



LIFESTYLE-BASED SOLUTIONS FOR METABOLIC DISORDERS: A FOCUS ON PCOS

KULKARNI SHRADDHA VINAYAK^{1*} SHRUTI PATIL²

^{1*}Final year PG Scholar, ²Associate Professor, Department of Prasuti Tantra and Streeroga, Sri Sri College of Ayurvedic Science and Research, Bengaluru, Karnataka.

Corresponding Author Email: drshraddhvk21@gmail.com Access this article online: <https://jahm.co.in>

Published by Atreya Ayurveda Publications under the license CC-by-NC-SA 4.0

Submitted on- 05-12-24

Revised on- 15-12-24

Accepted on 17-12-24

ABSTRACT:

Lifestyle disorders are those that are associated with a person's way of living their life. Alterations in work routines, poor eating habits, and alcohol usage are significantly related to the risk of developing metabolic diseases such as obesity, type II diabetes, and PCOD. The pathophysiology of metabolic disease is complex, including the interaction of genetic, environmental, and dietary variables. Examining several lifestyle risk variables rather than just one is crucial. A prevalent multisystem endocrine condition called polycystic ovarian syndrome (PCOS) affects around 3.5-13% of women. It manifests in the reproductive as well as metabolic systems. The younger generation is getting affected more by it. In Ayurveda, PCOS is not specifically discussed. Still, it can be linked to other disorders such as *Vandhya Yonivyapada*, *Arajaska Yonivyapada*, *Artava Kshaya*, *Nastartava*, *Pushpaghni Jataharini*, based on the symptoms seen in PCOS. Ayurveda is the science that promotes a healthy diet (*Ahara*), an active lifestyle (*Vihara*), and medication (*Aushadha*) to enhance the quality of life. The idea of *Dinacharya* has been used in Ayurveda to explain a variety of regimens for maintaining health. *Dinacharya* is essential in PCOS treatment as it treats the underlying causes like Dosha imbalance, Agni *Mandhya*, and *Srotorodha* and establishes a solid basis for restoring metabolic, reproductive, and mental health. When employed consistently, it promotes the efficiency of other Ayurvedic treatments. Diseases are becoming increasingly common in the modern period due to lifestyle changes and bad eating habits. The idea of *Dinacharya* in Ayurveda aids in addressing such lifestyle diseases by encouraging "Swasthasya Swasthya Rakshanam, Aaturasya Vikara Prashamanam."

Keywords: Lifestyle, Metabolic disease, PCOS, Dinacharya

INTRODUCTION:

Lifestyle disorders are associated with a person's improper way of living their life. They pose a serious hazard to women's general health. Alterations in work routines, poor eating habits, and alcohol usage are significantly related to the risk of developing metabolic diseases such as obesity, type II diabetes, and PCOD. The pathophysiology of metabolic disease is complex, including the interaction of genetic, environmental, and dietary variables. Identifying risk groups may aid in creating tailored health promotion strategies for various demographic groups, as numerous lifestyle risk factors are more harmful to health than a single one.

A prevalent multisystem endocrine condition called polycystic ovarian syndrome (PCOS) affects approximately 1 in 10 women of reproductive age worldwide. The prevalence of PCOS in the world is 9.2% and in India it is 11.34%.[1] As per WHO, Polycystic ovarian syndrome affects an estimated 8–13% of reproductive-aged women and up to 70% of affected women remain undiagnosed worldwide.

It is the most prevalent cause of anovulation and one of the primary causes of infertility.

PCOS may run in families and result in several long-term health issues. It manifests in the reproductive, as well as metabolic systems. The younger generation is getting affected more. It disrupts the body's capacity to regulate energy usage, insulin function, and lipid metabolism. These metabolic changes are the root of many of the health difficulties associated with PCOS, including insulin resistance, weight gain, and an increased risk of

diabetes and cardiovascular disease. PCOS-afflicted women have a poor reproductive profile, which includes a higher risk of gestational diabetes mellitus, preeclampsia, and pregnancy-induced hypertension. Classic risk factors including hypertension, dyslipidemia, and type-2 diabetes mellitus are more common in PCOS patients, as well as associated with an increased risk of a diagnosis of depression, anxiety, bipolar disorder, and obsessive-compulsive disorder. Hence this illness is gaining a lot of attention. In developed nations, it is the most frequent cause of anovulatory infertility, hirsutism, and hyperandrogenism.

Although PCOS is not specifically explicitly mentioned in Ayurveda, it can be linked to other disorders. Such as *Vandhya Yonivyapad*, *Arajaska Yoni vyapad*, *Artava Kshaya*, *Nastartava*, *Pushpaghni Jataharini*, and so on. Its causes may be interpreted using various *Yonivyapad Hetu*, and, *Artavavaha Srotodushti Hetu*.

Importance of lifestyle modification in metabolic disorders-

PCOS is impacted by both genetic predisposition and lifestyle choices. It is more than just a reproductive concern; it is closely tied to metabolic problems. Addressing its metabolic components through diet, physical activity, and medical care is critical for improving the standard of life and avoiding consequences such as diabetes, cardiovascular disease, and long-term hormone disturbances.

Ayurvedic perspective of PCOS

Although PCOS is not specifically explicitly

mentioned in Ayurveda, it can be linked to an imbalance in the *Dosha*, *Dhatu*, and *Upadhatu* equally. It doesn't link the condition to a specific disease or syndrome. Still, the symptoms are similar to those of *Anartava* – amenorrhea, *Yonivyapad* such as *Arajaska* (oligomenorrhea), *Lohitakshaya* – oligomenorrhea due to vitiation of the *Vata-Pitta Dosha*, *Vandhya* - Infertility, *Pushpaghni Jataharini*- Anovulation, and hirsutism, *Artava Dushti* – menstrual abnormalities, insulin resistance – *Prameha*, weight gain – *Sthoulya*. Reduced digestion and metabolism due to *Vishama Ahara* and *Vihara* (inappropriate food and

activities) result in improper *Rasa* and digestive extract, which vitiate menstrual blood and raise *Meda Dhatu* and *Kapha*, which cause obesity and amenorrhoea. The *Doshas*, *Vishama Ahara*, *Vihara* and reduced digestive fire lead to incomplete metabolism resulting from the improper enzymatic response brought by *Ama* synthesis. Hyperinsulinemia and hyperandrogenism brought on by this hormonal imbalance eventually result in anovulation, amenorrhea/ oligomenorrhea, and polycystic ovaries.

Involvement of *Dosha* and *Dhatu*s and its impact in causing PCOS symptoms –

Table 1. *Dosha* –involvement based on symptoms -

Signs and Symptoms	<i>Dosha</i> Involved
<i>Artava Kshaya</i>	<i>Vata</i>
<i>Nashtartava</i> (amenorrhea,)	<i>Vata, Kapha</i>
<i>Arajaska</i> , <i>Lohitakshaya</i> (oligomenorrhea)	<i>Pitta</i> <i>Vata, Pitta</i>
<i>Vandhya</i> (infertility)	<i>Vata Pradhan Tridosha</i>
<i>Sthoulya</i> (obesity)	<i>Kapha</i>
<i>Prameha poorvaroopa</i> (insulin resistance)	<i>Kaphavruta Vata</i>
<i>Artava Dushti</i>	<i>Tridosha</i> (based on predominance)

***Dhatu Dushti* –**

Uttarottara Dhatu Dushti refers to the improper nourishment or vitiation of successive *Dhatu*s (tissues) due to a disruption in their natural transformation process, which occurs sequentially:

Rasa → *Rakta* → *Mamsa* → *Meda* → *Asthi* → *Majja* → *Shukra*

If one *Dhatu* is disturbed, it may affect the next in the sequence.

Table 2. PCOS symptoms Through *Uttarottara Dhatu Dushti* –

<i>Dhatu Dushti</i>	Signs and Symptoms
<i>Rasa Dhatu</i>	<i>Aartava Kshaya</i> or <i>Nashta Aartava</i>
<i>Rakta & Mamsa</i>	Acanthosis nigricans, generalized weakness, acne, and inefficiency
<i>Meda Dhatu</i>	Inappropriate fat deposition, which in turn causes obesity

<i>Asthi Dhatu</i>	Hirsutism, greying of the hair, and alopecia
<i>Majja Dhatu</i>	Mood swings, sadness, and hormonal imbalances
<i>Shukra Dhatu</i>	Infertility

Stages can be understood based on *Dhatu*'s involvement –

Early – *Rasa, Rakta* - Irregular cycles, mild weight gain, fatigue, and mild acne.

Moderate – *Rasa, Rakta, Mamsa, Meda, Asthi* - Persistent irregular cycles, cysts, moderate weight gain, hirsutism, and insulin resistance.

Severe – *Rasa, Rakta, Mamsa, Meda, Asthi, Majja, Shukra* – Amenorrhea, infertility, severe weight gain, hirsutism, diabetes, and cardiovascular complication.

Understanding the progression through *Dhatu*s enables early intervention and appropriate treatment to prevent chronicity.

Pathophysiology as per *Ayurveda* –

Mithya Ahara (Unhealthy Diet) - Excessive consumption of tastes like *Madhura* (sweet), *Amla* (sour), *Lavana* (salty), as well as qualities like *Snigdha* (unctuous), *Guru* (heavy), and *Sheeta* (cold) foods, *Adhyasana* (eating before previous food is digested), *Vishmasana* (eating irregularly), *Atyashanam* (excessive eating),

Mithya Vihara (Abnormal Living Practices) - Improper sleep cycles (*Ratricharya, Divaswapna, Ratrijagarana*), *Vegadharana* (holding back natural urges), and *Avyayama* (lack of exercise), Psychological factors like *Shoka* (grief), *Chinta* (worry), and *Bhaya* (fear) contribute to *Dosha* imbalances.

Pradushtartava refers to hormonal imbalances and pathologies related to the endometrium and ovaries, including genetic predispositions (*Beejadoshha*) and idiopathic causes (*Deva*).

Medovaha Strotas Dushti can lead to:

1. *Jatharagni Mandya*: Impaired digestion leads to Ama accumulation and vitiation of *Doshas*, affecting the menstrual cycle and causing irregular periods or even amenorrhea.
2. *Sthoulya*: Obesity, which further impairs menstrual flow.
3. Vitiating *Kapha*: Disruption of metabolism and insulin resistance (hyperinsulinemia), which can cause weight gain, acne, and menstrual irregularities.

PCOS a *Yapya Vyadhi* –

Yapya Vyadhi refers to chronic diseases that are manageable but not entirely curable, requiring long-term care and lifestyle modifications. [2] PCOS (polycystic ovarian syndrome) aligns with the characteristics of *Yapya Vyadhi*, as it is a condition that can be managed effectively but lacks a definitive cure in conventional medicine. The effects of medication or therapy are often temporary. Thus, lifestyle changes are required.

Management-

- *Nidana Parivarjana* – avoiding the causative factors
- *Samshodhana, Samshamana* – detox therapy

- Following *Pathya* – following the proper diet

Prevention –

Early diagnosis, lifestyle changes, and medical intervention can prevent or mitigate the risk of Chronic diseases like diabetes and cardiovascular conditions, Fertility challenges, and Mental health deterioration.

Since only the classics of Ayurveda discuss lifestyle, it is crucial to preserve or adjust the daily routine. Ayurvedic classics have given immense importance to *Dinacharya*. Following the measures in *Dinacharya* can help prevent lifestyle disorders like PCOS.

Effect Of Ahara and Dinacharya on PCOS –

Ahara - *Nityam Hitahara Sevi, Samikshakari, Vishayeshvasaktaḥ* /" [3]

Food is medicine, and the right diet can restore balance in the body. For PCOS, dietary recommendations focus on balancing the aggravated *Doshas* and regulating metabolic functions.

Importance of Agni in Ahara –

Typically, *Pitta* has *Teekshangni* and *Vata* has *Vishamagni*. While obese PCOS is more common in *Kapha*-predominant stages, lean PCOS is more common in *Pitta* and *Vata Pradhana* conditions. Therefore, in conditions where *Vata* predominates, the food should be more *Snigdha* (oily), warm, and well-cooked; in conditions where *Pitta* predominates, it should be more freshly prepared, well-cooked, less spicy, and accompanied with ghee.

Since *Mandagni* dominates *Kapha*, light, warm, freshly prepared meals can be consumed.

Including *Lashuna, Jeeraka, Hingu, and Tila* in the diet is helpful.

Brahme Muhurta Uttishthet –

It means waking up early morning.

Hormone levels can vary throughout the day due to the body's circadian rhythm, which regulates various physiological processes. In the early morning, just before waking up, several hormone levels typically peak or undergo significant changes.

The benefit of waking up early in PCOS -

Cortisol, the "stress hormone," tends to be highest in the early morning, peaking shortly after waking up. This cortisol surge helps wake up and provides energy for the day ahead. Cortisol levels gradually decrease as the day progresses, reaching their lowest point in the evening to promote relaxation and sleep. Also, it has anti-inflammatory properties, which help suppress inflammation and regulate the immune response.

Ushapana –

This refers to drinking water upon waking up in the morning.

To practice *Ushapana*, it is recommended to drink a glass or two of room temperature or lukewarm water immediately upon waking up.

As per Ayurveda, water intake recommendations can vary based on the individual constitution (*Prakruti*), season (*Ritu*), climate, and specific health needs.

1. Based on the individual constitution:

Recommendations for water intake may vary depending on the predominant *Dosha* or

Dosha imbalance. For example: *Vata Prakruti* person may need more frequent sips of warm water throughout the day to stay hydrated, as they tend to have dryness tendencies. While *Pitta Prakruti* may benefit from cool or room temperature water to balance their inherent heat and *Kapha Prakruti* may need to limit water intake slightly to avoid aggravating their tendency towards water retention.

- 2. Based on Season and Climate:** During hot seasons or in hot climates, increased water intake may be necessary to stay hydrated and cool the body. In contrast, during cold seasons, moderate water intake may be sufficient.
- 3. Based on Digestive Capacity (*Agni*):** Drinking too much water, especially after meals, can weaken digestion therefore, it's often recommended to sip water slowly throughout the day rather than consuming large amounts at once.
- 4. Based on Thirst:** It is important to listen to the body's signals, including thirst. Drinking water when thirsty is encouraged.

The benefits in PCOS are –

Hydration: After a night of sleep, the body can become dehydrated, and drinking water upon waking helps rehydrate the body and replenish fluids lost during the night.

Flushes Toxins: *Ushapana* helps to flush out toxins that may have accumulated in the body overnight, promoting detoxification and cleansing.

Aids Digestion: Drinking water in the morning stimulates digestion by activating the digestive

system and preparing it for the day ahead. This can enhance overall digestion and avoid constipation.

Improves Metabolism: *Ushapana* helps to improve the metabolism, leading to increased energy levels and improved nutrient absorption throughout the day.

Water consumption in the morning helps minimize acne, moisturizes skin, and aids in weight loss by eliminating toxins. It also encourages peristalsis and flushes the kidneys.

***Jihvha Nirlekhana* –**

This means tongue scraping involves cleaning of the tongue.

The benefits in PCOS are –

Oral Health Improvement - Removes the *Ama* (toxins) and debris that accumulate on the tongue, preventing bad breath (halitosis).

Enhances Digestive Health - Cleaning the tongue removes toxins that might interfere with the digestive fire, improving metabolism. It stimulates the taste buds, enhancing taste perception and triggering the digestive enzymes needed for proper digestion.

Supports Detoxification - A coated tongue often indicates the presence of accumulated toxins in the body. Tongue scraping helps to remove these, aiding in daily detoxification and minimizing microbial growth.

***Nasya* –**

This involves administering herbal oils into the nasal passages.

Nasa Hi Shiraso Dvaaram [4]

Nasa is considered a gateway for the head. Hence the medicine administered through the Nasal cavity will reach till *Shiras*.

Nasya influences hormonal levels and overall well-being, which affects the Hypothalamo-Pituitary-Adrenal (HPA) axis.

1. **Stress Reduction:** The HPA axis plays a central role in the body's response to stress. Chronic stress can dysregulate the HPA axis, leading to imbalances in cortisol and other stress hormones. *Nasya* has calming and grounding effects on the nervous system, potentially reducing stress levels.
2. **Psychological effect:** *Nasya* can improve mental clarity, cognitive function, and concentration by clearing the nasal passages and promoting better oxygenation to the brain.

The role of *Nasya* on hormone level through several mechanisms:

1. **Direct Absorption:** *Nasya* facilitates the direct absorption of medicated oils or substances through the nasal passages' rich blood vessels and nerve endings. This enables active compounds to reach the bloodstream and influence endocrine glands responsible for hormone production.
2. **Neuroendocrine Regulation:** The nasal cavity's connection to the brain, particularly the hypothalamus via the olfactory nerve, allows *Nasya* to influence hormone secretion and regulate the HPA axis, impacting overall hormonal balance.
3. **Detoxification:** By clearing excess mucus, toxins, and *Ama* from the nasal passages, *Nasya* supports detoxification, enhancing the endocrine system's function and preventing hormonal disruptions.

Research involving PCOS animal models demonstrated that increasing brain insulin concentrations via intranasal administration improved postprandial thermogenesis (PPT) without affecting blood glucose levels. This suggests that intranasal insulin could enhance energy expenditure and potentially mitigate weight gain associated with PCOS.[5]

Mechanisms of Nasal Route Influence on the HPO Axis -

- **Direct Delivery to the Brain:** Bypassing the blood-brain barrier, intranasal delivery allows drugs to reach the hypothalamus and other parts of the brain that control the HPO axis.
- **Neurotransmitter Modulation:** Intranasal administration of certain drugs or hormones, such as oxytocin or gonadotropin-releasing hormone (GnRH), can impact hypothalamus activity, which in turn affects the pituitary's production of follicle-stimulating hormone (FSH) and luteinizing hormone (LH).

***Dhoomapana* –**

Dhoomapana, also known as therapeutic smoking or inhalation therapy, involves the inhalation of medicated fumes or smoke. It should be learned under the supervision of a physician before practicing on one's own.

Benefits of *Dhoomapana* for PCOS:

1. **Effects on *Doshas*:** *Dhoomapana* helps balance doshas, particularly *Kapha*, by liquefying and eliminating it. Since the head (*Shiras*) is the primary site of *Kapha*, *Dhoomapana* is especially effective in managing *Kaphajanya* conditions.

2. **Detoxification:** Acting as a form of *Swedana* (sudation therapy), *Dhoomapana* opens channels of elimination, aiding in the removal of toxins and supporting overall detoxification.
3. **Psychological Benefits:** With *Medhya* (mind-enhancing) drugs, *Dhoomapana* reduces stress and promotes mental well-being, which is crucial for managing PCOS symptoms and hormonal balance.
4. **Regulation of Menstrual Cycle:** By activating the HPA axis and opening body channels, *Dhoomapana* helps regularize menstrual cycles, addressing issues like irregular periods, reduced flow, and heavy bleeding.
4. **Reduction of Inflammation:** Using anti-inflammatory oils, massage helps reduce chronic inflammation linked to PCOS, improving metabolic and hormonal health.
5. **Support for Weight Management:** Massage complements weight management strategies by reducing stress and promoting relaxation, helping prevent stress-related overeating, and encouraging a healthier lifestyle.
6. **Fertility Enhancement:** Massage indirectly supports fertility by reducing stress, improving hormonal balance, and aiding ovulation and reproductive health.

Abhyanga –

Oil massage, known as "Abhyanga" in Ayurveda, offers several potential benefits for individuals with polycystic ovary syndrome (PCOS). The effects of oil massage specifically for PCOS are limited, the general benefits of massage and its potential impact on factors relevant to PCOS can be considered.

Benefits of Abhyanga in PCOS:

1. **Stress Reduction:** Oil massage promotes relaxation, lowers cortisol levels, and induces calmness, helping manage PCOS-related stress and improving overall well-being.
2. **Hormonal Balance:** Medicated oil massage may help regulate hormonal imbalances, such as elevated androgens and disrupted menstrual cycles, commonly seen in PCOS.
3. **Improved Circulation:** Massage enhances blood flow and lymphatic drainage, supporting ovarian health and aiding in nutrient delivery and waste removal.

7. **Shiro Abhyanga, Pada Abhyanga, Mukhabhyanga** - Oils used in *Abhyanga* are often chosen for their nourishing and moisturizing properties. Regular oil massage helps hydrate the skin, improve skin tone and texture, and maintain its natural elasticity. It can also help alleviate skin dryness, flakiness, and roughness, prevent premature fatigue, and induce normal sleep. Increases the complexion and luster of the skin (acne).

Vyayama –

'Vyayama' or physical exercise refers to labor that involves bodily exertion/efforts. Physical exercise helps in the development, enhances the luster of the skin, provides compactness of body parts, stimulates the digestive power, maintains a healthy status, brings stability, and a light physique, and gives strength for tolerance to fatigue, exhaustion, thirst, heat, cold, etc. It also offers immunity. [6] A person's capacity to exercise can be

assessed by his or her ability and strength to do physical work.

Rules for performing physical exercise, or Vyayam

a:

- *Vyayama* is to be done up to *Ardhashakti* which is half of one's physical strength and it should not produce exhaustion or fatigue.[7] This is the mentioned for the healthy person, habitually taking an unctuous diet, in the cold and spring season only;
- For other individuals and in other seasons like summer and rainy, one should perform to a milder degree. Perspiration, an increase in respiratory rate, a feeling of lightness in the body, then one should stop the exercise.

Benefits of exercise in PCOS:

1. **Weight Management:** Exercise helps manage weight by improving insulin sensitivity and burning calories.
2. **Improved Insulin Resistance:** Regular physical activity enhances the body's ability to regulate blood sugar, reducing the risk of type 2 diabetes.
3. **Hormonal Regulation:** Exercise lowers testosterone levels and increases SHBG, alleviating symptoms like acne and hirsutism.
4. **Psychological Benefits:** By releasing endorphins and reducing cortisol, exercise lifts mood, reduces stress, and combats emotional challenges associated with PCOS.
5. **Fertility Support:** Exercise promotes hormonal balance, weight management,

and reproductive health, increasing fertility potential in women with PCOS.

6. **Cardiovascular Health:** It lowers blood pressure, improves cholesterol, and reduces the risk of cardiovascular disease common in PCOS.
7. **Energy Boost:** Regular exercise combats fatigue by enhancing circulation and oxygen delivery.
8. **Better Sleep:** Physical activity helps regulate sleep patterns, addressing sleep disturbances linked to hormonal imbalances and stress.

Adverse Impact of Excess Exercise –

Prolonged or high-intensity exercise can cause oxidative stress, which is the production of reactive oxygen species (ROS) that can damage cells. This can lead to muscle fatigue and weakness, and can also damage DNA. However, moderate exercise can boost the body's antioxidant capacity and protect against oxidative stress.

Snana –

Bathing itself doesn't have a direct role in the management or treatment of polycystic ovary syndrome (PCOS). However, certain bathing practices may indirectly support overall health and well-being, which can be beneficial for individuals with PCOS. Here are some ways in which bathing and related practices can contribute to managing PCOS:

1. **Stress Reduction:** Warm baths promote relaxation and reduce stress, which can help alleviate hormonal imbalances and improve PCOS symptoms.

2. Improved Sleep: Incorporating a bath into a bedtime routine aids relaxation and prepares the body for restful sleep, essential for hormonal balance.

3. Skin Care: Gentle cleansing and exfoliation during bathing can help manage PCOS-related acne and hirsutism, promoting healthier skin.

4. Temperature Regulation: Baths can help stabilize body temperature, providing comfort for those experiencing fluctuations due to hormonal imbalances.

5. Hygiene: Regular bathing prevents skin infections and maintains cleanliness, supporting overall health in individuals with PCOS.

It gives strength and appetite. Stimulates digestive fire, and enthusiasm. Hot water (*Ushna jala*) if used for bathing has the properties of *Vata Kapha Hara*, and improves circulation, Cold water (*Sheeta jala*) is *Agnivardhaka*. [8]

Udhwartana –

Udhwartana is a therapeutic massage that involves the application of herbal powders or pastes on the body, followed by a specialized massage using upward strokes.

Benefits of Udhwartana –

- 1. Stimulates Circulation:** Enhances blood flow, aiding oxygen and nutrient delivery to tissues and removing metabolic waste for improved wellness.
- 2. Detoxification:** Promotes toxin elimination through the skin using herbal powders with detoxifying properties.

3. Balances Kapha Dosha: Helps manage imbalances like congestion, lethargy, and excess weight by reducing *Kapha Dosha*.

4. Supports Weight Management: Stimulates fat metabolism, breaks down subcutaneous fat, and improves lymphatic drainage, aiding weight loss and body contouring.

5. Improves Skin Health: Exfoliates dead cells, unclogs pores, and enhances skin texture, promoting glowing, healthy skin.

6. Enhances Muscle Tone: Tones and strengthens muscles by stimulating circulation and muscle fibers.

7. Relaxes Mind: Reduces stress and tension, promoting relaxation and well-being through soothing massage strokes and herbal properties.

Tambula Sevana –

Betel leaf is commonly chewed after meals in many cultures as it is believed to aid digestion. *Tambula sevana* is an Ayurvedic digestive stimulant that is used after a meal. It has a Bitter (*Tikta*) and Pungent (*Katu rasa*) taste, *Katu Vipaka*, Hot Potency, and action on *Doshas* as balancing *Kapha* and *Vata*, *Pitta Prakopaka* and also improves taste, improves strength, acts as a mild purgative, carminative. As a result, it exhibits properties such as astringent, diuretic, mood enhancer, aphrodisiac, mouth deodorant, and nerve tonic. It relaxes the mind, creates a feeling of well-being, and improves the vocal cords, bad breath, boils, mouth ulcers, etc.

- The aromatic compounds in betel leaf can stimulate the production of saliva and

digestive enzymes, which helps to improve digestion and alleviate symptoms like bloating and indigestion.

- It has chemical compounds like Eugenol, Hydroxychavicol, Methyl eugenol, Chavibetol, and Chavicol which possess properties like Anti-inflammatory, antioxidant, antimutagenic, antibacterial, Anti-carcinogenic, antithrombotic, gastric ulcer-healing activity, antimicrobial, and analgesic effects.

Chankramana –

It means walking. Walking is a beneficial form of exercise for individuals with polycystic ovary syndrome (PCOS) due to its numerous physical and psychological benefits.

Benefits of walking:

Weight Management: Many women with PCOS struggle with weight management due to hormonal imbalances and insulin resistance. Regular physical activity, such as walking, can help burn calories, improve metabolism, and support weight loss or weight maintenance goals. Even moderate-intensity walking can have significant effects on weight management when combined with a healthy diet.

- 1. Improvement on Insulin Resistance:** Insulin resistance is a common feature of PCOS and can lead to elevated insulin levels, which in turn exacerbate hormonal imbalances and contribute to weight gain and other metabolic issues. Engaging in regular exercise, including walking, helps improve insulin sensitivity, allowing cells to more effectively utilize

glucose and reducing the risk of type 2 diabetes.

- 2. Effect on Hormones:** Physical activity, including walking, can help regulate hormone levels in women with PCOS. Endorphins, which are released when you exercise, can help reduce tension and elevate your mood. Additionally, regular exercise can help balance sex hormone levels, such as testosterone and estrogen, which may help alleviate symptoms such as irregular menstrual cycles and hirsutism.
- 3. Management of cardiovascular Risk Factors:** Women with PCOS are at increased risk of developing cardiovascular disease due to factors such as obesity, insulin resistance, and dyslipidemia. Walking is a low-impact cardiovascular exercise that can help lower blood pressure, improve cholesterol levels, and reduce the risk of heart disease when performed regularly.
- 4. Stress Reduction and Mental Health:** PCOS can have a significant impact on mental health, with many women experiencing symptoms such as anxiety and depression. Regular physical activity, such as walking, can help reduce stress, improve mood, and promote overall mental well-being. Spending time outdoors while walking can also provide opportunities for relaxation and connection with nature.
- 5. Enhances Fertility:** For women with PCOS who are trying to conceive, maintaining a healthy weight and improving metabolic health

through activities like walking can enhance fertility and increase the chances of successful ovulation and pregnancy.

Incorporating regular walking into a comprehensive lifestyle approach that includes healthy eating, stress management, and adequate sleep can be highly beneficial for managing PCOS symptoms, improving overall health, and enhancing quality of life. It's essential to start gradually and gradually increase intensity and duration as fitness levels improve.

Kavala, Gandusha –

Kavala and *Gandusha* are ancient practices of oil pulling and mouth rinsing, respectively.[9] Hormone imbalance in PCOS can cause chronic inflammation. To avoid this, *Katu*, *Ushna*, and *Tikshna* medications are used for gargling.

- 1. Reduced Oral Bacteria:** Oil pulling and mouth rinsing with oils like sesame or coconut oil are thought to reduce harmful bacteria in the mouth, promote dental health, and potentially reduce inflammation systemically.
- 2. Detoxification:** These practices help detoxify the body by pulling out toxins through the oral mucosa, which helps maintain oral and overall health.
- 3. Anti-inflammatory Effects:** Chronic inflammation is associated with PCOS, and reducing inflammation in the body may help alleviate some symptoms. Some studies suggest that oil pulling may have anti-inflammatory effects, which could potentially benefit individuals with PCOS.

- 4. Improving Insulin Sensitivity:** Although not directly linked to *Kavala* or *Gandusha*, some research suggests that maintaining good oral hygiene may help improve insulin sensitivity, which is often impaired in individuals with PCOS.

DISCUSSION:

- PCOS is influenced by modern lifestyle factors like poor diet, sedentary behavior, stress, and sleep disturbances. These contribute to hormonal disturbances, insulin resistance, and obesity, making it a condition closely tied to multisystem involvement. If left untreated it adversely impacts reproductive, metabolic as well as mental health.
- Lifestyle adjustments are the primary treatment for women with PCOS, but they do not replace pharmaceutical medications. Regular physical exercise, maintaining body weight, and adhering to healthy dietary habits are all important in the prevention and treatment of metabolic diseases.
- Circadian rhythms, the body's internal clock, regulate various physiological processes, including hormone secretion, metabolism, and sleep-wake cycles. *Dinacharya*, the concept of a structured daily routine, aligns with the natural circadian rhythm, optimizing hormonal balance and overall health.
- Personalized *Dinacharya* (daily routine) based on *Prakriti* (constitution) and *Dosha* involvement is critical for effectively managing PCOS. Ayurveda emphasizes tailoring lifestyle interventions to address the specific needs of

each person, recognizing that PCOS manifests differently based on *Vata*, *Pitta*, or *Kapha* dominance.

- Obesity plays a significant role in the development and exacerbation of Polycystic Ovary Syndrome. It is strongly associated with insulin resistance. Elevated insulin levels stimulate the ovaries to produce more androgens (like testosterone). This disrupts normal ovulation. Also, obesity increases aromatase activity due to the greater fat tissue, leading to higher estrogen levels. Paradoxically, this creates a negative feedback loop that suppresses FSH secretion from the pituitary gland, impairing follicular maturation and ovulation and further affecting the menstrual cycle. Hence, maintaining a nutritious diet, exercising, and changing one's lifestyle are all crucial. *Dinacharya* promotes positive health for individuals by maintaining normal physiological functions of the body and keeps a person healthy. It helps to be more active and focused in work and life.
- **Maintains Hormonal level:** *Dinacharya* incorporates practices such as waking up early, tongue scraping, and oil pulling that align with the body's circadian rhythm. These activities can help regulate hormones like cortisol, which impacts stress and metabolic functions.
- **Metabolic Regulation:** Activities such as *Ushapana* (morning water consumption) and balanced diet recommendations improve

digestion and metabolism, addressing common metabolic disturbances in PCOS, like insulin resistance and weight gain.

- **Detoxification:** Practices such as *Nasya* (nasal oil application), tongue scraping, and *Udhwartana* (herbal massage) aid in detoxification by removing *Ama* (toxins), which can disrupt metabolic and hormonal pathways.
- **Stress Reduction:** Techniques like *Abhyanga* (oil massage) and *Dhoomapana* (inhalation therapy) promote relaxation, reduce cortisol levels, and improve overall mental health, countering the psychological impacts of PCOS.
- **Weight and Physical Activity:** Incorporating moderate *Vyayama* (exercise) and regular *Chankramana* (walking) helps manage weight, improve insulin sensitivity, and enhance cardiovascular health.
- **Skin and Reproductive Health:** Practices targeting *Kapha* and hormonal imbalances, such as specific dietary recommendations and massages, address symptoms like acne, hirsutism, and irregular cycles.
- By promoting a balanced lifestyle and addressing the root causes of *Dosha* imbalances, *Dinacharya* offers a holistic and preventive approach to managing PCOS effectively.

CONCLUSION:

- PCOS is classified as a lifestyle disorder influenced by genetic predisposition, diet, physical activity, and stress. *Dinacharya* offers a structured framework to address these

factors by aligning daily routines with the body's natural rhythms. It is the era's need, as various communicable and non-communicable diseases are emerging rapidly. It helps maintain the circadian rhythm of the body and maintain a healthy state of body and mind. *Dinacharya* works as a preventive strategy by promoting "*Swasthasya Swasthya Rakshanam*" (maintaining the health of the healthy) and minimizing the progression of PCOS-related complications like diabetes, cardiovascular disorders, and infertility.

- *Dinacharya* is a daily routine that helps maintain *Dosha* balance by aligning activities with the body's natural cycles. It optimizes *Vata* by encouraging early rising, hydration, and grounding exercises to prevent dryness and anxiety. *Pitta* is balanced with a light dinner, a midday meal when digestion is strongest, and calming evening practices to avoid overactivity. *Kapha* is managed by incorporating light physical activity in the morning and afternoon to combat sluggishness and lethargy. Following *Dinacharya* supports proper digestion (*Agni*), enhances mental well-being, and prevents disease by harmonizing the body's rhythms with the natural environment. This holistic approach promotes health, vitality, and emotional stability.

REFERENCES:

1. Salari N, Nankali A, Ghanbari A, Jafarpour S, Ghasemi H, Dokaneheifard S, Mohammadi M. Global prevalence of polycystic ovary syndrome in women worldwide: a comprehensive systematic review and meta-analysis. Arch Gynecol Obstet. 2024 Sep;310(3):1303-1314. doi: 10.1007/s00404-024-07607-x. Epub 2024 Jun 26. PMID: 38922413.
2. Kushwaha H S, editor. Ashtanga Hridaya of Vagbhata, Sutrasthana; Chapter.1, Verse no. 32. 10th edition, Varanasi: Chaukambha Orientalia;2019:19.
3. Kushwaha H S, editor. Ashtanga Hridaya of Vagbhata, Sutrasthana; Chapter.8, Verse no. 21. 10th edition, Varanasi: Chaukambha Orientalia;2019:152.
4. Kushwaha H S, editor. Ashtanga Hridaya of Vagbhata, Sutrasthana; Chapter.20, Verse no. 1. 10th edition, Varanasi: Chaukambha Orientalia;2019:287.
5. Siemienowicz K, Rae MT, Howells F, Anderson C, Nicol LM, Franks S, Duncan WC. Insights into Manipulating Postprandial Energy Expenditure to Manage Weight Gain in Polycystic Ovary Syndrome. iScience. 2020 Jun 26;23(6):101164. doi: 10.1016/j.isci.2020.101164. Epub 2020 May 15. PMID: 32464593; PMCID: PMC7256642.
6. Kushwaha H S, editor. Ashtanga Hridaya of Vagbhata, Sutrasthana; Chapter.2, Verse no. 10. 10th edition, Varanasi: Chaukambha Orientalia;2019:27.
7. Kushwaha H S, editor. Ashtanga Hridaya of Vagbhata, Sutrasthana; Chapter.2, Verse no. 11. 10th edition, Varanasi: Chaukambha Orientalia;2019:27.
8. Kushwaha H S, editor. Ashtanga Hridaya of Vagbhata, Sutrasthana; Chapter.2, Verse no. 16. 10th edition, Varanasi: Chaukambha Orientalia;2019:28.
9. Kushwaha H S, editor. Ashtanga Hridaya of Vagbhata, Sutrasthana; Chapter.22, Verse no.

12. 10th edition, Varanasi: Chaukambha
Orientalia;2019:300.

Access this article online - <https://doi.org/10.70066/jahm.v13i1.1536>



CITE THIS ARTICLE AS

Kulkarni Shraddha Vinayak, Shruti Patil. Lifestyle-Based Solutions for Metabolic Disorders: A Focus on PCOS. *J of Ayurveda and Hol Med (JAHM)*. 2025;13(1):31-45

Conflict of interest: None

Source of support: None