

EFFICACY AND MECHANISMS OF PANCHAKARMA IN WOMEN'S HEALTH: A NARRATIVE REVIEW OF POLYCYSTIC OVARY SYNDROME, INFERTILITY, AND MENOPAUSAL DISORDERS

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ABSTRACT

Gynecological and reproductive endocrine disorders, specifically Polycystic Ovary Syndrome (PCOS), female infertility, and menopausal disorders, pose significant global health challenges. Ayurvedic medicine offers systemic therapeutic interventions through *Panchakarma* (five biopurificatory procedures) to address the underlying physiological imbalances of these conditions. **Objective:** This narrative review aims to synthesise the clinical evidence, classical Ayurvedic rationale, and proposed modern physiological mechanisms of *Panchakarma* therapies in managing PCOS, female infertility, and menopausal disorders. **Methods:** A comprehensive search was conducted across databases including PubMed, Scopus, Google Scholar, AYUSH Research Portal, and DHARA, alongside classical Ayurvedic treatises. Peer-reviewed clinical trials, observational studies,

and conceptual papers published up to January 2025 were analysed. **Results:** The literature indicates that purificatory procedures like *Virechana* (therapeutic purgation) and *Basti* (medicated enema)—including systemic and local *Uttarabasti* (intrauterine instillation)—exert positive outcomes. Clinical trials report improvements in menstrual regularity, ovulation rates, endometrial thickness, and the mitigation of autonomic menopausal vasomotor symptoms. Proposed mechanisms include regulation of the hypothalamic-pituitary-ovarian (HPO) axis, modulation of insulin sensitivity, reduction of systemic oxidative stress, and restoration of autonomic nervous system balance. **Conclusion:**

Panchakarma therapies demonstrate clinical utility as supportive or alternative interventions in women's reproductive health. However, the existing evidence base is limited by small sample sizes and methodological heterogeneity. Further well-designed, multi-centre randomised controlled trials with standardised protocols are required to validate these findings.

KEYWORDS: Polycystic Ovary Syndrome; Infertility; Menopause; Panchakarma; Basti; Ayurveda; Gynaecology.

1. INTRODUCTION

Women's reproductive health encompasses a complex interplay of endocrine, metabolic, and neuropsychological systems. Pathological deviations in these pathways manifest as prevalent disorders across different life stages, most notably Polycystic Ovary Syndrome (PCOS) during adolescence and early adulthood, female infertility during the reproductive years, and menopausal vasomotor and metabolic symptoms during transition phases. Globally, the burden of these conditions remains high. For instance, PCOS affects between 8% and 13% of reproductive-aged women worldwide, serving as a primary driver of anovulatory infertility and metabolic dysfunction.^[1] Standard medical interventions, including hormonal contraceptives, insulin sensitisers, ovulation induction agents, and hormone replacement therapy (HRT), provide symptomatic management but are frequently associated with patient non-compliance, adverse effect profiles, and variable long-term efficacy.^[2,3]

In the classical Ayurvedic paradigm, these disorders are conceptualised as disturbances in the *Dosha* (physiological humours), *Dhatu* (tissue systems), and *Srotas* (micro-channels), particularly affecting the *Artavavaha Srotas* (female reproductive channel system).^[4] Pathologies such as *Nashtartava* (amenorrhoea/oligomenorrhoea), *Vandhyatva* (infertility), and *Rajonivritti-janya Lakshana* (menopausal symptoms) are rarely viewed as isolated organ-specific diseases. Instead, they are understood as systemic imbalances involving *Apanavata* (the sub-type of *Vata Dosha* governing elimination and reproduction), *Agni* (metabolic fire), and the accumulation of *Ama* (toxic metabolic by-products).^[5]

Panchakarma, the fivefold purificatory therapy in Ayurveda, comprising *Vamana* (emesis), *Virechana* (purgation), *Basti* (enema), *Nasya* (nasal drug administration), and *Raktamokshana* (bloodletting), is designed to eliminate deep-seated metabolic wastes, correct *Srotorodha* (channel obstruction), and restore systemic homeostasis.^[6] While individual

clinical studies have evaluated specific *Panchakarma* procedures for gynecological complaints, there is a lack of cohesive synthesis linking classical Ayurvedic concepts with modern endocrinological and physiological mechanisms. This narrative review synthesises clinical and mechanistic evidence regarding the application of *Panchakarma* in PCOS, female infertility, and menopausal disorders, highlighting both therapeutic potential and existing research gaps.

2. Need of the Study

This review synthesises clinical and mechanistic evidence of *Panchakarma* in PCOS, infertility, and menopausal disorders to guide evidence-based clinical application, identify methodological limitations, and outline future research directions.

3. MATERIALS AND METHODS

Inclusion and Exclusion Criteria

- **Inclusion Criteria:** Peer-reviewed clinical trials (randomised and non-randomised), prospective observational studies, retrospective analyses, and systematic reviews investigating the role of *Panchakarma* in PCOS, female infertility, and menopausal disorders.
- **Exclusion Criteria:** Non-peer-reviewed articles, duplicate publications, studies with unclear methodology, and articles published in languages other than English or Sanskrit (unless official translations were available).

Literature Screening and Sources

Classical Ayurvedic texts, including the *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, and *Sharangadhara Samhita*, were consulted to establish the baseline conceptual frameworks. Modern peer-reviewed journal articles were screened to extract clinical data, biochemical parameters, and proposed physiological mechanisms.

4. Review of Literature

4.1 Polycystic Ovary Syndrome (PCOS)

Ayurvedic Concept and Etiopathogenesis

Ayurvedic literature does not describe PCOS as a single disease entity; instead, its clinical features correspond to conditions such as *Artava-dushti* (menstrual disorders), *Nashtartava* (oligomenorrhoea/amenorrhoea), and *Pushpaghni Jataharini*.^[7] The pathogenesis (*Samprapti*) is characterised by a combined derangement of *Vata* and *Kapha Dosha*, which

impairs *Agni* (metabolic functioning) at both systemic (*Jatharagni*) and tissue (*Dhatvagni*) levels. This state leads to the formation of *Ama*, which blocks the *Artavavaha Srotas*. The accumulation of *Kapha* and *Medas* (adipose tissue) in the ovaries restricts the normal movement of *Vata*, leading to follicular arrest and cystic ovarian changes, clinically manifesting as oligomenorrhoea, anovulation, and hyperandrogenism.^[8]

Panchakarma Interventions and Mechanisms

The therapeutic strategy focuses on *Srotoshodhana* (clearing of channels), *Vata-Kapha Shamana* (pacifying *Vata* and *Kapha*), and restoring *Artava Genenana* (ovulatory function).

- **Virechana (Therapeutic Purgation):** Administered after systematic *Snehapana* (internal oleation with medicated ghee) and *Swedana* (sudation). *Virechana* directly targets the *Amashaya* (small intestine) and liver, regulating *Pitta* and clearing systemic *Srotorodha*. This procedure helps modulate metabolic processes, improve insulin sensitivity, and lower circulating androgen levels.^[9]
- **Basti (Medicated Enema):** Administered via the colon, *Basti* is considered the premier therapy for regulating *Vata Dosha*, especially *Apanavata*. *Kala* or *Yoga Basti* programmes utilizing *Niruha Basti* (decoction enemas) and *Anuvasana Basti* (unctuous enemas) help regulate the hypothalamic-pituitary-ovarian (HPO) axis, supporting follicular maturation.^[10]

4.2 Female Infertility (*Vandhyatva*)

Ayurvedic Concept and Etiopathogenesis

In classical Ayurveda, conception depends on the harmony of four essential factors, termed *Garbhasambhava Samagri*.^[11]

1. *Ritu* (fertile period/optimal timing).
2. *Kshetra* (healthy reproductive tract/endometrium).
3. *Ambu* (proper nutritional fluids and endocrine factors).
4. *Beeja* (healthy ovum/spermatozoa).

Any impairment in these factors, primarily driven by *Vata Dosha* imbalance or chronic inflammatory conditions (e.g., pelvic inflammatory disease, endometriosis), leads to *Vandhyatva* (infertility).^[12]

Panchakarma Interventions and Mechanisms

- **Uttarabasti (Intrauterine Instillation):** This specialised procedure involves the instillation of sterile medicated oils or decoctions (e.g., *Phala Ghrita*, *Apamarga Kshara*

Taila) directly into the uterine cavity under aseptic conditions during the proliferative phase of the menstrual cycle.^[13] It acts locally on the endometrium, improving uterine blood flow, promoting endometrial receptivity, and resolving intrauterine adhesions or tubal blocks.

- **Matra Basti (Low-volume Unctuous Enema):** Daily administration of small quantities of medicated oils (e.g., *Sahacharadi Taila*) pacifies *Apanavata*, tones the pelvic floor musculature, and supports physiological function in the reproductive organs.^[14]

4.3 Menopausal Disorders (*Rajonivritti*)

Ayurvedic Concept and Etiopathogenesis

Rajonivritti is viewed as a natural transitional phase rather than a disease, representing the gradual decline of *Dhatu* (tissue vitality) and a shift from the *Pitta*-dominant phase of life to the *Vata*-dominant phase.^[15] However, when this transition is accompanied by severe *Dhatu Kshaya* (tissue depletion) or lifestyle-induced imbalances, it manifests as distressing symptoms like hot flushes, insomnia, mood lability, and osteopenia—collectively termed *Rajonivritti-janya Lakshana*.

Panchakarma Interventions and Mechanisms

Management during this phase focuses on nourishment, soothing *Vata*, and stabilizing the mind.

- **Shirodhara (Cranial Dribbling of Liquids):** Continuous pouring of warm medicated liquids (e.g., *Ksheerabala Taila*, buttermilk, or decoctions) onto the forehead. This procedure stimulates the hypothalamus and downregulates the sympathetic nervous system, mitigating vasomotor instability (hot flushes, night sweats) and improving sleep architecture.^[16]
- **Anuvasana/Matra Basti:** Regular administration of nourishing medicated fats helps counteract vaginal dryness, prevents bone density loss by stabilizing *Asthi Dhatu* (bone tissue), and provides systemic lubrication.^[17]

4.4 Tables and Summaries

The following tables synthesise classical references, proposed modern biochemical correlations, and key clinical studies on *Panchakarma* in women's health.

Table 1: Ayurvedic Classical References for Gynecological Disorders and Recommended Purificatory Procedures.

Classical Text	Reference Chapter	Condition / Pathology	Recommended <i>Panchakarma</i>
<i>Charaka Samhita</i>	Chikitsa Sthana 30 ^[18]	<i>Yonivyapat</i> (Gynecological disorders)	<i>Snehana, Swedana, Virechana, Uttarabasti</i>
<i>Sushruta Samhita</i>	Sharira Sthana 2 ^[11]	<i>Ashta Artavadushti</i> (Eight menstrual disorders)	<i>Vamana, Virechana, Basti</i> according to <i>Dosha</i> predominance
<i>Ashtanga Hridaya</i>	Sharira Sthana 1 ^[19]	<i>Vandhyatva</i> (Infertility)	<i>Basti, Uttarabasti</i> with medicated lipids
<i>Charaka Samhita</i>	Siddhi Sthana 9 ^[20]	<i>Apana Vata</i> dysfunction	<i>Anuvasana</i> and <i>Niruha Basti</i>

Table 2: Proposed Biological Mechanisms of Panchakarma in Gynecological Conditions.

Panchakarma Procedure	Major Medicated Formulations Used	Target Physiological Systems	Proposed Biochemical & Biomolecular Mechanisms
Virechana	<i>Trivrit Lehya, Gandharvahasthadi Eranda Taila</i>	Gastrointestinal tract, Hepato-biliary system, HPO Axis	• Up-regulation of hepatic SHBG synthesis • Reduction in circulating free androgens • Improvement in peripheral insulin sensitivity
Basti	<i>Dashamoola Niruha Basti, Sahacharadi Taila</i>	Enteric nervous system, Colon, Hypothalamus	• Modulation of gonadotropin-releasing hormone (GnRH) pulsatility • Short-chain fatty acid (SCFA) mediated anti-inflammatory pathway activation
Uttarabasti	<i>Phala Ghrita, Kshara Taila, Kumari Taila</i>	Endometrium, Myometrium, Fallopian tubes	• Direct stimulation of endometrial angiogenesis factors (VEGF) • Lysis of fine adhesions via local anti-inflammatory action
Shirodhara	<i>Ksheerabala Taila, Takra</i> (Buttermilk)	Central nervous system, Autonomic nervous system	• Downregulation of salivary cortisol and ACTH • Regulation of central serotonergic and GABAergic pathways

05 PREVIOUS WORK DONE

Table 3: Summary of Key Clinical Studies on Panchakarma in Women's Health.

Study / Author (Year)	Study Design & Sample Size (N)	Intervention Protocol	Key Outcome Measures	Main Findings
Dayani et al. (2019) ²¹	Randomized Controlled Trial (N=60)	<i>Virechana Karma</i> vs. Oral Administration of <i>Kanchanara Guggulu</i> in PCOS	Reduction in cystic follicles, regulation of menstrual cycles	<i>Virechana</i> group demonstrated superior regulation of menstrual cycles and reduction in LH/FSH ratio.
Sharma et al. (2021) ²²	Open-label Clinical Study (N=30)	<i>Uttarabasti</i> with <i>Phala Ghrita</i> for female infertility due to endometrial factors	Endometrial thickness, sub-endometrial blood flow, pregnancy rate	Significant increase in endometrial thickness (from 6.2 mm to 8.8 mm average) and improved conception rates.
Kumari et al. (2018) ²³	Comparative Clinical Trial (N=40)	<i>Matra Basti</i> with <i>Dhanwantaram Taila</i> vs. Oral Placebo in Menopausal Syndrome	Greene Climacteric Scale, sleep quality index, vasomotor symptom score	Marked reduction in hot flushes, anxiety, and joint pain in the <i>Matra Basti</i> group compared to control.
Patel et al. (2020) ²⁴	Pilot Study (N=15)	<i>Shirodhara</i> with <i>Ksheerabala Taila</i> in postmenopausal sleep disturbances	Insomnia Severity Index (ISI), Polysomnography parameters	Improved sleep latency, reduction in awakening episodes, and lowered anxiety scores.

6. DISCUSSION

This narrative review synthesises the classical Ayurvedic application and modern scientific evidence of *Panchakarma* therapies across three major phases of women's reproductive health: PCOS, infertility, and menopausal transition. The findings suggest that these purificatory therapies contribute to symptom management and help modify underlying disease processes.

6.1 Critical Interpretation of Mechanisms

The endocrine system in women relies on precise feedback loops. In PCOS, chronic low-grade inflammation and insulin resistance disrupt follicular development, leading to anovulation. The systemic purificatory action of *Virechana* may help address this by targeting metabolic pathways. Clinical studies suggest that *Virechana* helps lower insulin resistance and reduce hyperandrogenism. This metabolic clearance may occur because *Virechana* supports hepatic function, which can increase the synthesis of Sex Hormone-Binding Globulin (SHBG), thereby reducing the circulating bioavailable free androgens that cause hirsutism and follicular arrest.^[21]

In female infertility, particularly when caused by endometrial receptivity issues, *Uttarabasti* acts directly on the local tissues (*Kshetra*). The instillation of medicated lipids like *Phala Ghrita* provides nutrients directly to the uterine mucosa, promoting local blood flow and tissue repair. This local action may stimulate vascular endothelial growth factors (VEGF) and regulate estrogenic receptors, leading to healthier endometrial proliferation.^[22]

For menopausal disorders, the treatment targets *Vata* stabilization and nervous system regulation. Therapies like *Matra Basti* and *Shirodhara* help soothe the autonomic nervous system. Warm oil *Shirodhara* stimulates pressure and temperature receptors on the forehead, sending signals through the trigeminal nerve that help reduce sympathetic activity and lower cortisol levels.^[24] This response helps stabilize the temperature-regulating center in the hypothalamus, mitigating vasomotor symptoms like hot flushes and night sweats.

6.2 Strengths and Limitations of the Evidence Base

A major strength of *Panchakarma* is its holistic approach. Rather than relying on synthetic hormone replacement, it aims to restore the body's endogenous regulatory mechanisms. Additionally, these protocols can be tailored to the individual's constitution (*Prakriti*) and current state of imbalance (*Vikriti*).

However, the existing scientific literature has several notable limitations:

- 1. Small Sample Sizes:** Many published trials are pilot studies or open-label trials with small sample sizes (typically $N < 50$), which limits the generalizability of their findings.
- 2. Lack of Robust Control Groups:** High-quality, double-blind, sham-controlled trials are scarce. Creating a suitable placebo or sham procedure for therapies like *Basti* or *Virechana* remains a methodological challenge.
- 3. Heterogeneity of Protocols:** There is wide variation across studies regarding the selection of medicated oils, the duration of treatment, and the specific timing of procedures. This lack of standardization makes it difficult to conduct meta-analyses.
- 4. Inconsistent Safety Reporting:** While classical texts describe these procedures as safe when performed correctly, modern trials often fail to include systematic, long-term monitoring for adverse events.

6.3 Future Research Recommendations

To build a stronger evidence base for integrating *Panchakarma* into standard gynecological care, future research should focus on.

- **Standardised Protocols:** Developing consensus guidelines for *Panchakarma* formulations and procedures to ensure consistency across trials.
- **Biomarker-Driven Outcomes:** Incorporating objective endocrine and metabolic markers (such as serum AMH, LH/FSH ratios, insulin sensitivity indexes, endometrial Doppler parameters, and inflammatory cytokines) alongside subjective symptom scales.
- **Multi-Centre RCTs:** Conducting larger, well-powered, multi-centre randomised controlled trials to confirm therapeutic efficacy.
- **Safety and Toxicology Profiling:** Systematically documenting safety profiles, especially for intrauterine therapies like *Uttarabasti*, to establish clear safety guidelines.

7. CONCLUSION

Panchakarma therapies offer a holistic, systemic approach to managing Polycystic Ovary Syndrome, female infertility, and menopausal disorders. Classical concepts of channel clearance (*Srotoshodhana*) and metabolic restoration (*Agnideepana*) align with modern physiological mechanisms, including the regulation of the HPO axis, modulation of insulin sensitivity, and reduction of sympathetic nervous system activity. Clinical evidence indicates that therapies like *Virechana*, *Basti*, *Uttarabasti*, and *Shirodhara* help improve ovulation, support endometrial receptivity, and alleviate vasomotor symptoms.

However, the scientific validity of these findings is currently limited by small sample sizes and variable trial designs. To support the integration of these therapies into mainstream gynecological practice, future research must focus on well-designed, multi-centre randomised controlled trials using standardised protocols and objective endocrine and metabolic biomarkers.

REFERENCES

1. 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. *Hum Reprod*, 2016; 31(12): 2841-2855.
2. Legro RS, Arslanian SA, Ehrmann DA, et al. Diagnosis and treatment of polycystic ovary syndrome: an Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab*, 2013; 98(12): 4565-4592.
3. Laven JS. Follicle stimulating hormone receptor (FSHR) polymorphisms and ovarian function. *Front Endocrinol*, 2019; 10: 506.

4. Srikanth N, Sharma AK, Sharma K. Comprehensive review of Ayurvedic concepts on female reproductive health and gynecological disorders. *J Res Ayur Sci*, 2018; 2(3): 145-152.
5. Tewari PV. *Ayurvediya Prasuti Tantra Evam Stri Roga*. 2nd ed. Varanasi: Chaukhambha Orientalia; 2016; 112-118.
6. Singh AK, Singh RH. Clinical concept of Panchakarma and its systemic purificatory effects. *AYU*, 2012; 33(3): 321-325.
7. Sharma S, Sharma K, Bala R. Critical analysis of polycystic ovarian syndrome in Ayurveda. *J Ayurveda Integr Med*, 2020; 11(4): 531-536.
8. Dayani S, Gupta S, Mishra M. Pathophysiology of Artava Dushti and its correlation with modern endocrinological disorders. *Ayu*, 2017; 38(1-2): 12-18.
9. Joshi S, Dudhamal T. Role of Virechana Karma in the management of PCOS: A clinical study. *J Res Ayur*, 2018; 12(2): 89-94.
10. Srilakshmi K, Rao MV. Evaluation of Basti therapy in hypothalamic-pituitary-ovarian axis regulation in anovulatory cycles. *Ancient Sci Life*, 2015; 34(4): 210-215.
11. Shastri AD, editor. *Sushruta Samhita of Sushruta, Sharira Sthana*, Ch. 2, Ver. 33. Varanasi: Chaukhambha Sanskrit Sansthan; 2018; 14.
12. Kamat N, Upadhyay S. Etiological factors of female infertility (Vandhyatva) in classical Ayurvedic texts: A systematic analysis. *J Ayurveda Herb Med*, 2019; 5(2): 62-67.
13. Sharma H, Gupta LN. Role of Uttarabasti in tubal blockade and endometrial factors: A systematic review. *JAIM*, 2021; 12(1): 103-109.
14. Kumari S, Archana K. Matra Basti: A potential therapeutic approach for chronic pelvic pain and reproductive dysfunction. *J Ayurveda*, 2016; 10(3): 174-179.
15. Baghel MS, Nayak S. Clinical understanding of Rajonivritti (Menopause) and its management protocols in Ayurveda. *Ayu*, 2014; 35(2): 121-127.
16. Dhuri KD, Bodhe PV, Kundap MJ. Shirodhara: A systematic review of its clinical applications and physiological mechanisms. *J Ayurveda Integr Med*, 2013; 4(1): 32-40.
17. Gupta R, Singh G. Efficacy of Basti therapy in managing postmenopausal osteoporosis (Asthi-saushirya). *Int J Ayur Med*, 2018; 9(2): 112-117.
18. Acharya JT, editor. *Charaka Samhita of Agnivesha, Chikitsa Sthana*, Ch. 30, Ver. 13-15. Varanasi: Chaukhambha Orientalia; 2019; 634.
19. Paradkar HS, editor. *Ashtanga Hridaya of Vagbhata, Sharira Sthana*, Ch. 1, Ver. 35-37. Varanasi: Chaukhambha Sanskrit Sansthan; 2020; 367.

20. Acharya JT, editor. *Charaka Samhita of Agnivesha, Siddhi Sthana*, Ch. 9, Ver. 7. Varanasi: Chaukhambha Orientalia; 2019; 718.
21. Dayani S, Gupta S, Mishra M. Clinical evaluation of Virechana Karma in the management of Polycystic Ovary Syndrome (PCOS). *AYU*, 2019; 40(2): 98-105.
22. Sharma V, Dev S, Kar S. Role of Uttarabasti with Phala Ghrita in management of endometrial thinning-induced infertility: An open-label study. *J Res Ayur Sci*, 2021; 5(1): 23-29.
23. Kumari A, Singh K, Ram R. Efficacy of Matra Basti with Dhanwantaram Taila in Rajonivritti-janya Lakshana (menopausal syndrome). *Int J Ayur Res*, 2018; 3(2): 80-86.
24. Patel M, Sharma S, Vyas H. Impact of Shirodhara with Ksheerabala Taila on sleep architecture and cortisol levels in postmenopausal insomnia: A pilot study. *J Ayurveda Integr Med*, 2020; 11(3): 289-294.