

Objective

The purpose of this literature review was to examine the dietary intake, hormone levels, insulin sensitivity, body mass index (BMI), and to show the effects of fertility of women who are diagnosed with polycystic ovary syndrome

Background

Polycystic ovary syndrome (PCOS) is a common endocrine disorder that can contribute from genetics or environmental factors. The disorder can physically, emotionally, and mentally affect women who are diagnosed. Previous studies have shown that irregular hormone imbalances, obesity, insulin sensitivity, cardiovascular disease, and infertility play a role with polycystic ovary syndrome. Women with polycystic ovary syndrome have elevated levels of luteinizing hormones, which causes infertility. It is also known that there are elevated levels of androgens, which help with the regulation of the menstrual cycle. Women with polycystic ovary syndrome have hyperandrogenism, which causes irregular menstrual cycles and polycystic ovaries. Maintaining a diet, exercising, and making positive behavioral lifestyle changes can be an effective treatment for infertility. Making better life modifications can help with hyperandrogenism, insulin levels, weight management, mood stabilization, and confidence.

Methods

To find these research articles, the Journal of Academy of Nutrition and Dietetics and Tennessee Technological University Library Database were used. These articles were selected by specific characteristics, which consisted of being peer reviewed literature within a ten-year time frame. One article excludes the time frame but was accepted to be used. To help find the best articles for the research, it was important to be specific about what exactly was searched. Words that were used to help narrow the search down were: "Polycystic ovary syndrome", "dietary changes", and "infertility".

Dietary Intake with PCOS

Studies have shown that dietary, exercise, and behavioral lifestyle changes are the priority for treatment of infertility and metabolic issues among those with polycystic ovary syndrome. While making healthy lifestyle modifications can help improve the reduction of androgen and insulin levels and help improve lipid and Follicle Stimulating Hormone. By losing 5-10% of weight, there are clinical benefits in reproductive, metabolic, and psychological features.

Low Glycemic vs Standard Healthy Diet

Low Glycemic Index and Standard Healthy Diet: 1,576 kcal 50% carbohydrate 23% protein 27% fat. Both diets had reduced energy, low-fat, and low saturated fat.

Standard Protein vs High Protein Diet

Sixteen-Week Study

High Protein week 0-12: 1,489kcal 43% carbohydrate 27% protein 28% fat

Week 12-16: 1,789kcal 44% carbohydrate 27% protein 28% fat

Standard Protein week 0-12: 1,509kcal 57% carbohydrate 16% protein 27% fat

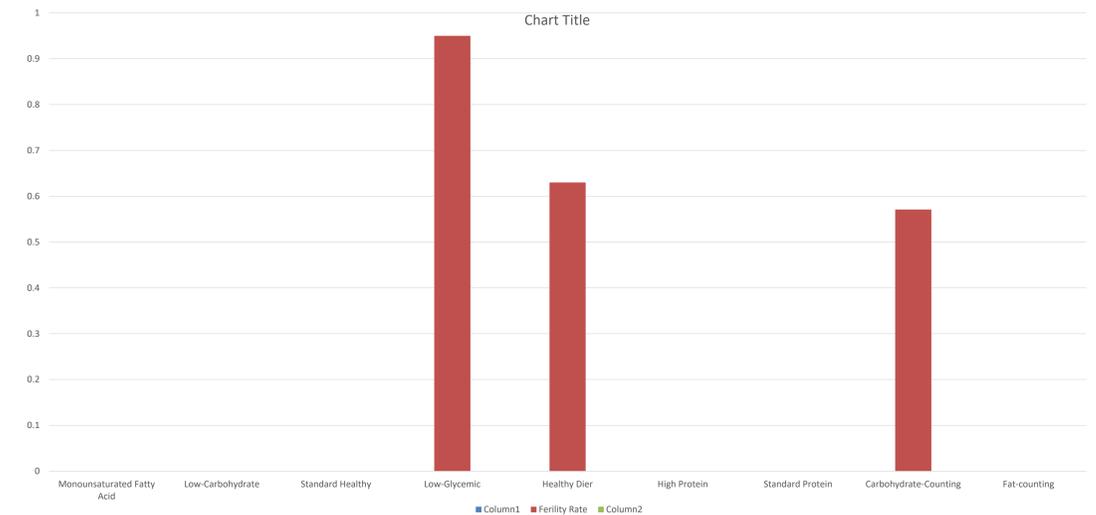
Week 12-16; 1,834kcal 56% carbohydrate 16% protein 28% fat

Low Glycemic Diet

36-week study with 12 weeks being usually diet being the control and the 2nd 12 weeks low glycemic diet. There was no change in carbohydrate and protein intake, except fat intake was reduced.

Monounsaturated Fatty Acid Vs Low Carbohydrate Vs Standard Healthy Diet

Monounsaturated Fatty Acid: 2,000kcal 55% carbohydrate 15% protein 33% fat
 Low Carbohydrate: 2,008 kcal 43% carbohydrate 15% protein 45% fat
 Standard healthy diet(Based on American Diabetes Association) : 1,999kcal 56% carbohydrate 16% protein 31% fat



Low-glycemic, Standard healthy, and carbohydrate-counting did not find number of pregnancies but had significant improvement for fertility.

Dietary Changes that determined pregnancies were High Protein with 2 pregnancies, Standard Protein with one pregnancies, and Fat- Counting with 2 pregnancies.

Carbohydrate Counting vs Fat Counting Diet

Carbohydrate Counting: 1,396 kcal 40% carbohydrate 21% protein 35% fat

Fat Counting: 1,474 kcal 43% carbohydrate 21% protein 31% fat

Limitations

Small study size
 Error or high risk of bias
 There is not enough evidence to draw a reliable conclusion for dietary intervention.

Conclusion

In most of these studies, by eating a low carbohydrate, high protein, and low glycemic diets with exercising daily were successful for losing weight and regaining fertility. Due to some women being insulin resistant, a low carbohydrate diet helped lower insulin levels and lessen the symptoms of PCOS. This shows some evidence that certain dietary changes can help women's fertility rate due to polycystic ovary syndrome.

PCOS HEALING



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