UW MIRT 2004 ABSTRACTS

Preterm delivery risk in relation to maternal HIV infection, history of malaria and other infections among Zimbabwean women. A Noble[*], Y Ning, GB Woelk, K Mahomed, MA. Williams. (University of Washington, Multidisciplinary International Research Training Program, Seattle, WA.)

Objective: To examine preterm delivery risk in relation to maternal HIV infection, malaria history, and other infections among Zimbabwean women.

Method: Between July 1998 and March 1999 data were collected from a cross-sectional study of pregnant women who delivered at the Harare Maternal Hospital. The association of maternal HIV infection, history of malaria, and other infections with preterm delivery were determined using multivariate analysis.

Results: Overall, 497 women were studied, 444 (89.3%) delivered at term and 53 women (10.7%) delivered preterm. Women who delivered preterm were less likely to be HIV seropositive compared with others (odds ratio [OR]=0.75, 95% confidence interval (CI): 0.38-21.48). Preterm delivery was associated with having tuberculosis infections (OR=10.15, 95% CI: 1.15-89.87). Other infections associated with preterm delivery were malaria (OR=2.39, 95% CI: 1.07-5.31), chest infections (OR=2.63, 95% CI: 0.76-9.17), and herpes (shingles) infection (OR=2.58, 95% CI: 0.56-11.85). Overall, a positive history of any of the non-sexually transmitted infections (in aggregate) was associated with a 3.20 fold increase risk for preterm delivery (OR=3.20, 95% CI: 1.59-6.43). Women with a history of infection and who did not use iron supplements during pregnancy, compared with women without such an history and who used iron supplements, experienced a highest risk for preterm delivery (OR=8.34, 95% CI: 3.30-21.07).

Conclusion: Maternal non-STD infections, (i.e., tuberculosis, malaria, and chest infections) occurring in the year prior to pregnancy were associated with an increased risk of preterm delivery. The association of non-sexually transmitted infections and preterm delivery was particularly strong among women who did not use iron supplements during pregnancy.

Seroprevalence and risk factors of syphilis infection in pregnant women delivering at Harare maternity hospital, Zimbabwe. L Pham[*], GB Woelk, Y Ning, S Madzime, SM, K Mahomed, MA Williams. (University of Washington, Multidisciplinary International Research Training Program, Seattle, WA.)

Objective: To present the seroprevalence of syphilis, determine the risk factors and outcomes of syphilis during pregnancy among women delivering at Harare Maternity Hospital.

Methods: Women delivered at Harare Maternity Hospital between June 1996 and March 1998 were approached to participate in this cross-sectional serological study. Consenting women gave blood samples (2,969) at the time of delivery, which were tested for syphilis by the rapid plasma reagin (RPR) test and the Treponema pallidum hemagglutination assay (TPHA). Medical and reproductive histories were obtained from hospital medical records. Analyses were performed to determine risk factors and measure the impact of syphilis infection on pregnancy outcomes.

Results: Of the 2,969 women who provided blood samples, 4.8% had a history of syphilis (RPR positive), 2.2% had inactive syphilis (RPR positive, TPHA negative), and 2.5% had an active syphilis infection (RPR and TPHA positive) at the time of giving birth. Older women had a higher risk of having positive syphilis status (p=0.057). Increases in parity and gravidity were significantly associated with increased risk of syphilis infection. Prior stillbirths was associated with an increased risk of syphilis infection among (odds ratio [OR], 3.4; 95% CI, 1.61-7.37; p=0.001). Syphilis positive mothers were significantly more likely to give birth to syphilis positive newborns (p<0.0001).

Conclusions: Our results suggest that there should be more effective antenatal screening and treatment of syphilis in Harare. Syphilis affects many sub-Saharan countries where effective educational outreach, screening, and treatment should take place to prevent the transmission of this venereal disease, especially among reproductive age and pregnant women.

Risk factors for preterm delivery among Zimbabwean women

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Objective: To identify risk factors for preterm delivery among urban Zimbabwean women.

Methods: The authors conducted a cross sectional serological study of pregnant women admitted for labor and delivery at the Harare Maternity Hospital between June 1998-December 1999. The population was a random sample of 500 women delivering at the hospital during the study period. Data were analyzed using logistic regression procedures.

Results: The frequency of preterm delivery in the sample population of 496 women was 10.6%. In order of decreasing magnitude, the covariates that were associated with preterm delivery in the final multivariable model were prior neonatal death, (odds ratio [OR]= 8.84, 95 % confidence interval [CI]=2.13-36.7), single marital status (OR= 4.57, 95% CI 1.83-11.4), vitamin use during pregnancy (OR=3.36, 95% CI 1.77-6.37) and any infection (OR=3.00, 95% CI 1.48-6.07), which is an aggregate of tuberculosis, malaria, chest infection or shingles.

Conclusion: Selected maternal demographic, behavioral and medical characteristics were significant risk factors for preterm delivery. The socioeconomic homogeneity and the relatively small size of the study population may have limited our capacity to identify socioeconomic factors previously identified in other populations. Further study with a larger and more diverse sample population is needed.

Maternal arm circumference and other anthropometric measures of obesity in relation to infant birth size among Zimbabwean women. C Ogbonna[*], GB Woelk, YN, S Mudzamiri K Mahomed, MA Williams.(University of Washington, Multidisciplinary International Research Training Program, Seattle, WA.)

Objective: To examine relationships between maternal anthropometric measures in Zimbabwean women and indices of infant birth size.

Methods: The authors conducted a cross sectional study of pregnant women admitted for labor and delivery at the Harare Maternity Hospital from July 1998-March 1999. The study population was comprised of 498 participants who delivered singleton infants. Anthropometric measures (height, weight, and mid–arm circumference [MAC]) were taken during participants' postpartum hospital stay. Logistic regression procedures and least squares linear regression procedures were used to assess the association of maternal measures with indices of infant size.

Results: The prevalence of low birth weight (LBW) was 14.1%. Women in the highest weight quartile (>67 kg) were 58% less likely to have a LBW infant when compared to women in the lowest quartile (<57kg) (OR=0.42, 95% CI 0.19-0.90). Women in the highest body mass index (BMI) quartile were 75% less likely to have a LBW infant compared to women in the lowest quartile (>27 vs. <23 kg/m^2: OR=0.25, 95%CI 0.10-0.60). Similar trends were seen for risk of LBW in relation to MAC. Maternal MAC was most strongly related to with the four infant size indices measured. Each unit increase in maternal MAC resulted in a 36.1g increase in infant birth weight (p<0.001).

Conclusion: In general, women who were heavier at the time of delivery were less likely to have a LBW infant than women who were lighter. In areas where food security is public health concern, as it is in most parts of the developing world, pregnant women may not be meeting their own nutritional and those of their fetus.

Risk factor associated with term and preterm LBW in Thai Nguyen, Vietnam. K Bui[*], L Nguyen and TTT. Phung.(University of Washington, Multidisciplinary International Research Training Program, Seattle, WA.)

Objective: LBW (<2500 grams) is a significant problem in both developed and developing nations. Using data from a recently completed study, the authors performed the present secondary analysis to identify and compare the risk factors associated with term and preterm LBW. The original LBW case group was stratified into term and preterm deliveries.

Methods: The control for this study was term, normal weight births (≥2500 gram), derived from the original control group. Logistic regression was used to estimated odds ratios (OR) and 95% confidence intervals (CI).

Results: Risk factors associated with term LBW included: advanced maternal age (OR: 3.2, CI: 1.6, 6.3), unmarried (OR: 5.0, CI: 1.8-13.7), rural residence (OR: 4.1, 95% CI: 2.1, 8.0), farming occupation (OR: 1.8, CI: 1.0, 3.5), shorter stature (OR: 2.7, CI: 1.5, 4.9), have an unemployed partner (OR: 4.4, CI: 1.7, 11.6), lower rate of weight gain (OR: 4.2, 95% CI: 2.3, 7.6), exposure to environmental tobacco smoke (ETS) (OR: 1.9, CI: 1.1, 3.4) and placenta abnormality (OR: 13.9, 95% CI: 3.1, 61.9). Risk factors associated with preterm LBW were: less than 3 antenatal visits (OR: 2.9, 95% CI: 1.6, 5.3), lower (OR: 10.6, CI: 4.9, 23) or higher (OR: 4.5 , CI: 2,10) rate of weight gain, an unemployed partner (OR: 2.9, CI: 1.2, 7.0), history of LBW (OR: 2.8, CI: 1.7, 8.7), history of spontaneous abortion or preterm delivery (OR: 2.6, CI: 1.4, 4.7), psychosocial stress (OR: 2.7, CI: 1.5, 4.8), exposure to ETS (OR: 2.2, CI: 1.4, 3.6), vaginal hemorrhage (OR: 7.5, CI: 3.6, 15.7), placental abnormality (OR: 7.7, CI: 1.9, 31.1), gestational hypertension (OR: 2.5, CI: 1.2, 5.2), and anemia (OR: 1.6, CI: 1.0, 2.5).

Conclusion: A comparison of the risk factors suggests potential benefits for distinguishing between term and preterm LBW deliveries in some populations.

Comparison of farming and non-farming mothers in Thai Nguyen, Vietnam. L Nguyen[*], K Bui, and TTT Phung.(University of Washington, Multidisciplinary International Research Training Program, Seattle, WA.)

Objective: In Vietnam, past research has demonstrated that female farmers are at a three times increased risk for delivering a low birth weight (LBW) infant. Nevertheless, there have not yet been studies focused on the characteristics of female farmers that may predispose them to LBW deliveries.

Methods: Using secondary analysis, this cross-sectional study compared the characteristics of 103 farming and 253 non-farming women in order to identify possible factors that could lead to the differences observed in pregnancy outcomes. Exposure was defined as having the occupation of a farmer while non-exposure was classified as having occupations other than farming. These two groups were derived from the control group of the original LBW study, excluding cases (women who delivered LBW infants).

Results: This study's results indicated that female farmers were more likely to be less educated (OR: 7.7, 95% CI: 3.7, 16.1), have partner's who were also less educated (OR: 4.0, 95% CI: 1.9, 8.5), be unmarried (OR: 3.7, 95% CI: 0.8, 17.8), and reside in a rural location (OR: 14.7, 95% CI: 8.4, 26.0). In terms of anthromorphic characteristics, farmers had lower pre-pregnancy weight (OR: 2.0, 95% CI: 1.1, 3.7), BMI (OR: 1.8, 95% CI: 0.9, 3.6), and rate of gestational weight gain. Compared to non-farmers, more farmers also had not intended for this pregnancy (OR: 4.7, 95% CI: 1.6, 13.7). During the pregnancy, farmers utilized less antenatal visits and had a shorter duration of folic acid intake (2.8 ± 1.8 months versus 3.4 ± 1.4 months in non-farmers).

Conclusions: Our results highlight the possible factors that may influence the elevated incidence of LBW deliveries among farming women, providing a preliminary direction for the policies and programs which need to be implemented to assist the needs of this unique population.

Descriptive Study of Migraines in Pregnant Women in Lima, Peru.

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Migraine headaches affect approximately 19% of reproductive-aged women in North America, but little is known about the burden of migraine in the Latin American population. This common chronic-episodic pain disorder may influence more than quality of life and daily function: migraines have also been related to an elevated risk of ischemic stroke in young women. Few studies have systematically examined the adverse pregnancy outcomes associated with migraines. To assess the feasibility of such a study, we conducted a descriptive pilot survey of migraines in a group of 154 pregnant women attending the prenatal care clinic at Hospital Nacional Dos de Mayo in Lima, Peru during 2004. Diagnosis of migraine headache as defined by the International Headache Society was ascertained through standardized in-person interviews. Among the study participants, 9.1% fit the IHS criteria for "strict" migraine headache, and an additional 20.1% of participants reported symptoms classifiable as "probable" migraine headache. Significant characteristics and comorbidites associated with both types of migraine included multigravidity, multiparity, a high frequency of fatigue before pregnancy, and a poor self-evaluation of health before pregnancy. Significant risk factors included a maternal family history of headache (unadjusted odds ratio 3.17, 95% confidence interval 1.46-6.95), childhood carsickness (OR 2.51; 95% CI: 1.14-5.52), and childhood dizzy spells (in strict migraine cases, OR 6.44; 95% CI: 1.75-24.42). Only 3 of the women meeting IHS migraine criteria (6.7%) had received a clinical diagnosis of migraine. Migraine headaches affect a substantial proportion of reproductive-aged women in Peru; identification of high risk subgroups and characterization of risk factors, symptoms, and disabilities of migraine in pregnancy are necessary to provide targeted education and intervention to the Peruvian population.

E-Mail Evaluation of a Course in HIV Prevention for Health Professionals in Mexico and Latin America. Benjamin Guillermo Vazquez[1], Ken Morrison[2], Annette L. Fitzpatrick[1] (MIRT Program, University of Washington, Seattle, WA, USA and Instituto Nacional de Salud Publica, Cuernavaca, Morelos, MEXICO,)

Educational efforts to train health professionals in HIV/AIDS program planning are important to help reduce its incidence, especially in countries of high need such as those in Latin America. This article discusses the effectiveness of a HIV/AIDS Diploma course offered to healthcare and related workers by the National Institute of Public Health of Mexico. Data were collected using electronic questionnaires sent by e-mail to past participants of both the full-version of the course, the 4-week Diplomado, and the 2-week version, the Intensivo. The course was designed to enhance the program planning skills of participants as well as to increase knowledge of the epidemiology, social implications and stigma associated with HIV/AIDS. The questionnaires attempted to assess the demographics, knowledge and capacities gained, attitude changes, amount and type work done in HIV/AIDS after the course, as well as satisfaction with the course and recommendations for improvement. In addition, there was interest in determining whether the shorter two-week course was as effective as the longer version, as the two-week version covers the same material but requires far fewer resources. All responses were based on self-report and self-perception. A total of 69 past participants responded to the questionnaire. Demographics were similar between the two versions of the course except for occupation, in which more administrators completed the Intensivo compared to more health care provides (doctors and nurses) in the Diplomado. After taking the course, females (p=.07) and those taking the Diplomado (p=.007) were more likely to implement prevention programs on returning to their jobs. Participants reported dedicating significantly more time to HIV/AIDS (p=.01) following completion of the course compared to before. . The majority of respondents from the

shorter course reported the same gain in capacities, including skills in epidemiology, research and social response; participants in the Intensivo also reported doing similar amounts of work in HIV/AIDS as the Diplomado participants since taking the course. Intensivo participants, however, did report significantly lower gains in abilities to develop and plan programs, although this result may have been affected by occupation distribution of the two groups. Satisfaction with the course was very high (mean 8.99 (0.849) from a maximum of 10.0) although women were significantly more satisfied then men (p=.005). These results indicate that an educational course can impact participants' work with HIV/AIDS by increasing their involvement. The comparison between the different versions of the courses also indicates that the short version of the course is almost as effective as the long version; although expansion of program planning may be necessary. It is hoped that the effectiveness of this course as demonstrated here, may help it be used as a model for other HIV/AIDS education projects both in Latin America and the world.