Comparison of Measures of Adiposity in Identifying Cardiovascular Disease Risk among East African Adults.

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Objective: We sought to determine which measures of adiposity can predict cardiovascular disease (CVD) risk and to evaluate the extent to which overall and abdominal adiposity are associated with cardio-metabolic risk factors among working adults in Ethiopia.

Methods: This was a cross-sectional study of 1,853 individuals (1,125 men, 728 women) in Addis Ababa, Ethiopia. The World Health Organization STEPwise approach was used to collect sociodemographic data, anthropometric measurements, and blood samples among study subjects. Fasting blood glucose (FBG) and lipid concentrations were measured using standard approaches. Spearman's rank correlation, receiver operating characteristic (ROC) curves, and logistic regression were employed to determine the association and predictive ability (with respect to CVD risk factors) of five measures of adiposity: body mass index (BMI), waist circumference (WC), waist-hip ratio (WHR), waist–height ratio (WHtR), and visceral adiposity index (VAI).

Results: Overall, FBG is best associated with WHtR in men and WC in women. Systolic blood pressure most strongly associated with BMI in men, but with WC in women. VAI is most strongly associated with lipid levels among both genders. Compared to those with low BMI and

low WC, the risk of having CVD is the highest for those with high BMI and high WC and those with high WC and low BMI. Review of ROC curves indicated WC is the best predictor of CVD risk among study subjects.

Conclusion: Findings from our study underscore the feasibility and face validity of using simple measures of central and overall adiposity in identifying CVD risk in resource poor settings.

Prevalence of Metabolic Syndrome among Working Adults in Ethiopia. A Tran[1] ,B

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Objective: To evaluate the prevalence of metabolic syndrome (MetS) according to the

International Diabetes Federation (IDF) and Adult Treatment Panel (ATP) III criteria among

working East African adults.

Design: This cross-sectional study of 1,935 individuals (1,171 men and 764 women) was

conducted among working adults in Addis Ababa, Ethiopia. The study was conducted in

accordance with the STEPwise approach of the World Health Organization (WHO) which has

three levels: (1) questionnaire to gather demographic and behavioral information, (2) simple

physical measurements, and (3) biochemical tests. Fasting glucose (FG), triglycerides (TG), and

high-density lipoprotein-cholesterol (HDL-C) concentrations were measured using standard

approaches.

Results: According to ATP III and IDF definitions, the overall prevalence of MetS was 12.5%

and 17.9% respectively. Using ATP III criteria, the prevalence of MetS was 10.0% in men and

16.2% in women. Application of the IDF criteria resulted in a MetS prevalence of 14.0% in men

and 24.0% in women. The prevalence of MetS, irrespective of the criteria used, increased

markedly with age in both men and women. The most common MetS components among

women were reduced HDL-C (23.2%) and abdominal obesity (19.6%); whilst reduced HDL-C

concentrations (23.4%) and high blood pressure (21.8%) were most common among men.

Conclusion: MetS and its individual components are prevalent among an apparently healthy working population in Ethiopia. These findings indicate the need for evidence-based health promotion and disease prevention programs; and more robust efforts directed towards the screening, diagnosis and management of MetS and its components among Ethiopian adults.

Waist Circumference, Body Mass Index, and Other Measures of Adiposity in Predicting Cardiovascular Disease Risks among Peruvian Adults. KM Knowles [1*], LL Paiva [1*], SE Sanchez[2], L Revilla[3], TT Chavez[3], MB Yasuda[3], ND Yanez [1], B Gelaye[1], and MA Williams[1]

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Objectives: To examine the extent to which measures of adiposity can be used to predict selected components of metabolic syndrome (MetS) and elevated C-reactive protein (CRP) among Peruvian adults.

Methods: For this cross-sectional study, 1,518 Peruvian adults were interviewed for lifestyle behaviors and socio-demographic information, and blood samples were drawn for lab analyses. Waist circumference (WC), body mass index (BMI), waist-hip ratio (WHR), waist-height ratio (WHtR), and visceral adiposity index (VAI) were examined. The prevalence of each MetS component was determined according to tertiles of each anthropometric measure. Receiver operating characteristic (ROC) curves were used to evaluate the extent to which measures of adiposity can predict cardiovascular risk factors.

Results: All measures of adiposity studied had the strongest correlation with triglyceride concentrations (TG) for men and women. For both genders, as adiposity increased, the prevalence of elevated fasting glucose (FG), blood pressure (BP), TG, and reduced high density lipoprotein cholesterol (HDL-C) increased. When compared to individuals with low BMI and low WC, men and women having both high BMI and high WC had higher odds of elevated FPG, BP, TG, and reduced HDL-C concentrations, while only men in this category had higher odds of elevated CRP concentrations. Though no anthropometric measurement was consistently

identified as the best predictor for MetS, the ROCs showed VAI, WC, and WHtR to be the best predictors for individual MetS components.

Conclusions: Overall the results of our study showed that measures of adiposity are correlated with cardiovascular risk although no single adiposity measure was identified as the single best predictor for MetS.

Body Mass Index and Adult Weight Gain Among Reproductive Age Women with Migraine. Michelle Vo[1*],Abinnet Ainalem[1*],Chunfang Qiu, MD, MS[2],B. Lee Peterlin, DO[3],Sheena K. Aurora, MD[4],Michelle A. Williams, ScD[1, 2]**.** [1]Department of Epidemiology, School of Public Health, University of Washington, Seattle, Washington, USA; [2]Center for Perinatal Studies, Swedish Medical Center, Seattle Washington, USA; [3]Johns Hopkins University, Bayview Medical Center, Baltimore, MD, USA; and [4]Swedish Headache Center, Seattle Washington, USA
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Objective – To evaluate the cross-sectional relationship between migraine and pre-gravid obesity; and to assess the risk of adult weight gain among women with history of a pediatric diagnosis of migraine.

Background – Obesity, comorbid with pain disorders including migraine, share common pathophysiological characteristics including systemic inflammation, and derangements in adipose-tissue derived cytokines. Despite biochemical and epidemiological commonalities, obesity-migraine associations have been inconsistently observed.

Methods – A cohort of 3,733 women was interviewed during early pregnancy. We ascertained participants' self-reported history of physician-diagnosed migraine and collected self-reported information about pre-gravid weight, adult height and net weight change from age 18 to the 3-months period prior to pregnancy. Using pre-gravid body mass index, we categorized participants as follows: lean (<18.5 kg/m^2); normal (18.5-24.9 kg/m^2); overweight (25-29.9 kg/m^2), obese (30-34.9 kg/m^2), severely obese (35-39.9 kg/m^2), and morbidly obese (≥40 kg/m^2). Logistic regression procedures were used to estimate odds ratios (ORs) and 95% confidence intervals (CIs).

Results - After adjusting for confounders, relative to normal weight women, obese women had a 1.48-fold increased odds of migraine (OR=1.48; 95%CI 1.12-1.96). Severely obese (OR=2.07; 95%CI 1.27-3.39) and morbidly obese (OR=2.75; 95%CI 1.60-4.70) had the highest odds of migraines. Women with a history of diagnosed pediatric migraine had a 1.67-fold higher odds of gaining ≥10.0 kg above their weight at age 18, as compared with non-migraineurs (OR=1.67; 95%CI 1.13-2.47).

Conclusion – These data support earlier observations of migraine-obesity association among women, and extend the literature to include evidence of adult weight gain among women with a history of pediatric migraine.

Migraine-Asthma Comorbidity and Risk of Hypertensive Disorders of Pregnancy. Stefanie

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ABSTRACT

Background: To evaluate the association of migraine and asthma; and to estimate the risk of

hypertensive disorders of pregnancy in relation to maternal comorbid migraine and asthma.

Methods: Reproductive age women (N=3,731) were interviewed during early pregnancy. At the

time of interview we ascertained participants' migraine and asthma status. From medical records,

we collected information to allow the diagnosis of pregnancy-induced hypertension (PIH) and

preeclampsia. Odds ratios (OR) and 95% confidence intervals (CI) were estimated using logistic

regression procedures.

Results: After adjusting for confounders, migraineurs had a 1.38-fold increased odds of asthma

as compared with non-migraineurs (95% CI 1.09-1.38). The odds of hypertensive disorders of

pregnancy were highest among women with comorbid migraine-asthma. The ORs for PIH

preeclampsia, and the two disorders combined were 2.53 (95% CI 1.39-4.61), 3.53 (95% CI

1.51-8.24), and 2.64 (95% CI 1.56-4.47), respectively, for women with comorbid migraine-

asthma as compared with those who had neither disorder.

Conclusion: These findings confirm prior reports; and extend the literature by documenting

particularly high odds of pregnancy induced hypertension and preeclampsia among women with

comorbid migraine-asthma. Increased knowledge about the prevalence and sequelae of

comorbidities during pregnancy may lead to improved symptom management and perinatal outcomes.

Caregiver perceptions of child nutritional status in Magallanes, Chile. K Heitzinger, SG

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Background – Little research has investigated factors associated with childhood overweight in

southern Chile or the frequency with which caregivers underestimate the weight of their

overweight or obese child. We investigated risk factors for childhood overweight and obesity

and the accuracy of caregivers' perceptions of their child's nutritional status in the Region of

Magallanes, Patagonia, Chile.

Methods – The heights and weights of 796 children attending day care centers and elementary

schools (up to 8th grade) were collected and caregivers completed questionnaires regarding their

child's health and behavior. The child's nutritional status was diagnosed using the 2006 World

Health Organization Child Growth Standards (for children under age 6) and the Centers for

Disease Control and Prevention 2000 Growth Charts (for children age 6 and older). Actual

status was compared to the caregiver's perception of their child's nutritional status. Multinomial

and binary logistic regressions were used to evaluate factors related to childhood

overweight/obesity and of weight underestimation by caregivers.

Results – Of the 796 children included in the study, 245 (30.8%) were overweight and 223

(28.1%) were obese. Risk factors for overweight or obesity included the younger age of the

child (<9 years), being perceived to eat more than normal by the caregiver, and being perceived

to do less than normal physical activity by the caregiver. Overall, 462 (58.0%) of the caregivers

surveyed misidentified their child's nutritional status with 75.1% of caregivers of overweight

children and 30.5% of caregivers of obese children classifying their child's weight as normal.

Caregivers were less likely to underestimate their child's weight if the child was older or if the caregiver believed the child ate more than a normal amount

Conclusions – There is a high prevalence of overweight and obesity among children in Magallanes and the majority of caregivers underestimate the extent of the problem in their children. Educational interventions with caregivers are warranted to enhance perceptions of healthy body size and to support them in efforts to reduce/prevent childhood obesity.