Determining the Importance of the Role of Stress Management in Improving Health Outcomes

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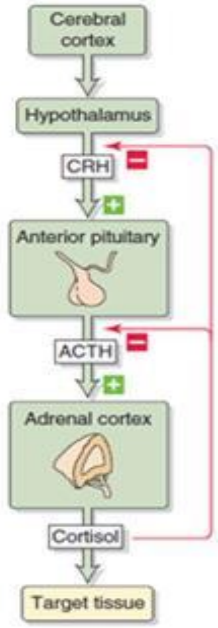
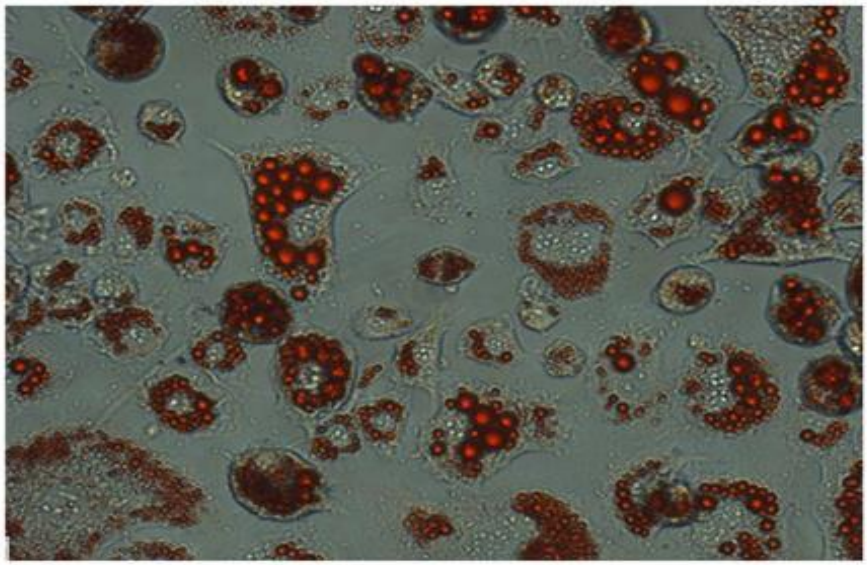


Hypothalamic-pituitary-adrenal (HPA) axis



Adipocytes (Fat cells stained with Oil Red)

Obesity is the risk factor that is associated with numerous diseases. The college students may face the risk of gaining weight, because their lifestyles are greatly changed, and they experience strong psychological and physical stresses in their daily lives. This proposal will focus on young college students because they have increased stress level. The purpose of the project is to 1) Study the relationships between adiposity (i.e. body weight, height, waist and hip circumference), blood pressure, and salivary stress biomarkers (i.e. salivary alpha amylase and cortisol) levels in young adults. 2). Measure the effects of short-term and moderate physical activity intervention on stress hormones and adiposity in college students. 3) Determine the importance of the role of stress management in improving health outcomes.

Total 12 exercise intervention subjects and 9 control subjects will participate in the study. All participants will be recruited though flyers in UTRGV campus. Subjects will be offered physical activity intervention for 6 weeks. At pre-study, demographic information (age, race), health history, dietary and physical activity questionnaires will be obtained. At weeks 0 and 7, body weight, height, waist and hip circumference, blood pressure will be measured. Samples of salivary will be collected and analyzed for alpha amylase and cortisol levels. Analyses of variance (ANOVA) and t-tests will be used to determine the differences between each group. Pearson's correlation and multiple stepwise regressions will be conducted to explore associations between weight status, salivary alpha amylase and cortisol levels and risk factors of obesity.