

FROM WEIGHT IMBALANCE TO HORMONAL STABILITY

A Case Study on Nutritional Management of PCOD, Perimenopause, Metabolic Slowdown & Cardiovascular Symptoms

Abstract

This case study outlines the nutritional management of a 47-year-old female with PCOD, slow metabolism, and weight gain, who later transitioned into perimenopause with symptoms such as blood pressure fluctuations, anxiety, and hot flashes. Initial concerns included impaired metabolism, hormonal imbalance, and difficulty achieving sustainable weight loss.

A phased, personalised nutrition and lifestyle plan was implemented-initially focusing on metabolic improvement and weight management during the PCOD phase, followed by menopause-supportive nutrition to promote hormonal balance, cardiovascular health, bone support, and mental well-being. As the client transitioned beyond perimenopause and reached a borderline prediabetes stage, the nutrition plan was further adapted to support glycaemic control, insulin sensitivity, and long-term metabolic stability. The client demonstrated consistent weight and inch loss, stabilised blood pressure, reduced hot flashes, and improved anxiety, highlighting the effectiveness of a structured, dietitian-led, stage-specific approach.

Introduction

By Dietitian Priyanka

Hormonal and metabolic transitions are not about calories alone. They require addressing the body's changing physiology and restoring hormonal and metabolic balance.

Ms. Aishwariya, a 47-year-old client, began her journey with INDYTE for weight loss and PCOD-related inflammation associated with slow metabolism and hormonal imbalance. A structured, weight-loss-focused nutrition plan was initially implemented to improve metabolic efficiency and body composition.

In January 2025, when she reconnected with us, she had entered the perimenopausal phase and was experiencing new symptoms including irregular periods, blood pressure fluctuations, anxiety, and hot flashes. This required an immediate shift to a phase-specific, root-cause-based nutrition strategy focused on hormonal stability, cardiovascular and bone health, nervous system support, and emotional well-being. As she later progressed into a **borderline prediabetes stage alongside perimenopause**, she faced gut issues as well whenever she felt stressed she suffered from constipation and bloating the plan was further refined to prioritise glycemic control, insulin sensitivity, and sustained metabolic health without compromising hormonal balance. Through personalised counselling and adaptive

dietary planning, the client achieved improved metabolic balance, better symptom stability, and renewed confidence during this complex hormonal and metabolic transition.

This case was not about quick fixes or aggressive restriction. It demanded a phased, highly personalised, root-cause-based nutrition strategy, continuous education, and lifestyle alignment. Through consistent counselling, structured follow-ups, and adaptive dietary planning Over time, this integrative approach not only improved physical outcomes but also helped the client regain control, stability, and trust in her body during a critical hormonal transition.

Client Profile

Name: Aishwariya

Age: 47 years

Region: Bangalore

Diet Preference: Vegetarian

Lifestyle: Moderate

Date Diet Plan Initiated: October 2024

Health Timeline & Presenting Concerns

October 2024 - January 2025

- Polycystic Ovarian Disease (PCOD)
- Weight gain
- Slow metabolism

A structured weight-loss-focused nutrition plan was initiated.

From January 2025- December 2025

- Transition into perimenopausal stage
- Blood pressure fluctuations
- Anxiety episodes
- Hot flashes

Nutrition strategy was shifted from weight loss to a peri-menopause-supportive diet.

From May 2025 - December 2025

- Transition into the **perimenopausal stage**
- Development of **borderline prediabetes**
- Blood pressure fluctuations
- Frequent hot flashes
- Gut-related symptoms including **constipation and bloating due to stress**

- Nutrition strategy shifted from weight loss to a **perimenopause- and prediabetes-supportive plan**,

Nutrition focusing on hormonal balance, blood sugar control, gut health, and overall metabolic stability

Medical Background & Clinical Context

Aishwariya enrolled with INDYTE in October 2024 to address PCOD-related weight gain and metabolic slowdown. During this phase, a targeted weight loss diet and lifestyle plan helped her achieve gradual fat and inch loss while improving metabolic efficiency.

In January 2025, she experienced a sudden onset of perimenopausal symptoms, including fluctuating blood pressure, anxiety, and hot flashes. Since she had already lost some weight prior to this hormonal transition, her body responded more positively to the menopausal phase than typically observed. With this perimenopausal state she started feeling symptoms of borderline pre-diabetes which alongside brought her a lot of stress which caused her gut feeling imbalanced and she suffered from constipation and bloating.

Recognising the physiological shift from reproductive to perimenopausal metabolism, her nutrition plan was promptly modified to prioritise hormonal balance, cardiovascular stability, bone health, and mental well-being-while still supporting gradual weight management.

Biomarkers

Test Name	Before 6 months	After 6 months
HbA1c	5.80%	4.45%
SGOT/SGPT (Ratio)	1.21	1.0
T3	0.89	0.85
T4	6.10	5.45
TSH	4.90	3.35
Triglycerides	237.9	189.9
Hdl/Ldl	1.33/0.75	0.45/0.65
Serum iron	44.7 ug/dl	33.2

Anthropometric Assessment and Dietary History

At the time of initial assessment, the client was a **47-year-old female** with a height of **5 feet 3 inches** and a body weight of **77 kg**. Her **waist circumference measured 39 inches**, indicating central fat accumulation within a manageable range. The client reported a **moderate lifestyle** with minimal planned physical activity.

Dietary preference was **vegetarian**, with a stated dislike for broccoli, zucchini, bitterguard. Prior to the nutrition intervention, the client did not follow a structured or therapeutic dietary pattern. Her routine diet included **refined carbohydrates, bakery items, pickles, desserts, and occasional soy-based products**. Protein intake was **inconsistent and unevenly distributed across meals**, contributing to poor satiety and suboptimal metabolic support.

Considering her **Moderate lifestyle, age-related metabolic slowdown, and hormonal transition**, the existing dietary pattern was inadequate to support **metabolic health, gut function, inflammation control, and hormonal balance**.

Nutrition Intervention and Diet Planning

A **personalized nutrition intervention** was designed, taking into account the client's **age, metabolic status, gut health, hormonal phase, and lifestyle factors**. A **nutritious diet** was implemented, with controlled carbohydrate intake derived primarily from **complex, low-glycemic sources** to support blood sugar stability and metabolic efficiency.

Special emphasis was placed on ensuring **adequate and evenly distributed protein intake at every meal**, using **easily digestible protein sources**, in alignment with the client's low physical activity levels and digestive tolerance. **Cruciferous vegetables** were included in **limited and modified forms**, ensuring micronutrient adequacy while avoiding potential gut discomfort or thyroid-related aggravation.

To enhance **gut health and nutrient absorption**, **natural prebiotic and probiotic foods** were incorporated into the plan. In addition, **targeted supplements**, as prescribed by the treating physician, were integrated to address identified deficiencies and support systemic balance. Foods were **strategically paired** to improve nutrient bioavailability, digestive comfort, and long-term adherence.

Macronutrient Distribution

The nutrition plan was structured to provide a **total daily energy intake of approximately 1400 kcal**, tailored to the client's **Moderate lifestyle, age-related metabolic changes, and hormonal transition**.

- **Carbohydrates: 55% of total energy (100 g/day)**, derived mainly from **low-glycemic, complex carbohydrate sources** to support insulin sensitivity, reduce metabolic load, and prevent blood sugar fluctuations.
- **Protein: 25% of total energy (80g/day)**, **evenly distributed across all meals**, to support lean muscle preservation, improve satiety, stabilise blood sugar, and aid

hormonal and thyroid function.

- **Fats: 20% of total energy (40 g/day)**, with emphasis on **anti-inflammatory fat sources** to support gut integrity, cardiovascular health, and hormonal balance.

The daily meal pattern consisted of **three main meals and two small snacks**, designed to maintain **blood sugar stability, digestive comfort, and sustained energy levels** throughout the day.

Foods Avoided and Allowed

Foods Avoided

These foods were restricted due to their potential to worsen **inflammation, gut irritation, insulin resistance, and thyroid imbalance**:

- Bakery and packaged products
- Pickles and high-sodium preserved foods
- Ultra-processed foods
- Refined sugars, sweets, and desserts

Foods Allowed

The allowed food list focused on **nutrient density, digestibility, and metabolic support**:

- Selected dairy products in controlled portions like yogurt, kefir, kimchi, kanji based on tolerance and whole grains and millets were included controlled portions, based on tolerance
- A wide variety of vegetables including vit k and vit d such as spinach, kale, mushroom, cabbage with **modified and limited inclusion of cruciferous vegetables**
- Fruits in **controlled portions**, prioritising low-glycaemic options
- Nuts, seeds, and healthy fats like flaxseeds, walnuts, chia seeds which provide omega 3 fatty acid.
- Herbs and spices known to support **gut health, inflammation control, and metabolic function**
- **Phytoestrogen (natural plant estrogen) these helps in hot flashes and hormonal imbalance** Soy and soy-based products (including tofu)

Nutrition Counselling Approach

The intervention extended beyond dietary planning to comprehensive education and counselling. Ms. Aishwariya was supported in understanding:

- The metabolic overlap between PCOD and perimenopause and why weight loss strategies needed to change

- How hormonal fluctuations influence weight distribution, blood pressure, anxiety, sleep, and bone density
- The role of insulin sensitivity and inflammation in worsening symptoms
- The importance of meal timing, nutrient consistency, and hydration
- How stress, poor sleep, and irregular routines impact hormonal stability
- The need for sustainable lifestyle habits rather than short-term fixes

This educational approach empowered her to make informed decisions, reduce anxiety around symptoms and food choices, and actively participate in maintaining long-term metabolic and hormonal balance.

She was managed as an **online client**, with regular consultations conducted via Google Meet, voice calls, and WhatsApp. Despite the virtual format, continuous weekly connection and timely follow-ups ensured close monitoring, personalised guidance, and consistent support throughout her journey.

Nutrition Intervention Strategy

Primary Goals

- In **Phase 1 (PCOD-focused phase)**, the primary emphasis was on improving metabolism and insulin sensitivity through structured meal timing, balanced nutrition, and lifestyle consistency, leading to sustainable weight loss and better hormonal control.
- In **Phase 2 (Perimenopause-focused phase)**, the nutrition strategy was adapted to address hormonal fluctuations, support blood pressure regulation, reduce hot flashes and anxiety, and protect bone and cardiovascular health, while continuing to maintain the metabolic improvements achieved earlier.
- In **Phase 3 (Prediabetes-Perimenopause focused phase)**, the approach centred on tighter blood sugar regulation using low-glycemic, fibre-rich meals, adequate and evenly distributed protein to preserve muscle mass, heart-healthy fats to improve lipid profile, and continued support for bone health and hormonal balance, ensuring long-term metabolic and cardiovascular stability.

1. Metabolic Balance & Weight Stability

- Structured, balanced meals rich in protein, fibre, and healthy fats, with a focus on low-glycemic complex carbohydrates (berries, cherries, apples), while eliminating refined sugars and highly processed foods to prevent insulin spikes, hormonal imbalance, and metabolic disruption.

2. Bone & Muscle Support

- With declining calcium levels, the plan placed increased focus on bone strength by including calcium-rich foods such as milk, curd, paneer, ragi, and tofu. Vitamin D from sunlight exposure and fortified foods was emphasised to enhance calcium

absorption, while vitamin K-rich greens like spinach, broccoli, and cabbage were included to help bind calcium to the bone matrix and improve bone strength and integrity.

3. Cardiovascular & Blood Pressure Support

- High-fibre diet to improve lipid profile and vascular health
- Emphasis on anti-inflammatory fats from flaxseeds, walnuts, chia seeds, and cold-pressed oils
- Restriction of fried foods, packaged snacks, and excess saturated fats to reduce BP fluctuations

4. Hormonal Support with Phytoestrogens

- Strategic use of natural phytoestrogen sources to ease hot flashes and hormonal instability
- Inclusion of soy foods (tofu, soy milk), flaxseeds, chickpeas, lentils, and sesame seeds

5. Hormonal Regulation

- Daily probiotics (curd, yogurt, kefir) to support gut-hormone communication
- Adequate hydration to improve digestion and reduce fatigue
- Calming herbal teas (chamomile, spearmint, fennel) to support anxiety and sleep
- Limitation of caffeine and salt intake to prevent fluid retention and bp fluctuations.

6. Magnesium Support

- Magnesium-rich foods such as **pumpkin seeds** and **almonds** were included to support muscle relaxation, nervous system calmness, improved sleep quality, and better insulin sensitivity, helping reduce anxiety, constipation, and stress-related hormonal fluctuations.

Additional Dietary Guidelines

- **Portion control:** Essential due to weak gut lining and digestive sensitivity
- **Small, frequent meals:** Improved digestion, blood sugar control, and hormonal stability

Exercise & Lifestyle Modifications

Physical activity and weight training

Gentle, consistent movement like walking, yoga, stretching, or strength training helps improve metabolism, supports heart health, enhances circulation, and boosts mood. Regular activity also reduces fatigue and supports hormonal balance during midlife changes.

Sleep Hygiene & Stress Management

Ensuring 7-8 hours of quality sleep through a fixed sleep schedule, early dinners, reduced screen time, and a calming bedtime routine helps regulate blood pressure, stabilise hormones, and reduce hot flashes and night sweats. Alongside this, mind-body practices such as pranayama, meditation, guided relaxation, and mindful breathing lower cortisol levels, calm the nervous system, reduce anxiety, and support better control of mood swings, BP fluctuations, and hormonal stress.

Hydration support

Adequate hydration supports circulation, digestion, metabolic function, and natural detox pathways. Regular water intake helps maintain overall fluid balance, while herbal teas calm the nervous system and reduce inflammation. Infused drinks and fresh, unsalted vegetable juices further provide antioxidants, essential minerals, and hydration without causing sugar spikes.

Progress & Outcomes

- **Weight & Body Composition**

The client experienced steady and sustainable weight loss during the PCOD phase, followed by continued gradual fat loss during the perimenopausal transition. Rather than rapid drops, the focus remained on improving body composition-reducing fat mass while preserving muscle. On average, a loss of **1-3 kg per month** was observed, accompanied by **visible inch loss**, improved body tone, and better clothing fit, indicating healthy fat reduction rather than water loss.

- **Metabolic Improvement**

With consistent dietary and lifestyle changes, the body showed improved metabolic responsiveness. This was reflected in better tolerance to meals, fewer energy crashes, improved digestion, and enhanced nutrient utilisation. Overall energy levels became more stable throughout the day, supporting daily activity and adherence to the plan.

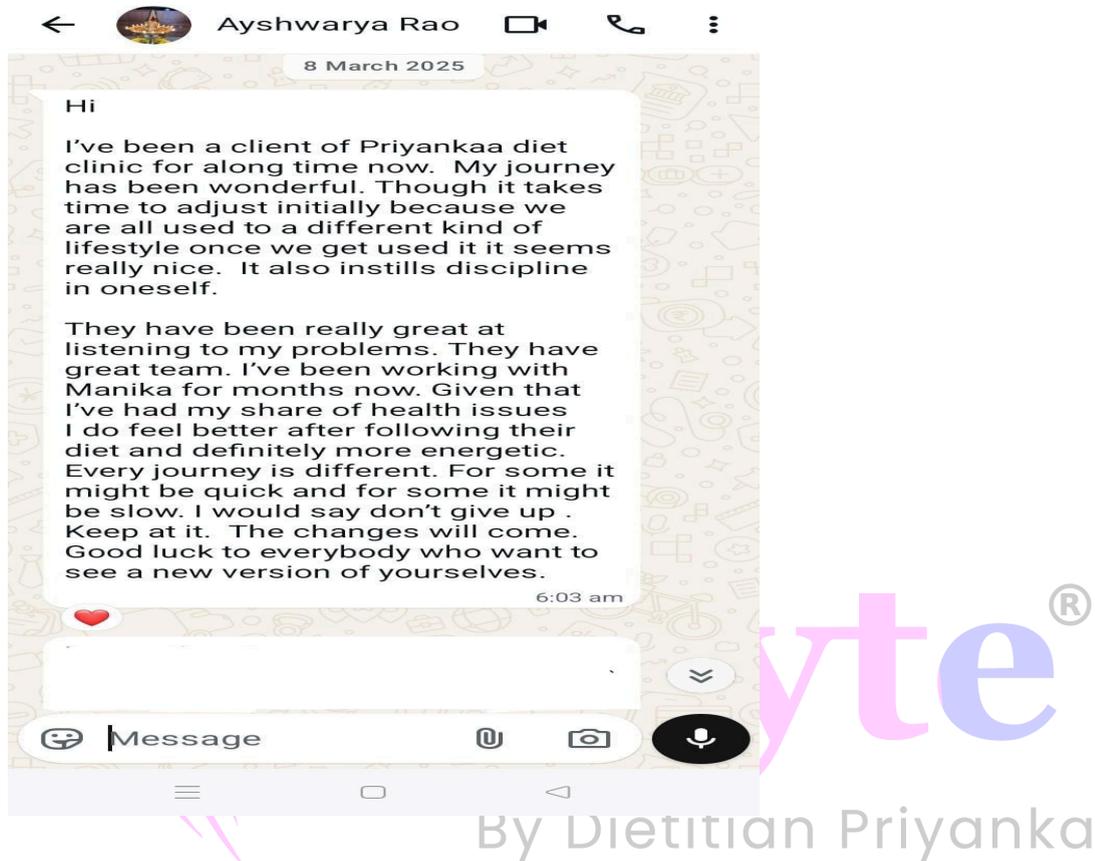
- **Hormonal & Cardiovascular Symptoms**

Hormonal symptoms commonly seen during perimenopause showed noticeable improvement. The **frequency and intensity of hot flashes reduced**, and blood pressure fluctuations became more stable. Alongside this, there was a **significant reduction in anxiety levels**, improved emotional regulation, and better stress tolerance-indicating positive nervous system and hormonal balance.

- **Overall Outcome**

The combined improvements in weight, metabolism, hormonal comfort, and cardiovascular stability highlight the effectiveness of a **consistent, dietitian-led, integrative nutrition and lifestyle approach**, especially in complex overlapping conditions like PCOD, Perimenopause and borderline Pre-Diabetes.

Client Feedback



Conclusion

Ms. Aishwariya's case demonstrates the importance of **stage-specific nutrition intervention** in women transitioning from PCOD into perimenopause. An initial protein-rich, low-GI, metabolically supportive diet helped address weight gain and slow metabolism. As hormonal priorities shifted, a menopause-focused nutrition plan emphasising phytoestrogens, calcium, vitamin D, vitamin K, probiotics, and healthy fats successfully reduced cardiovascular and neuro-hormonal symptoms.

This case reinforces that many complex hormonal and metabolic concerns can be effectively managed through **correct nutrition, lifestyle modification, and consistent professional guidance**, often without the need for aggressive medical intervention.

At INDYTE, the goal is not symptom suppression-but restoring balance, resilience, and long-term health through personalised, evidence-based nutrition.

