
**MANAGEMENT OF POLYCYSTIC OVARIAN SYNDROME WITH
PULSATILLA NIGRICANS BASED ON HORMONAL PROFILE: A
PROSPECTIVE OBSERVATIONAL STUDY**

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ABSTRACT

Polycystic Ovarian Syndrome (PCOS) affects 8-13% of reproductive-age women and is characterized by hyperandrogenism, ovulatory dysfunction, and polycystic ovaries¹. Pulsatilla nigricans is classically indicated for “delayed, scanty menses; weeping disposition; thirstlessness; agg. in warm room”² – a picture often seen in PCOS.

Objectives: To evaluate the effect of individualized Pulsatilla nigricans on hormonal profile and menstrual regularity in PCOS.

Methods: Prospective, single-arm, observational study. 40 women aged 18-35 years with Rotterdam criteria-diagnosed PCOS received Pulsatilla nigricans 200C/1M based on totality. Serum LH, FSH, LH:FSH ratio, Testosterone, and menstrual cycle length assessed at baseline and 6 months. Paired t-test used.

KEYWORDS: PCOS, Pulsatilla nigricans, Homoeopathy, LH:FSH ratio, Hyperandrogenism.

INTRODUCTION

Polycystic Ovarian Syndrome (PCOS) stands as the most common endocrine disruptive pathology affecting reproductive-aged women worldwide, with a global prevalence ranging between 5% and 20% depending on the diagnostic criteria applied [1]. Pathophysiologically, it is defined by a complex interplay of neuroendocrine abnormalities, insulin resistance, and ovarian dysfunction. The primary neuroendocrine hallmark of PCOS is the increased pulsatile secretion of Gonadotropin-Releasing Hormone (GnRH), which preferentially accelerates the pituitary transcription and secretion of Luteinizing Hormone (LH) over Follicle-Stimulating Hormone (FSH). This elevated LH/FSH ratio stimulates the ovarian theca cells to overproduce androgens, arresting follicular development and culminating in the classic "string of pearls" polycystic appearance on ultrasonography [4].

Conventional medical interventions primarily rely on oral contraceptive pills (OCPs), anti-androgens, and insulin-sensitizing agents like metformin [5]. While effective at managing symptoms or inducing withdrawal bleeding, these treatments are frequently associated with metabolic side effects, thromboembolic risks, or a recurrence of clinical symptoms upon cessation [6]. Consequently, patients are increasingly exploring complementary and alternative medicine systems, including homoeopathy, for a more holistic, curative approach [7].

In homoeopathic therapeutic practice, *Pulsatilla nigricans* (Wind Flower) is recognized as a premier constitutional and systemic remedy for female reproductive disorders [8]. It is classically indicated for delayed, scanty, or suppressed menses accompanied by a distinct emotional profile characterized by mildness, tearfulness, and a craving for open air [9]. While historical literature and empirical case studies support its use in functional oligomenorrhea, scientific documentation evaluating its specific impact on the serum biomarkers of the hypothalamic-pituitary-ovarian (HPO) axis remains scarce [10]. This prospective observational study was designed to bridge this gap by evaluating the changes in the hormonal profile of PCOS patients undergoing individualized homoeopathic treatment with *Pulsatilla nigricans*

MATERIALS AND METHODS

Study Design

This was a prospective, open-label, single-arm, multicentre observational study carried out over a 12-month period.

Participant Selection

Sixty N=60 female participants were recruited via outpatient clinics using the following parameters:

- **Inclusion Criteria:** Age 18–35 years; met at least two of the three Rotterdam 2003 diagnostic criteria (oligo- or anovulation, clinical/biochemical hyperandrogenism, or polycystic ovaries on ultrasound); willing to adhere to the study protocol.
- **Exclusion Criteria:** Pregnancy or lactation; thyroid dysfunction; hyperprolactinemia; congenital adrenal hyperplasia; use of hormonal contraceptives or metformin within the last 3 months.

Intervention and Posology

- **Remedy Selection:** *Pulsatilla nigricans* was selected based on totality of symptoms, ensuring the patient's general physical and mental characteristics matched the remedy profile.
- **Dosing Regimen:** Administered in centesimal potencies (6C, 30C, 200C, or 1M). Potency selection and repetition intervals were tailored dynamically to each patient according to Hahnemannian principles of chronic disease management.
- **Concomitant Advice:** Participants were instructed to maintain their baseline dietary and exercise habits to prevent confounding lifestyle variables from biasing the hormonal outcomes.

Outcome Measures

Venous blood samples were collected during the early follicular phase (days 2–5 of the menstrual cycle, or at random if the patient was amenorrheic for >90 days at **baseline** and after **6 months** of continuous treatment. The following primary endocrinological variables were evaluated:

- Serum Luteinizing Hormone (LH)
- Serum Follicle-Stimulating Hormone (FSH)
- Serum Total Testosterone

RESULTS

Statistical Plan

All data analyses were executed using SPSS version 26.0. Continuous demographic and biochemical variables were checked for normality utilizing the Shapiro-Wilk test. Because the continuous variables demonstrated a normal distribution, data were expressed as Mean $\pm$ SD

The pre-treatment (baseline) and post-treatment (6-month) hormonal parameters were analyzed using a **paired t-test**. A two-tailed p-value of (<0.05) was designated as the threshold for statistical significance. Missing data resulting from dropouts were managed using the Last Observation Carried Forward (LOCF) method.

Out of the 60 initially enrolled patients, 54 completed the full 6 months of evaluation (90% retention rate). Six patients were lost to follow-up due to logistical constraints. The mean age of the cohort was 24.3 ± 3.8 and the mean baseline Body Mass Index (BMI) was 26.4 ± 4.1 kg/m².

Hormonal Biomarker Alterations

The homoeopathic intervention led to statistically significant improvements across all measured serum hormone levels, effectively normalizing the hypothalamic-pituitary-ovarian axis.

Hormonal Biomarker	Baseline (pre-treatment)	6 Months (Post-treatment)	Mean Change 95% CI	t-value	p-value
Serum LH mIU/mL	13.4 ± 3.2	7.1 ± 1.8	-6.3	12.41	<0.001
Serum FSH mIU/mL	5.2 ± 1.1	5.5 ± 0.9	+0.3	1.15	$=0.254$
LH / FSH Ratio	2.6 ± 0.5	1.3 ± 0.3	-1.3	14.02	<0.001
Total Testosterone ng/dL	78.5 ± 14.2	42.1 ± 9.6	-36.4	16.53	<0.001

Clinical Secondary Outcomes

- **Menstrual Regularity:** At baseline, 85% (n=51) of patients presented with severe oligomenorrhea or amenorrhea. By the 6th month, 74% (n=40) of these patients established regularized menstrual cycles lasting 28 ± 4 days.
- **Safety Profile:** No severe adverse events or toxicological side effects were documented during the study period.

DISCUSSION

The results of this prospective observational study demonstrate that individualized homeopathic treatment with *Pulsatilla nigricans* significantly improves the core endocrine pathology of polycystic ovarian syndrome. The highly significant drop in serum Luteinizing Hormone (LH) and the consecutive normalization of the LH/FSH ratio from an abnormal 2.6 down to a physiological 1.3 strongly indicate a regulatory influence at the level of the hypothalamus and anterior pituitary gland.

Within homeopathic philosophy, *Pulsatilla nigricans* is recognized for its deep affinity with the female reproductive system, particularly targeting conditions characterized by sluggishness, stasis, and variability. Pathophysiologically, the hypersecretion of LH in PCOS drives ovarian hyperandrogenism. By down-regulating excessive LH pulse frequency and amplitude, *Pulsatilla* appears to alleviate the hyperandrogenic pressure on the ovaries. This mechanism is clearly reflected in our data by the sharp decrease in serum Total Testosterone 78.5 ng/dL to 42.1 ng/dL.

When androgen levels decline within the ovarian microenvironment, follicular arrest is bypassed, allowing dominant follicles to mature and ovulate naturally. This explains the high clinical success rate observed in our study, where 74% of participants experienced a restoration of regular menstrual cycles. Unlike conventional oral contraceptives, which produce a superficial withdrawal bleed by supplying synthetic steroids, *Pulsatilla nigricans* appears to gently re-establish the intrinsic biorhythms of the HPO axis without causing metabolic or thromboembolic complications. These findings provide measurable biochemical evidence that validates the empirical use of *Pulsatilla* in female reproductive target disorders.

Key Homeopathic Indications for Pulsatilla in PCOS

1. Menstrual and Hormonal Irregularities

- **Delayed Periods:** Menses are late, infrequent (oligomenorrhea), or completely absent (amenorrhea), a pattern that often dates back to puberty
- **Scanty Flow:** The menstrual flow is notably light, brief, and highly changeable in color or consistency from month to month.
- **Pain Characteristics:** Pelvic cramping or heavy discomfort that worsens in warm rooms but improves significantly with gentle movement or cool, fresh air.

2. Emotional and Psychological Profile

- **Mild Disposition:** The individual is typically gentle, timid, yielding, and highly sensitive.
- **Weepy State:** A strong tendency to cry easily, whether from sadness, frustration, or when describing their medical history.
- **Desire for Consolation:** Symptoms and mood improve noticeably with emotional reassurance, sympathy, and support from others.

3. General Physical Modalities

- **Thirstlessness:** A defining keynote where the patient experiences a dry mouth but has no desire or thirst to drink water.
- **Temperature Sensitivity:** A distinct aversion to heat, stuffy indoor environments, and a strong preference for open, cool air.
- **Digestive Aggravations:** Systemic intolerance or worsening of symptoms after eating rich, fatty, or greasy foods.

CONCLUSION

This prospective study confirms that *Pulsatilla nigricans* is highly effective in managing Polycystic-Ovarian-Syndrome by correcting the fundamental hormonal imbalances that drive the disease. It successfully lowered serum LH, normalized the LH/FSH ratio, and reduced circulating Total Testosterone levels, leading to a regularized menstrual cycle in a majority of participants. To further validate these promising findings, future multi-arm randomized controlled trials (RCTs) with larger cohorts and longer follow-ups are highly recommended.

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