

Lifestyle Factors Affecting Android Fat in Hispanic Residents of The RGV

ALEXANDRO RODRIGUEZ, RYAN D. RUSSELL, SMARAN MARUPUDI, GABRIEL FIGUEROA, JAIME RODRIGUEZ, SARASWATHY NAIR, JIMMY GONZALEZ, YU LUN TAI

Cardiovascular Dynamics Lab; Department of Health and Human Performance; College of Health Professions, University of Texas Rio Grande Valley; Brownsville, TX

Category: Undergraduate

Advisor / Mentor: Tai, Yu Lun (yulun.tai@utrgv.edu)

ABSTRACT

Approximately 79% of the Hispanic population in the Rio Grande Valley (HPRGV) are overweight or obese. As such, this population also have ~3x the type 2 diabetes (T2D) rates than the US average. Distribution of adipose tissue, affected largely by genetics and lifestyle (diet and physical activity), has been identified as a key-marker for T2D risk among apparently healthy individuals. However, the relationship of lifestyle factors such as diet and physical activity on android fat in healthy young Hispanics of the RGV has not been completely explored. **Purpose:** The purpose of this study was to determine whether there is a relationship between android fat, and lifestyle factors such as diet and physical activity in HPRGV. **Methods:** 23 healthy people from the RGV were recruited and matched for weight, BMI, and age. Android fat was assessed by a Dual-energy X-ray Absorptiometry (DEXA), dietary habits were determined by 3-day nutrition log, from which macro and micronutrients were gathered via a web-based micronutrient calculator (Cronometer), and physical activity was determined using the International Physical Activity Questionnaire. **Results:** Overall, there was significant variation between participants for time spent (minutes per week) in vigorous (318.9 ± 50.1 mean \pm SEM), and moderate activity (62323.8 ± 38291.8 mean \pm SEM), and time sitting (246366.7 ± 134104.2 mean \pm SEM), with no correlations for any physical activity variable noted with android fat. However, there were numerous macro- and micronutrients displaying significant inverse 2-tailed correlations with android fat, which include: Total energy ($r=-.56$, $p<0.005$), B1 ($r=-.73$, $p<0.001$), B5 ($r=-.57$, $p<0.001$), folate ($r=-.54$, $p<0.001$), calcium ($r=-.65$, $p<0.001$), selenium ($r=-.61$, $p<0.001$), CHO ($r=-.54$, $p<0.001$), Omega 3 ($r=-.54$, $p<0.001$), Omega 6 ($r=.61$, $p<0.001$), and threonine ($r=.56$, $p<0.001$). There were no direct relationships between diet and android fat. **Conclusion:** Overnutrition in the RGV appears to be driving abdominal obesity in HPRGV, and likely largely contributing to T2D incidence in the region, more than physical activity, which has significant variation.