

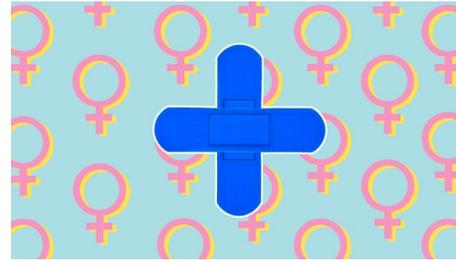
Living PCOS Free

Rohini Bajekal

Nutritionist, Author and Board-Certified Lifestyle Medicine Professional
MA Oxon, MSc Nutrition and Food Sciences, Dip BSLM

- By the term 'women', I wish to be inclusive, as people assigned female at birth (AFAB) may belong to groups other than women including non-binary, intersex and transgender folk.
- Every aspect of health benefits from dietary and lifestyle changes even when allopathic medicine or surgery is needed.

Lifestyle matters



Rohini Bajekal
Nutrition

Polycystic Ovary Syndrome
(PCOS)
Endometriosis
Fibroids
Painful Periods
Heavy Periods
Pre-Menstrual Syndrome
Chronic Pelvic Pain
Fertility Issues
Pregnancy
Gestational Diabetes
Pre - eclampsia

Menopause
Cancers of cervix, womb, ovary
Breast cancer
Depression
Obesity
Acne
Thrush
Osteoporosis
Vulval conditions: Eczema, LS
Autoimmune conditions

About me – Rohini Bajekal



- Nutritionist with my own virtual practice – 1-1 Nutrition and Lifestyle Medicine consults
- Communications Lead at Plant-Based Health Professionals UK
- Board-Certified Lifestyle Medicine Professional (BSLM diploma)
- Co-author of *Living PCOS Free: How to Regain Your Hormonal Health with Polycystic Ovary Syndrome* (available in the USA!)
- Wrote the chapter on Lifestyle Medicine for *How to Go Plant-Based* by Ella Mills (Deliciously Ella)



The PCOS Problem



- Polycystic Ovary Syndrome (PCOS) is the most common endocrine disorder worldwide, affecting at least **1 in 10** women, non-binary and transgender people
- More common in certain groups e.g. South Asians, people living with excess weight
- **3 in 4 remain undiagnosed**
- It is a complex genetic trait, similar to **Type 2 Diabetes**
- Commonest cause of **infertility**
- UK Biobank study of >175,000 men shows PCOS not linked to ovaries as men can develop PCOS characteristics too (Zhu et al, 2021)

Symptoms of PCOS

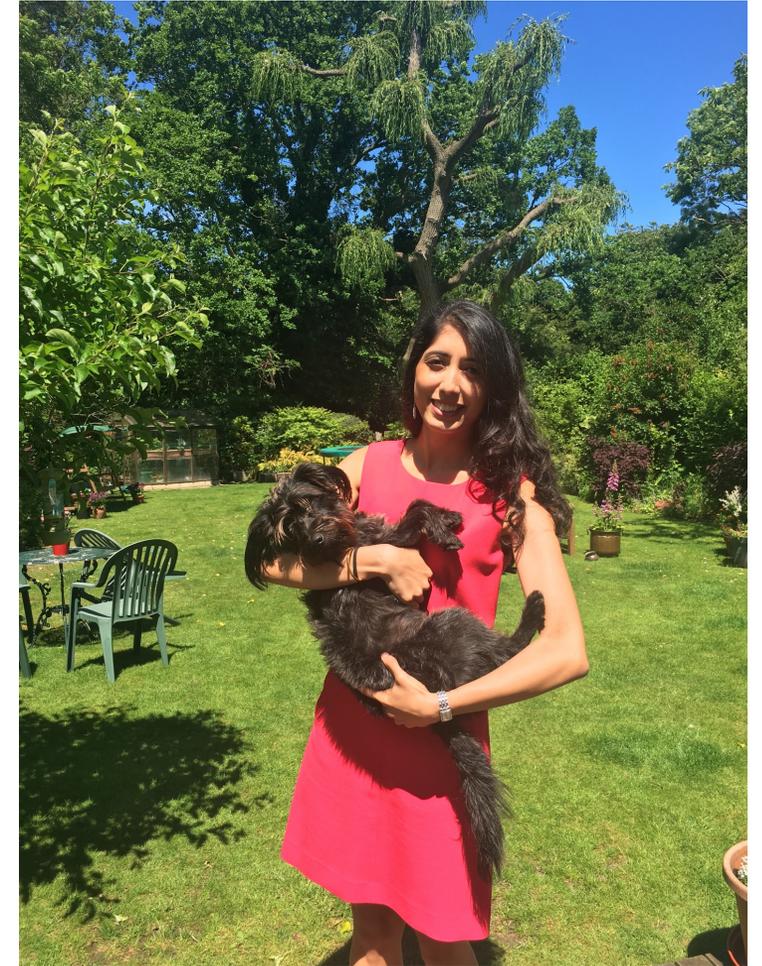


Rohini Bajekal
Nutrition

- Irregular/ absent periods
- Excess facial/ body hair
- Acne, especially around the jawline
- Scalp hair loss
- Excess weight
- Insulin resistance
- Fertility problems (15-fold increase in fertility issues)
- Psychological issues e.g., anxiety, depression, OCD, suicidal thoughts
- Disordered eating (especially binge-eating disorder)
- Sexual and relationship dysfunction
- Sleep disturbances e.g. sleep apnoea



My PCOS Story



Diagnosing PCOS

Medical definition of PCOS (**Rotterdam Criteria**) requires **two of the three** following criteria in adults:

- **Irregular or missing periods** (usually cycles over 35 days)
- **Hyperandrogenism** (clinical symptoms as a result of increased androgens and/or abnormal biochemical lab tests).
- **Ultrasound scan with polycystic ovarian morphology (PCOM)**



Six pillars of Lifestyle Medicine

- ✓ Predominantly whole food, plant-based diet
- ✓ Regular physical activity
- ✓ Restorative sleep
- ✓ Stress management
- ✓ Avoidance of tobacco, alcohol and drugs
- ✓ Positive relationships



Rohini Bajekal
Nutrition

Lifestyle Choices to Boost Immunity

Mind Your Stress
Pause. Take a few seconds to consider your breathing, listen to a favorite song, or watch a funny video. The stress hormone, cortisol, suppresses immune response. Being mindful, even in small doses, reduces stress and as a result, cortisol production.

No Smoking
Avoid smoking, vaping, or inhaling any substance, which can be toxic to the lungs.

Healthy Eating
What you eat makes all the difference! For strong immunity, consume a wide array of fiber-filled, nutrient-dense, and antioxidant-rich whole plant foods at every meal. Choose a rainbow of fruits and vegetables, eat your beans, consume whole grains, and use a variety of herbs and spices to enhance flavor. Stay hydrated with water!

Quality Sleep
Aim to sleep for 7 to 9 hours. Develop a routine. Set an alarm for when to go to sleep and when to wake up. Make sure your room is cool, dark, quiet, and comfortable. Avoid screens at least 90 minutes before bedtime. Practice a "wind down" ritual, like listening to soft music, writing in a journal, or reading a book.

Activity
Regular, moderate physical activity is vital to keeping the immune system strong! While Physical Activity Guidelines recommend at least 90 minutes, 5 days a week, as little as 20 minutes can suppress inflammation and support immunity.

Connectivity
Physical distancing is essential when contagious disease risks are high, but not at the expense of being isolated or lonely. Connect with friends and family via FaceTime, Zoom sessions, texting, and phone calls. Positive emotions, which are shown to improve immunity, arise from even brief, virtual social connections.

Increasing your body's immune response is not a guarantee against infection.

@ACLifeMed
AMERICAN COLLEGE OF
Lifestyle Medicine

Lifestyle management

1st line of treatment to prevent and manage PCOS and its long-term effects as recommended by expert groups and international guidelines:

Increased risk of:

- Metabolic syndrome
- Type 2 diabetes
- Gestational (pregnancy) diabetes: x2 higher risk
- Womb cancer
- Sleep apnoea
- Fatty Liver (NAFLD)
- Cardiovascular risk: More studies needed
- Higher CVD risk markers
 - Abnormal lipid profile
 - Raised triglycerides
 - Raised LDL



Case study

- Age 36
- BMI 32
- Ethnicity: white
- Oligomenorrhea – 5 periods in the last year
- Excess facial hair growth, depression, binge eating. **Now wishes to conceive.**
- LH 12.5 mu/L
- FSH 4.2 mu/L
- Free Androgen Index 11
- SHBG 27
- Testosterone 3.0 nmol/L
- US – Polycystic ovaries noted

Case study



Rohini Bajekal
Nutrition

- Age 27
- BMI 22
- Ethnicity: South Asian
- Oligomenorrhea, usually 37-49 day cycles
- Cystic acne on jawline, anxiety
- Tries to follow lower carbohydrate diet

- Normal ranges for blood tests apart from Hba1c and fasting glucose in prediabetic range (family history of T2DM with both parents affected)
- US – Polycystic ovaries noted

Case study

- Age 37
- BMI 32
- Oligomenorrhea – 5 periods in the last year
- Excess facial hair growth, depression, binge eating disorder
- **Now wishes to conceive**

- LH 12.5 mu/L
- FSH 4.2 mu/L
- Testosterone 3.0 nmol/L
- US – Polycystic ovaries noted

Weight – a sensitive issue



- Modest weight loss (5 to 10% of body weight) may result in **restoration of normal ovulatory cycles** and **improved pregnancy rates** in short-term studies
- **Weight loss results in ↓ androgens, improves metabolic risk factors**
- **Lifestyle intervention** improves body composition, hyperandrogenism and insulin resistance
- **Yo-yo dieting** can lead to **increased weight gain**, worsens **hormonal fluctuations** and **sleep quality**
- Recommending weight loss as the only goal may cause harm given that women with PCOS are at increased risk of **eating disorders**

Benefits of plant-based nutrition for PCOS



A fibre-rich diet in women with PCOS, with or without weight loss intentions makes sense:

Reduces insulin resistance

Sustained weight loss and maintenance

Lowers inflammatory markers (C-reactive protein, homocysteine)

Reduces oxidative stress and improves immunity

Reduces circulating androgens, increases sex hormone binding globulin (SHBG)

Improves lipid profile

Improves gut dysbiosis by targeting the gut microbiome

Focus on colour!

10-13 portions of fruit and veg daily
A portion is 80 g (handful)
BUT meet patient where they are at!



South Asian plant-based plate



Eating plants for PCOS

- ✓ **Whole fruit:** packed with fibre, vitamins, minerals, antioxidants, phytonutrients, water
- ✓ **Vegetables:** include nutrient-rich dark leafy greens daily
- ✓ **Legumes:** beans and lentils are rich in fibre and protein
- ✓ **Whole or minimally processed grains** (e.g. brown rice, oats)
- ✓ **Aim for two daily portions of minimally processed soya foods**
 - ✓ (one portion is 80 g of tofu or a cup of soya milk, edamame beans)
- ✓ **Starchy vegetables** such as sweet potatoes, boiled potatoes with skin (warm cooling + refrigeration before eating to ↑ resistant starch and ↓ glycaemic load)
- ✓ **Nuts and seeds:** omega-3 rich walnuts, ground flax, chia seeds
- ✓ **Herbs and spices:** cinnamon is linked to improved blood glucose control, turmeric is anti-inflammatory and should be paired with black pepper to aid absorption



How much soya to eat

- Soya has been shown to improve **PCOS symptoms** and **metabolic markers**
- Consuming soya products regularly is **safe**, unless allergic
- Choose **minimally processed** products (edamame beans, tofu (20 mg of isoflavones in 3 oz) over processed soya foods
- **Fermented forms** of soya such as tempeh, miso, natto (70 mg)
- **Avoid isoflavone supplements** and **soya protein isolates**
- Iodine intake and **thyroid medication** is not a contraindication
- Avoid taking thyroid meds at the same time as soya intake
- leave a **1-2 hour gap**

Benefits of soya in PCOS:

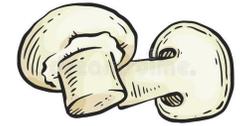
- ↓ total and LDL cholesterol
- ↓ insulin
- ↓ inflammatory markers
- ↓ oxidative stress
- ↓ testosterone



AGEs and PCOS – advanced glycation end products



Rohini Bajekal
Nutrition



- Glycotoxins or AGEs accelerate **aging process**
- Cross link proteins cause **oxidative stress, insulin resistance, cell damage**
- **High-AGE foods** include beef, pork, poultry, cheese and processed foods
- **Low-AGE foods** include whole grains, legumes, vegetables, and fruits

- In PCOS, women may have twice the circulating AGE levels (RAGE on ovaries) and high levels also found in lean PCOS
- Reducing **dietary AGE** intake resulted in improvement in metabolic, hormonal and oxidative stress biomarkers in women with PCOS (Tantalaki et al, 2014)

- Stop **smoking**: glycotoxins in cigarette smoke
- ↓ intake of **high AGE animal foods** e.g. barbecued foods, red meat, poultry
- **X ultra processed foods**, breakfast cereals and fried foods
- ↑ foods that help pull AGEs out of the body e.g. **brown rice/mushrooms**

Eat in line with circadian rhythms



Rohini Bajekal
Nutrition

- Higher level of **circadian rhythm disruption** in PCOS
- Aim to get morning **natural light exposure** – a 15-minute walk
- Eating two larger breakfast and lunches is more beneficial to **optimise insulin sensitivity** than a greater number of meals and snacks throughout the day (Kahleova et al., 2014)
- *“Breakfast like a king, lunch like a prince and dinner like a pauper”*
- Aim to eat a **light dinner** by 7pm. This also supports restorative sleep.



Supplement advice – focus on food first



- **Vitamin D** may improve ovulation rates and insulin sensitivity (Thomson et al, 2013). Aim for 1000-2000 IU for PCOS.
- **B12** (essential if on metformin/ plant-based)
- **Inositol (IP6) ≈2g/daily**: key ingredient in a diet that emphasises whole grain intake, legumes and nuts in place of refined carbohydrates is inositol hexaphosphate (IP6, phytic acid). In trials, inositol has been shown to improve insulin action, decrease androgen levels, and improve ovulatory function in both lean and women with excess weight with PCOS. Ratio of 40:1 myo-inositol to d-chiro inositol
- **Algae-derived omega-3 fats DHA/EPA** improves insulin resistance, lowers LDL cholesterol (meta-analysis by Yang et al,2018)
- **Spearmint tea x 2 cups daily** for unwanted hair growth (Grant, 2010).
- **Prenatal** – should include **400 mcg of folic acid**
- **Evidence against calcium supplements, fish oils**

Nutrition is the cornerstone but all six pillars of lifestyle are key



Rohini Bajekal
Nutrition

- **Physical activity:** Aerobic exercise and resistance training to improve insulin sensitivity and body composition (Aim for 150-300 mins moderate intensity per week)
- **Sleep:** Prioritise regular sleep routine with 7-9 hours of restorative sleep
- **Stress management:** Identify stress triggers and try meditation, mindfulness, breathwork, psychotherapy or yoga to lower cortisol levels
- **Avoid risky substances** such as tobacco & avoid/minimise alcohol
- **Positive social connections:** Prioritise time with your support network e.g. vegan community, family, friends



References

ACLM: <https://www.lifestylemedicine.org/Scientific-Evidence>

Bozdag G, Mumusoglu S, Zengin D, Karabulut E, Yildiz BO. The prevalence and phenotypic features of polycystic ovary syndrome: a systematic review and meta-analysis. *Human Reproduction*. 2016 Dec;31(12).

Cockerham WC, Hamby BW, Oates GR. The Social Determinants of Chronic Disease. *American Journal of Preventive Medicine*. 2017 Jan;52(1):S5–12.

Conway G, Dewailly D, Diamanti-Kandarakis E, Escobar-Morreale HF, Franks S, Gambineri A, et al. The polycystic ovary syndrome: a position statement from the European Society of Endocrinology. *European Journal of Endocrinology*. 2014 Oct;171(4).

Deswal R, Narwal V, Dang A, Pundir C. The Prevalence of Polycystic Ovary Syndrome: A Brief Systematic Review. *Journal of Human Reproductive Sciences*. 2020;13(4).

ESHRE: International evidence-based guideline for the assessment and management of polycystic ovary syndrome. Copyright Monash University, Melbourne Australia 2018. <https://www.eshre.eu/Guidelines-and-Legal/Guidelines/Polycystic-Ovary-Syndrome>

Hirschberg AL. Female hyperandrogenism and elite sport. *Endocrine Connections*. 2020 Apr;9(4).

Jamilian M et al: The Effects of Chromium Supplementation on Endocrine Profiles, Biomarkers of Inflammation, and Oxidative Stress in Women with Polycystic Ovary Syndrome: a Randomized, Double-Blind, Placebo-Controlled Trial. *Biol Trace Elem Res* 172:72, 2016

Khani, B., Mehrabian, F., Khalesi, E., & Eshraghi, A. (2011). Effect of soy phytoestrogen on metabolic and hormonal disturbance of women with polycystic ovary syndrome. *Journal of Research in Medical Sciences*, 16(3), 297.

Moran LJ et al: Dietary composition in the treatment of polycystic ovary syndrome: a systematic review to inform evidence-based guidelines. *J Acad Nutr Diet* 113:520, 2013

Murri M et al: Circulating markers of oxidative stress and polycystic ovary syndrome (PCOS): a systematic review and meta-analysis. *Hum Reprod Update* 19:268, 2013 May-Jun

References

- Monash University MA. PCOS Evidence-Based guidelines [Internet]. 2018 [cited 2021 Nov 4]. Available from: https://www.monash.edu/__data/assets/pdf_file/0004/1412644/PCOS_Evidence-Based-Guidelines_20181009.pdf
NICE: <https://cks.nice.org.uk/topics/polycystic-ovary-syndrome/>
- Kshetrimayum C, Sharma A, Mishra VV, Kumar S. Polycystic ovarian syndrome: Environmental/occupational, lifestyle factors; an overview. J Turk Ger Gynecol Assoc. 2019;20(4):255-263. doi:10.4274/jtggg.galenos.2019.2018.0142
- Romualdi, D., Costantini, B., Campagna, G., Lanzone, A., & Guido, M. (2008). Is there a role for soy isoflavones in the therapeutic approach to polycystic ovary syndrome? Results from a pilot study. Fertility and sterility, 90(5)
RCOG: https://www.rcog.org.uk/globalassets/documents/guidelines/gtg_33.pdf
- Rotterdam ESHRE/ASRM-Sponsored PCOS consensus workshop group: Revised 2003 consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome (PCOS). Hum Reprod 19:41, 2004
- Royal College of Obstetricians and Gynaecologists. Long-Term Consequences of Polycystic ovary syndrome. 2014 [cited 2021 Nov 4]; Available from: https://www.rcog.org.uk/globalassets/documents/guidelines/gtg_33.pdf
- Tantalaki, E., Piperi, C., Livadas, S., Kollias, A., Adamopoulos, C., Koulouri, A., Christakou, C., & Diamanti-Kandarakis, E. (2014). Impact of dietary modification of advanced glycation end products (AGEs) on the hormonal and metabolic profile of women with polycystic ovary syndrome (PCOS). Hormones (Athens, Greece), 13(1), 65–73. Up To Date: <https://www.uptodate.com/>
- Uribarri J, Woodruff S, Goodman S, et al. Advanced glycation end products in foods and a practical guide to their reduction in the diet. J Am Diet Assoc. 2010;110(6):911-16.e12. doi:10.1016/j.jada.2010.03.018
- Zhu J. Genetic evidence suggests men can develop PCOS-like condition. 2021 [cited 2021 Nov 4]; Available from: <https://www.endocrine.org/news-and-advocacy/news-room/featured-science-from-endo-2021/genetic-evidence-suggests-men-can-develop-pcos-like-condition>

Living PCOS Free

Plant-predominant

Community

Optimism

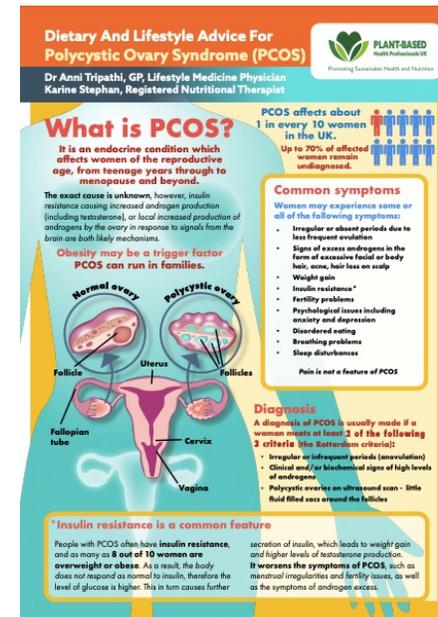
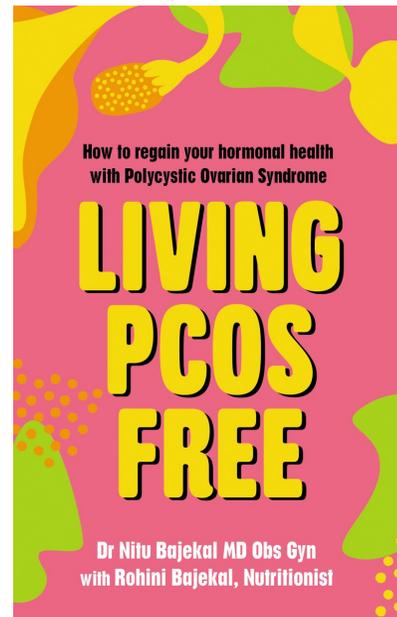
Self-care

Fun

Rest

Exercise

Empower



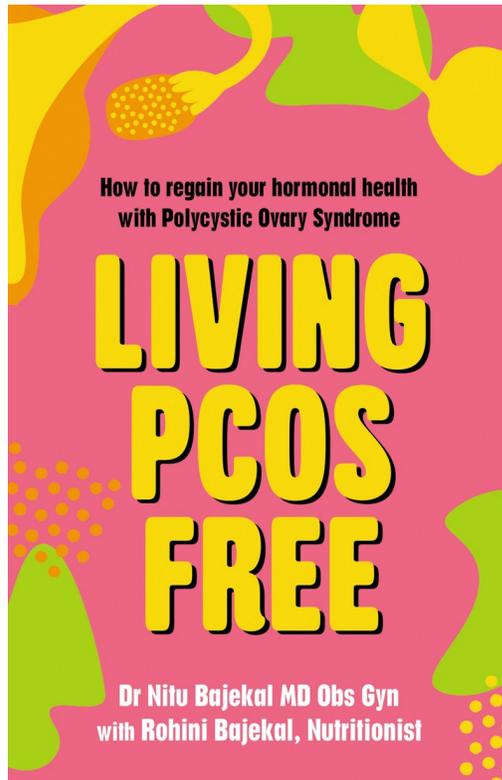
rohinibajekal.com

1-1 Nutrition & Lifestyle
Medicine Consultations

Visit Plant Based Health
Professionals UK

Visit pbhp.uk for
free factsheets, webinars
and articles on plant-based
nutrition and lifestyle
medicine

Living PCOS Free: How to Regain Your Hormonal Health with Polycystic Ovary Syndrome



A practical approach to managing PCOS using proven lifestyle approaches alongside western medicine

- Real-life patient case studies
- Myth-busters – from soya to seed-cycling
- 21-day plan with 30+ plant-based recipes
- B&W illustrations
- Hundreds of scientific references
- Medical glossary

**“It’s not about what you’re giving up, it’s
about all the things you’re embracing”**



Any questions?



@rohinibajekal on Instagram/ Twitter

rohinibajekal.com

rohinibajekal.com

1-1 Nutrition & Lifestyle Med Consultations

rohinibajekal@gmail.com

www.plantbasedhealthprofessionals.com