The Association Between Caffeine and Insulin Sensitivity in Non-Diabetic Young Women

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Abstract

Introduction:
Insulin sensitivity refers to how the body cells respond to the hormone insulin. Many factors affect insulin sensitivity, such as physical activity and body composition. Some studies suggest a correlation between caffeine and insulin sensitivity. Caffeine is a stimulant that increases the release of neurotransmitters such as epinephrine. Caffeine is also an adenosine receptor antagonist which means it blocks adenosine receptors from receiving a signal. However, the mechanism by which it affects insulin sensitivity is unknown. Some studies have shown a positive relationship between caffeine and insulin sensitivity while others have shown a negative relationship. More research is needed to fully identify the association between caffeine and insulin sensitivity in order to understand the mechanism completely.
Purpose: The purpose of this study is to examine the association between the intake of caffeine and insulin sensitivity.
Methods: 38 non-diabetic women completed the study (Age, 20.7± 2.8 years; BMI 27.6 ±3.6). Overall diet and intake of dietary nutrients was self-reported using the Automated Self-Administered 24-hour (ASA 24) questionnaire. Matsuda Insulin Sensitivity Index was calculated using the plasma glucose and plasma insulin results from a 2-hour OGTT with blood samples taken at 0, 30, 60, and 90 minutes. SPSS will be used to analyze the relationship among caffeine and insulin sensitivity with correlation and regression statistics.
Results: The results will be presented at the 2020 KSU Symposium of Student Scholars