blood sugar. Data was analyzed in SPSS V 16.0.

Findings: Among 262 workers, maximum number of workers (60.7%) had work experience of more than 10 years. Most common personal protective equipment used by the workers (10.3%) was simple cloth masks. Eye irritation (34.4%), headache (30.9%), nausea (15.6%), low back pain (32.4%), gastritis and duodenitis (17.6%), arthralgia (14.9%), injury (14%), underweight (11.1%), mild anaemia (31.9%) and leucopenia (9.3%) were prevalent. The difference in means of creatinine level between directly exposed group of workers and those who were not was statistically significant. The ALT level or AST level between directly exposed group of workers and those who were not was statistically significant. The difference in means of acetyl cholinesterase level between directly exposed group of workers and those who were not was statistically non-significant.

Interpretation: Workers reported symptoms potentially associated with exposures to pesticides. Musculoskeletal problems, gastritis and duodonitis, injury and anaemia were common among tea workers. Pesticides might have affected liver and kidney function of the workers. Abnormal liver function of the workers might be a hint to guess the effect of organophosporus or carbamates pesticides in the workers exposed to the pesticides. A worker with history of exposure to pesticides and abnormal alanine aminotranferase (ALT) and aspartate aminotransferease level (AST) might be looked with suspicion as a case suffering from adverse effect of pesticides Effect of organophosphates or carbamates on cholinesterase activity could not be shown among tea workers. We could not ignore falsely depressed blood parameters which could have happen because of co-morbid conditions. However, the possible effect of pesticides on health was shown in this study.

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Abstract #: 02SEDH032

A deeper look at oral health and malnutrition in Nepal

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Background: With rapid urbanization, Nepal experiences changes in nutritional practices that are influencing the nutritional status and oral health of local communities. Reported by the World Food Programme as having one of the worl'ds highest rates of malnutrition, Nepal has 41% of its children under 5 stunted. Nepal's high prevalence of early childhood caries has yet to be addressed. This study uses a baseline analysis of both urban and rural communities to explore key social and economic factors contributing to poor oral health and nutrition.

Methods: Maternal and child data were collected through sampling participants in 5 community health camps in urban and rural areas. 632 Mothers were interviewed about nutrition and oral health knowledge and practices. 836 children received dental exams and height/weight measurements for nutrition status. 304 (36.4%) of the children ages 0-8 years were rural and 532 (63.6%) were urban. The chi-square and Student's t-test on SPSS were used to compare urban with rural responses. Mann-Whitney U, Fisher's exact, and Spearman's rank order correlations tests were performed for association analyses.

Findings: Baseline analyses examining height-for-age malnutrition found 37.4% of the child population stunted and 16.7% chronically malnourished. Weight-for-age malnutrition found 13.4% are underweight. Further analysis using the chi-square test suggests urban mothers and children are more likely to own a toothbrush and toothpaste and visit the dentist than the rural population (all p-values< 0.0001). Access to junk food and care, knowledge and practices, and health outcomes are strongly associated. Increased urban exposure to and consumption of junk food is associated with significantly higher levels of childhood caries despite urban mothers' being more knowledgeable or oral health and nutritional practices and having greater access to health care than do rural mothers. Rural populations with less knowledge, access to care, and junk food consumption are also less prone to childhood caries.

Interpretation: There is an increasing concern that junk food consumption is reshaping traditional practices and reinforcing malnutrition and childhood caries in Nepal. Greater understanding of the factors associated with poor oral health and malnutrition can help maternal-child health services implement more effective interventions to reduce the consumption of junk food and improve overall health knowledge and practices in the household and at school.

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Women's perceptions of reproductive healthcare in the Tribal Communities of Melghat, India

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Background: India will not meet UN MDG 4: reduce child mortality and 5: reduce maternal mortality by 2015. In tribal areas of India, the maternal mortality and under-five mortality is almost double the national rate at 96/1000. Melghat is a remote tribal area in Maharashtra known for its high rates of malnutrition, extreme poverty, and a scarcity of accessible and properly equipped health care centers. In Melghat, 56% of births occur at home. The Kasturba Health Society built a Mother and Child Hospital in Melghat in 2012 to provide prenatal care and safe births to the tribal population. However, the number of women using the hospital's services has been lower than expected. The government currently funds health workers such as ASHAs who live in villages. These workers are responsible for prenatal care, dispensing free contraception, and recommending hospital deliveries. They are also compensated when a woman is sterilized, a practice to promote this procedure. This decreases the incentive for them to teach about birth spacing and

reversible contraception; which many of these workers eschew themselves. The research aim was to understand women's perspectives on reproductive health and family planning in order to increase utilization of perinatal hospital services through community education and health worker training.

Methods: This research also included health care workers, a population not previously studied in this community. Qualitative interviews with health staff and quantitative oral surveys with married women (18-45) assessed reproductive health histories, cultural beliefs, and practices surrounding family planning. Women were recruited at the hospital and village health outreach clinics. The survey was conducted in Hindi and incorporated questions from the DLHS-3 as well as specific program and community information.

Findings: 118 women from 19 villages were interviewed (mean age=27 years, mean education=6 years). 94% knew at least one method of family planning. Knowledge of male methods was low: 53% of women knew male sterilization compared to 86% female sterilization. 41% had female sterilization and 31% planned sterilization when they had their desired number of children (usually two). 8% of women were currently using a reversible method; 24% had ever used reversible methods with sterilization, side effects and inconvenience as the main reasons for discontinuing. Education was positively correlated with fewer children: mother's education (R=-0.272; p=0.003) and father's (R=-0.295; p=0.002). Education was not related to sex preference because all women viewed having a son as a necessity.

Interpretation: This research suggests that affordable and accessible schooling and comprehensive education regarding family planning can lead to smaller family size and better planning of pregnancies, thus contributing to reduced maternal and child mortality.

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Abstract #: 02SEDH034

A structural equation modeling of factors influencing HIV related risky behaviors and mental health among MSM in Malawi

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Background: Men who have sex with men (MSM) bear highly disproportionate burden of HIV/AIDS epidemic in Malawi, where criminalization of same-sex practice has caused sufferings of their human rights and mental health status as well as placing huge barriers to effective biomedical and behavioral interventions. The objective of the study is to understand the relationship between social factors, such as stigma, human rights status, social support, with HIV related risk behaviors and mental health status, informing future design of comprehensive intervention packages in similar epidemic and resource-limited area. We proposed External Effect Model and validated it in this highly stigmatized setting.

Methods: 338 MSM were recruited in Blantyre, Malawi from April 2011 to March 2012 using Respondent Driven Sampling (RDS) strategy as a baseline and were followed up for a year. Participants who provided informed consent were administered structured questionnaires at baseline to collect information about demographic characteristics, sexual behavior, condom usage, social capital, and depression. Then structural equation models were built using the generalized linear method to test the hypothesized associations between latent factors.

Findings: The sampled 338 MSM were from 19 waves of recruitment with the mean age of 25.13 years old (SD=5.16 years). More

than 30% of them had experienced some form of human rights violation or depression symptom. The model shows adequate fit of the data (χ2(556)=1626.27, p < 0.001; CFI=0.85; RMSEA.

Interpretation: MSMs experiencing stigma and human rights violations are more likely to have risk behavior and symptom of depression, while those participating in social activities related to HIV education or MSM rights are less likely to be depressed. Although the study is limited in validation of the measurement and causal interpretation from cross-sectional data, it is meaningful in identifying social and psychological determinants associated with HIV related risk behaviors and mental health in the context of severely stigmatized group of individuals and an area largely affected by HIV/AIDS epidemic. Results also indicated depression is currently a serious issue among MSM in Malawi. Prioritizing preventive interventions targeting structural factors and promoting community-based campaign, especially involving friends and family members, may be more effective in creating a friendly environment and improving health outcomes of Malawi MSM.

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Tip the scale from confusion to confidence: Assessing the effectiveness of interprofessional lifestyle intervention through community-university partnership

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Program/Project Purpose: Loyola University Chicago (LUC) is located in Maywood, a lower-income community whose residents are primarily racial and ethnic minorities. Access to care and extremely elevated prevalences of obesity across all population segments are primary health concerns. With the presence of a Health System, a University Campus, and many community partnerships, all invested parties have experienced confusion around the status of various health-related initiatives. The project, Grand Family Challenge (GFC), began in Fall 2012 and is delivered through a community-university partnership during the academic term. The program is in its third year. The interprofessional (IP) approach to community-university partnerships utilized by GFC has streamlined community outreach initiatives, improving outcomes for participants and increasing the value of both IP education and outreach to the community. GFC aims to effect positive lifestyle change through the relationship of an IP team (dietetic intern, medical student, exercise science student) with a family through health coaching, personalized health goals, self-monitoring, skill development. Evaluation is completed through quarterly assessments. Families earn points for communication, participation, and improved health measures. The family with the most points per person at the end of the program wins $1,000.

Structure/Method/Design: Program/Project Goals: Reduce obesity and chronic disease in the community, Develop relationships for motivational, positive lifestyle change, Identify barriers to positive lifestyle, Foster reliance interprofessionalism in health training. Families are recruited through Maywood Fine Arts, a local 501c3. Lifestyle teams are recruited through faculty members and training programs at LUC. This academic-community partnership has existed for over 10 years, students commit to programming for 1-2 years, 30% of families have maintained enrollment for 3 cycles.

Outcomes & Evaluation: GFC participants have lost over 100 pounds total, many inches on waist and hip circumference, and have improved fitness measures. Students report increase in knowledge