Why Integrative Medicine is the Future of PCOS Healthcare

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WHAT IS INTEGRATIVE MEDICINE?

“Integrative medicine is an approach to care that puts the patient at the center and addresses the full range of physical, emotional, mental, social, spiritual and environmental influences that affect a person’s health.

Employing a personalized strategy that considers the patient’s unique conditions, needs and circumstances, it uses the most appropriate interventions from an array of scientific disciplines to heal illness and disease and help people regain and maintain optimum health.”
WHY INTEGRATIVE MEDICINE FOR PCOS?

Lifelong condition

Adjustment of care required at different stages of life.

Affects entire body including:
- Endocrine system
- Mental/emotional
- Reproductive system
- Skin
- Cardiovascular
- Metabolism
- Immune system

Impacted by external factors such as stress, environmental agents, nutrition/diet, exercise/activity
WHAT DO WE KNOW ABOUT THE ROOT OF PCOS?

Genetic

Insulin Resistance

Inflammation
Adapted from Trayhurn, P. (2013). Hypoxia and Adipose Tissue Function and Dysfunction in Obesity. *Physiological Reviews, 93*(1).
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Bester et al 2016. Effects of IL-1β, IL-6 and IL-8 on erythrocytes, platelets and clot viscoelasticity, 6, 32188.
ANTI-INFLAMMATORY DIET: Does It Help??

THEN:
A 2013 ASRM committee opinion titled "Optimizing natural fertility" stated that "there is little evidence that dietary variations, vitamin-enriched diets, antioxidants, or herbal remedies improve fertility

NOW:
“There are emerging epidemiologic data demonstrating that ...diet may influence reproductive health outcomes. Furthermore, translational work with human specimens and animal models lends biologic plausibility to the epidemiologic data, particularly in the context of female reproductive diseases associated with inflammation, including polycystic ovary syndrome (PCOS) and obesity.

“We outline epidemiologic and translational work demonstrating a potential role for diet in the regulation of inflammatory processes associated with these disorders.”

COMMON INTEGRATIVE MODALITIES IN PCOS

Supplements:
- N-Acetyl-Cysteine
- Myo-Inositol
- D-Chiro-Inositol
- Resveratrol
- Omega 3 Fatty Acids
- Vitamin D

Exercise/Lifestyle
- Psychology/Counseling
- Acupuncture/Electro-Acupuncture

Nutrition/Diet
- Ketogenic diet
- Mediterranean diet
- Low Glycemic index diet (or Food Insulin Demand)
- Low Carbohydrate
HOW QUICKLY DO WE LEARN NEW INFORMATION?

PubMed Search for all new integrative interventions

- 106 Studies on PCOS and nutrition or diet
- 91 New Studies on PCOS and Complementary Medicine
- 88 New Studies on Dietary Supplements
- 33 New Studies on PCOS and Exercise
- 56 New Studies on PCOS and Mood
- 15 New Studies on PCOS and Acupuncture

From SEP 1ST 2016 To SEP 11TH 2017

Total of 398 Studies

This does NOT include research on integrative medicine for mechanisms such as insulin resistance which could be applied to PCOS!
60 Participants were randomly allocated into 3 groups to receive either 4 000 IU of vitamin D (or 1 000 IU of vitamin D or placebo per day for 12 weeks. Vitamin D supplementation (4 000 IU), compared with vitamin D (1 000 IU) and placebo. 

Vitamin D supplementation at a dosage of 4 000 IU/day for 12 weeks in insulin-resistant patients with PCOS benefitted glucose metabolism and lipid profiles compared to 1 000 IU/day and placebo groups.

Foroozanfard et al. 2017. Effect of Two Different Doses of Vitamin D Supplementation on Metabolic Profiles of Insulin-Resistant Patients with Polycystic Ovary Syndrome: A Randomized, Double-Blind, Placebo-Controlled Trial. Hormone and Metabolic Research, 49(8), 612–617
VITAMIN D AND EVENING PRIMROSE OIL

RCT, Double Blind, Placebo-controlled
60 vitamin D Deficient women with PCOS

Compared with the placebo group, women in vitamin D and EPO co-supplementation group had significant increases in serum 25-hydroxyvitamin D and plasma total glutathione, while there were significant decreases in triglycerides, VLDL cholesterol levels, total/high-density lipoprotein cholesterol ratio, and malondialdehyde concentration.

MAGNESIUM-ZINC-CALCIUM-VITAMIN D

Sixty PCOS women were randomized into two groups and treated with:

100 mg magnesium, 4 mg zinc, 400 mg calcium, 200 IU vitamin D
OR Placebo Twice a day for 12 weeks.

After the 12-week intervention, compared with the placebo:

magnesium-zinc-calcium-vitamin D co-supplementation resulted in: significant reductions in hirsutism serum high sensitivity C-reactive protein and plasma malondialdehyde, and a significant increase in plasma total antioxidant capacity concentrations

REDUCING CARBOHYDRATES, REPLACING WITH FAT REDUCES HYPINSULINEMIA IN PCOS

Stanford University Clinical Research Center: Two diets given to two groups of women with PCOS

GROUP 1 60% CARBOHYDRATE / 25% FAT
GROUP 2 40% CARBOHYDRATE / 45% FAT

SAME NUMBER OF CALORIES GIVEN DAILY FOR EACH GROUP

Daylong glucose did not differ according to diet. Daylong insulin concentrations were 30% lower on the low Carbohydrate/higher fat diet.

Beneficial changes in lipid profile were also observed.

68 women with PCOS

1 000 mg omega-3 fatty acids conplus 400 IU vitamin E supplements
Or placebo for 12 weeks

Omega-3 fatty acids and vitamin E co-supplementation for 12 weeks in PCOS women significantly improved indices of insulin resistance, total and free testosterone.

OMEGA 3 AND HAIR

PROBIOTIC SUPPLEMENTATION

Double Blind RCT

Supplementation for 12 weeks in 60 women with PCOS.

Favorable effects on weight loss, insulin resistance, triglycerides and VLDL concentrations

Ahmadi et al. 2017. Probiotic supplementation and the effects on weight loss, glycaemia and lipid profiles in women with polycystic ovary syndrome: a randomized, double-blind, placebo-controlled trial. Human Fertility, 1–8.
All participants were helped to construct a personalized lifestyle plan. Both groups implemented the lifestyle intervention. One group implemented two tablets of herbal medicine and the other placebo.

Tablet 1: Cinnamon, Licorice, St. John’s Wort and White Peony.
Tablet 2: Tribulus terrestris.

At 3 months, women in the combination group recorded a reduction in oligomenorrhoea of 32.9% compared with controls.

Other significant improvements were found for:

- body mass index
- Insulin
- LH
- blood pressure
- quality of life
- depression, anxiety and stress

This systematic review and meta-analysis shows that using Cr picolinate supplementation has beneficial effects on decreasing BMI, fasting insulin and free testosterone in PCOS patients.

GREEN TEA AND PCOS

Double Blind RCT
60 women with PCOS

500mg capsules of Green Tea Extract twice per day for 12 weeks

The consumption of green tea extract by women with high body mass index and PCOS leads to weight loss, a decrease in fasting insulin, and a decrease in the level of free testosterone.

VITEX VS METFORMIN ON OLIGOMENORRHEA IN PCOS

Double blind RCT 60 PCOS Women

3.2-4.8 mg of Chasteberry Dry Extract once per meal for 3 months vs 500mg 3x/day of Metformin

The two drugs had similar effects on menstrual cycle regulation, menstruation length and the number of pads used. More side effects were reported in the group using Metformin.

Shayan et al. 2016. Comparing the Effects of Agnugol and Metformin on Oligomenorrhea in Patients with Polycystic Ovary Syndrome: A Randomized Clinical Trial. Journal of Clinical and Diagnostic Research : JCDR, 10(12)
Thank you!
Grab a Guide to PCOS Testing