UW MIRT 2009 Abstracts

Prevalence of Insulin Resistance and its Relationship with Cardiovascular Disease Risk Factors Among Thai Adults. *H Do, V Lohsoonthorn, W Jiamjarasrangsi, S Lertmaharit and MA Williams (University of Washington, Multidisciplinary International Research Training Program, Seattle, WA and King Chulalongkorn University, Bangkok, Thailand)

Objective: To estimate the prevalence of insulin resistance (HOMA-IR) and to study its relationship with selected cardiovascular disease risk factors among Thai adults.

Methods: This cross-sectional study was comprised of 227 men and 990 women undergoing routine health check-up. The prevalence of insulin resistance was estimated using diagnostic criteria previously employed in Asian and other populations. Spearman's rank correlation coefficients were used to evaluate associations of HOMA-IR with selected cardiovascular disease risk factors. Multivariable logistic regression procedures were used to evaluate associations of hypertriglyceridemia, low HDL-Cholesterolemia, and hypertension with varying HOMA-IR values.

Results: Approximately, 20.7% of men and 19.1% of women were classified as having insulin resistance (HOMA-IR values ≥1.73). HOMA-IR values were statistically significantly and positively associated with body mass index, body fat percentage, waist circumference, and serum triglycerides. The values were inversely correlated with HDL-Cholesterol. When compared with those whose HOMA-IR values were within the lowest quartile (<0.45), men with HOMA-IR values in the highest quartile (≥1.58) had higher risks of hypertriglyceridemia (adjusted

OR=2.83), low HDL-Cholesterolemia (adjusted OR=2.79), and hypertension (adjusted OR=2.76). Similar associations were observed among women.

Conclusion: Insulin resistance, as determined using HOMA-IR, was positively associated with selected cardiovascular disease risk factors among Thai adults.

Association of High Sensitivity C-Reactive Protein Concentrations and Metabolic Syndrome among Thai Adults.[*]AJ Hillman, V Lohsoonthorn, O Hanvivatvong, W Jiamjarasrangsi, S Lertmaharit, and MA Williams(University of Washington, Seattle, WA and Chulalongkorn University, Bangkok, Thailand)

Objective: To investigate the association of high sensitivity C-reactive protein (hsCRP) concentrations and metabolic syndrome among Thai adults.

Methods: This cross-sectional study is comprised of 467 Thai participants (209 men and 258 women) receiving annual health check-up. Spearman's rank correlation coefficients were used to assess associations of metabolic parameters (age, waist circumference, blood pressure, triglycerides, HDL-C, fasting plasma glucose, fasting insulin and uric acid) with hsCRP concentrations. Multivariable logistic regression procedures were used to estimate the OR and 95% CI of metabolic syndrome according to low, moderate and high hsCRP concentrations (<1.0, 1.0-3.0 and >3.0 mg/l, respectively).

Results: Measures of adiposity and fasting insulin were positively and significantly correlated with hsCRP concentrations among women with and without metabolic syndrome. Similar associations were observed among men without metabolic syndrome. After controlling for confounders, moderately elevated hsCRP concentrations were associated with a 2.38-fold increased risk of metabolic syndrome (OR=2.38, 95% CI:1.20-4.72) among men. Men with high hsCRP concentrations had a 5.45-fold increased risk of metabolic syndrome (OR=5.45, 95% CI: 2.24-13.27) when compared with those who had low hsCRP concentrations. The corresponding ORs for women with moderately elevated and high hsCRP concentrations were 4.92 (OR=4.92, 95% CI: 2.34-10.35) and 11.93 (OR=11.93, 95% CI: 5.54-25.72), respectively.

Conclusions: These findings are consistent with the literature suggesting a role of hsCRP as a biomarker for metabolic syndrome.

Knowledge, attitudes and practices (KAP) of hygiene among school children in Angolela, Ethiopia. *Vivas AP, Gelaye B, Aboset N, Kumie A, Berhane Y, Williams MA (University of Washington, Seattle, WA and Addis Continental Institute of Public Health, Addis Ababa, Ethiopia)

Background: Poor hygiene practices and inadequate sanitary conditions play major roles in the increased burden of communicable diseases within developing countries. This study evaluated the knowledge, attitudes, and practices (KAP) of hygiene among rural school children in Ethiopia and assessed the extent to which proper knowledge of hygiene was associated with personal hygiene characteristics.

Methods: This cross-sectional study was comprised of 669 students who were interviewed by trained staff. Participants were in grades 1-6 at Angolela Primary School, located in rural Ethiopia. Data consisted of hygiene and hand washing practices, knowledge about sanitation, personal hygiene characteristics, and presence of gastrointestinal parasitic infection.

Results: Approximately 52% of students were classified as having adequate knowledge of proper hygiene. Most students reported hand washing before meals (99.0%), but only 36.2% reported using soap. Although 76.7% of students reported that washing hands after defecation was important, only 14.8% reported actually following this practice. Students with adequate knowledge of proper hygiene were more likely to have clean clothes (AOR 1.62, CI 1.14-2.29) and to have a lower risk of parasitic infection (AOR 0.78, CI 0.56-1.09) although statistical significance was not achieved for the latter.

Conclusions: Study findings underscore the need for more hand washing and hygiene education in schools; and provide objective evidence that may guide the development of comprehensive health and hygiene intervention programs in rural Ethiopian schools. Successful implementation

of these programs is likely to substantially attenuate the transmissible disease burden borne by school children in rural settings.

Intestinal Parasitic Infection and Nutritional Status among School Children in Angolela, Ethiopia.

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Objective: To estimate the prevalence of parasitic infection and nutritional status, and to evaluate the extent to which the two are associated among schoolchildren in rural Ethiopia.

Methods: This is a cross sectional study of 664 students aged from 6 to 19 years old from Angolela, Ethiopia. Socio-demographic information was collected using a structured questionnaire. Anthropometric measurements were taken at the time of interview. Examinations of fecal samples for helminthic and protozoan parasitic infections were performed. Logistic regression procedures were employed to evaluate the association between stunting, underweightedness, and wasting with parasitic infections.

Results: One-third of the participants were found to have a protozoan infection, while 7.1% were found to have a helminthic infection. Approximately 11% of the students were stunted, 19.6% were wasted, and 20.8% were underweight. Severely underweight boys were 3.88-times more likely than boys of adequate weight (OR=3.88, 95%CI: 1.12-13.52) to be diagnosed with protozoan infections. Among girls, those who were severely stunted were approximately 12 times (OR=11.84, 95%CI: 1.72-81.62) as likely to be infected with a helminthic parasite, than those who were not. Overall, there was a deficit in normal growth patterns as indicated by lower than average anthropometric measures.

Conclusions: There is a high prevalence of intestinal parasitic infections. Stunting, wasting, and underweightedness were also prevalent, and showed patterns of associations with intestinal parasitic infections. Efforts should be made to strengthen and expand school and community-based programs that promote inexpensive, though effective, practices to prevent the spread of

parasitic diseases. Initiatives aimed at improving the nutritional status of school children are also needed.

Risk of placental abruption in relation to maternal depressive, anxiety and stress symptoms

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Background: Little is known about the influence of psychiatric factors on the etiology of abruptio placentae (AP), a life threatening obstetrical condition that complicates roughly 1-2% of all pregnancies. We examined the risk of AP in relation to maternal psychiatric symptoms during pregnancy.

Methods: This case-control study included 373 AP cases and 368 controls delivered at five medical centers in Lima, Peru. Depressive, anxiety and stress symptoms were assessed using the Patient Health Questionnaire (PHQ-9) and the Depression Anxiety Stress Scales (DASS-21). Multivariable logistic regression models were fit to calculate odds ratio (aOR) and 95% confidence interval (CI) adjusted for confounders.

Results: Depressive symptoms of increasing severity (using the DASS depression subscale) was associated with AP (p for trend=0.02). Compared with women with no depressive symptoms, the aOR (95% CI) for AP associated with each level of severity of depression symptoms based on the DASS assessment were as follows: mild 1.84 (0.91-3.74); moderate 1.25 (0.67-2.33); and severe 4.68 (0.98-22.4). The corresponding ORs for mild, moderate, and moderately severe depressive symptoms based on the PHQ assessment were 1.10 (0.79-1.54), 3.31 (1.45-7.57), and 5.01 (1.06-23.6), respectively. A positive gradient was observed for the odds of AP with severity of anxiety (trend test p=0.002) and stress symptoms (p for trend=0.002).

Conclusions: Maternal psychiatric disorders may be associated with an increased occurrence of AP. Larger studies that allow for more precise evaluations of maternal psychiatric health in relation to AP risk are warranted.