The Effect of Coconut Oil on Anthropometric Measurements and Irisin Levels in Overweight Individuals

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Abstract : This study aimed to discover the effects of coconut oil intake and diet therapy on anthropometric measurements, biochemical findings and irisin levels in overweight individuals. Materials and Methods: Overweight individuals (n=44, 19-30 years) without any chronic disease were included. In this randomized controlled crossover study, the participants were divided into two groups (Group 1: 23 people, Group 2: 21 people). In the first phase, Group 1 received diet therapy to lose 0.5-1 kg of weight per week and 20 mL of coconut oil/day, while Group 2 only received diet therapy. In the second phase, Group 1 received diet therapy while Group 2 received diet therapy and 20 mL of coconut oil/day. Anthropometric measurements were taken four times. Irisin was measured four times by enzyme-linked immunosorbent (ELISA) method and other biochemical findings were measured twice. Statistical analysis was made on SPSS 20. Results: The irisin level decreased significantly when the participants only took coconut oil ($p \leq 0.05$). There was a significant decrease in the participants' body weight, body mass index (BMI) level and body fat percentage ($p \leq 0.01$). Insulin, total cholesterol, low density lipoproteins (LDL) cholesterol, and triglyceride (TG) levels of all participants decreased significantly ($p \leq 0.05$). There was no significant difference in irisin level due to body weight loss ($p \leq 0.05$); coconut oil provided a significant decrease in irisin level ($p \leq 0.05$). Conclusion: Diet therapy and weight loss did not have an effect on irisin level, but coconut oil alone was found to reduce irisin level. Coconut oil had no impact on anthropometric and biochemical findings.

Keywords : coconut oil, diet therapy, irisin, overweight