

**Title:** The Relationship Between Adiponectin and Dietary Iron in Non-Diabetic Young Women  
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**Introduction:** Adiponectin is a protein-based hormone that is secreted by adipocytes and assists in several metabolic processes including glucose regulation and fatty acid oxidation. Low adiponectin levels have been linked to metabolic conditions such as increased insulin resistance and obesity. Previous studies have shown that circulating iron has an inverse relationship with adiponectin levels. It is unknown whether dietary iron has the same association with adiponectin levels.

**Purpose:** The purpose of this study is to examine the relationship between dietary iron intake and adiponectin levels.

**Methods:** This study examined 42 non-diabetic women (Age:  $20.7 \pm 2.8$  years; BMI  $27.6 \pm 3.6$ ). The subjects' dietary nutrient intake was assessed using a self-reported method through the Automated Self-Administered 24-hour (ASA 24) questionnaire. Subjects visited the KSU Human Performance Laboratory after an overnight fast. Body composition was measured using dual energy x-ray absorptiometry (DXA). Blood samples were collected, separated, and plasma was frozen and stored until analysis. Plasma adiponectin levels were analyzed using a commercially available enzyme-linked immunosorbent assay (ELISA) kit. A partial correlation analysis for age and race was used. A Pearson's correlation analysis was used to assess the association between adiponectin and dietary iron intake.

**Results:** In this study population, adiponectin was not significantly associated with dietary iron ( $r = 0.061$ ,  $p > 0.05$ ).

**Conclusions:** Though it has been previously shown that adiponectin is negatively associated with circulating iron levels, our data indicates that adiponectin is not related to dietary iron intake.