

## 9<sup>th</sup> Yazd International Congress and Student Award on Reproductive Medicine with 4<sup>th</sup> Congress of Reproductive Genetics

### Poster Presentations

P-48

**Effect of fennel supplementation along with high-protein, low-carbohydrate weight-loss diet on insulin resistance and percentage of fat and muscle mass in overweight/obese women with polycystic ovary syndrome**

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**Background:** Polycystic ovary syndrome (PCOS) is a common reproductive disorder with prevalence of 5-10% in premenopausal women, which is identified with hyperandrogenism and ovarian dysfunction.

**Objective:** The aim of this study was to investigate the effects of fennel supplementation with energy-restricted diets on body fat and muscle percentage and insulin resistance in women with PCOS.

**Materials and Methods:** Sixty-four

overweight/obese women with PCOS were randomly allocated to 4 groups for 12 wk as follows: (1) standard diet + fennel (SDF), (2) high-protein, low-carbohydrate diet supplemented with fennel (HPF), (3) standard diet + placebo (SDP), and (4) high-protein, low-carbohydrate diet + placebo (HPP).

**Results:** After 12 wk of intervention, there were significant changes in the percentage of body fat and muscle in all groups. Decreasing in fasting insulin was -4.12 micIU/ml ( $p = 0.01$ ) for HPF and -4.5 micIU/ml ( $p = 0.03$ ) for SDP groups. In addition, HOMA-IR significantly decreased in HPF ( $p = 0.02$ ) and SDP ( $p = 0.02$ ) groups.

**Conclusion:** Energy-restricted diets independent of dietary composition improved the body fat and muscle percentage and insulin resistance indices in women with PCOS. High-protein diet and fennel compared with standard diet and placebo had no significant effect on insulin resistance, body fat and muscle.

**Key words:** High-protein diet, Standard diet, Fennel, Body fat percentage, Insulin resistance index.

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