



Integrative *Ayurvedic* Approach To PCOD- Related Infertility: The Role Of Seed Cycling In Reproductive Health

Venu S. Kapgate¹, Archana R. Belge², Aishwarya H. Meshram³

¹Post Graduate Scholar, Dept. of Swasthavritta & Yoga, Shri Ayurved Mahavidyalaya, Nagpur, Maharashtra, India.

²Professor and HOD, Dept. of Swasthavritta & Yoga Shri Ayurved Mahavidyalaya, Nagpur, Maharashtra, India.

³Post Graduate Scholar, Dept. of Swasthavritta & Yoga, Shri Ayurved Mahavidyalaya, Nagpur, Maharashtra, India.

Abstract :

Infertility is an escalating global health concern, affecting approximately one in six individuals of reproductive age, with a prevalence rate of 18.7 per 1,000 women. Defined as the inability to conceive after one year of unprotected intercourse, infertility arises from multiple causes including hormonal imbalances, lifestyle factors, ovulatory disorders, and medical conditions. One of the leading contributors to female infertility is Polycystic Ovary Syndrome (PCOS), a hormonal disorder affecting 6–13% of women of reproductive age, with up to 70% remaining undiagnosed. PCOS often results in anovulation and is strongly linked to infertility.

In recent years, holistic and alternative approaches like *Ayurveda* have gained prominence in addressing infertility. One such *Ayurvedic*-inspired practice is seed cycling—a dietary regimen that aligns the consumption of specific seeds to help balance estrogen and progesterone levels. In *Ayurvedic* terms, infertility is equated with *Vandhyatwa*, as described by *Acharya Harita*. The seeds used to treat PCOD-related infertility have *Bruhan* (nourishing), *Vrushya* (aphrodisiac), and *Vata-Kapha* balancing properties. This helps to address the causes of PCOD and infertility and improve overall women health.

Keywords : *Ayurveda*, *Beeja*, Holistic Medicine, Hormonal Imbalance, Infertility, Polycystic Ovary Syndrome (PCOS), Seed Cycling, *Vandhyatwa*, Women's Health.

Introduction:

Infertility is an escalating global concern, impacting approximately one-sixth of the reproductive age population worldwide. The prevalence of infertility is 18.7 per 1,000 women^[1].and the case of infertility is increasing rapidly, affecting almost one out of every six adult people of reproductive age^[2].The socio-economic status of low and middle-income countries makes the condition even more complicated.

Infertility is a complex condition that affects a significant portion of the global population. It is defined as the inability to conceive after one year of regular unprotected sexual intercourse. Several factors can contribute to infertility, including hormonal imbalances, ovulatory disorders, stress, lifestyle factors, and medical conditions^[2].

One of the major reasons of infertility is PCOD. Polycystic ovary syndrome (PCOS) affects an estimated 6–13% of reproductive-aged women. Up to 70% of affected women remain undiagnosed worldwide. PCOS is the commonest cause of anovulation and a leading cause of infertility. Polycystic ovary syndrome (PCOS) is a common hormonal condition that affects women of reproductive age. PCOS can cause hormonal imbalances, irregular periods, and excess androgen levels with a lack of ovulation which is a leading cause of infertility^[3].

In recent years, holistic systems like Ayurveda have gained widespread interest as alternative approaches for addressing infertility. One emerging practice within the *Ayurvedic* tradition is **seed cycling**—a natural method that supports hormonal balance and reproductive health by aligning with the body's cycles and *Ayurvedic* principles.

What is Seed-Cycling?

In the Seed Cycling nutrition trend, the intake of seeds, such as flaxseed, sesame, sunflower and pumpkin seeds, is matched to each half of the cycle. In Follicular Phase Flaxseed and Pumpkin Seeds are used and In Luteal phase Sesame seeds and sunflower seeds are used.

It is believed that consumption of these can promote a balance of estrogen and progesterone during a monthly cycle.

Infertility according to *Ayurveda*

Infertility correlates with *Vandhayatwa* in *Ayurveda*. *Acharya Harita* described that failure to achieve a *Praja* (child) known as *Vandhayatwa* (infertility)^[4].The main components to achieve *Garbha*, according to *Acharya Sushruta*, are *Ritu* (fertile phase),*Kshetra* (whole reproductive system), *Ambu* (nutrition),and *Beeja* (ovum for female and sperm for male)^[5].

Objectives:

1. To evaluate the mode of action of all four Seeds in the management of PCOD Induced infertility.
2. To explore the role of seed cycle in *ayurveda* for the enhancement of hormonal balance and overall health in females.

Materials & Method:

A comprehensive literature review was conducted in two phases using electronic databases such as Google Scholar, PubMed, and Medline to gather relevant research articles. Additional data collection and the study material collected from classical *Ayurvedic* texts, including the *Bruhatrayi*, various *Ayurvedic* compendiums, and standard online academic resources.

The review integrates insights from classical *Ayurvedic* scriptures (*Samhitas*), contemporary scientific literature, and peer-reviewed journals to establish a holistic understanding of the topic.

Discussion:

The World Health Organization defines infertility as a disorder of the male or female reproductive system characterized by the inability to conceive after 12 months or more of consistent unprotected sexual activity. Secondary infertile if they have successfully become pregnant at least once in the past. 30-40% of infertility is caused by ovulatory disruption. PCOD is characterized by oligo/anovulation, excess androgen-related symptoms, and numerous ovarian cysts [6, 7, 8].

Infertility correlates with *Vandhyatha* in *Ayurveda*.

Acharya Harita described that failure to achieve a *Praja* (child) known as *Vandhayatwa* (infertility) [4]. *Praja* is achieved by *Garbha*. The main components to achieve a *Garbha*, according to *Acharya Sushruta*, are *Ritu* (fertile phase), *Kshetra* (whole reproductive system), *Ambu* (nutrition), and *Beeja* (ovum for female and sperm for male) [5].

Etiology of *Vandhyatha*

According to *Acharya Charaka* among many etiological factors, *Asruk dosha* is one, responsible for delayed conception. *Vandhyatha* (infertility) can result from *Artavkshaya* (*Asruk dosha*) [9].

Acharya Sushruta, in the chapter "*Dosha Dhatu Mala Kshaya Vriddhi Vigyanam*," outlines the clinical features of *Artavakshaya* [10] as follows-

- *Uchitakala Adarshanama* (correlates with Oligomenorrhea)
- *Alpata* (may correlates with hypomenorrhea)
- *Yoni Vedana* (may correlate with dysmenorrhea)

All the above symptoms together constitute the *Artavakshaya*. *Artavakshaya* results from *Vata* and *Pitta dosha*^[11] involvement, causing *Asruk dushti* leads to *Vandhyatava*.

According to *Bhela* stated that imbalanced of *Vata*, one of the three *doshas* is majorly responsible for *Vandhyata*^[12].

Comparatively, in modern medicine, oligomenorrhea^[13], refers to menstrual bleeding occurring more than thirty-five days apart, while Hypomenorrhea^[14] denotes unduly scanty bleeding lasting less than two days and dysmenorrhea refers to pain during menses which disturb day to day activities^[15].

These conditions are prevalent in PCOD, and if not treated in the early stages, they can lead to infertility.

Factors such as unhealthy semen (*Shukra Dhatu*), over exercise(*Ativiyama*), loss of strength (*bala*), and improper diet (*ahar*) and lifestyle (*viahara*) can also contribute to imbalance *dosha*^[16,17].

Dosha Involvement

In Ayurveda, the three *doshas*—*Vata*, *Pitta*, and *Kapha*—serve as fundamental principles governing the bodies functioning, including reproductive health. Each *dosha* possesses distinct characteristics and functions.

- *Vata*, associated with air and space, governs women's movement, menstrual cycle, and ovulation, impacting the mobility of organs and senses. Imbalance in *Vata*, particularly its dry and thin qualities, can lead to tubal blockage and infertility.
- *Pitta*, linked to fire, regulates energy, appetite, body heat, and hormonal balance. Though not directly discussed in the sources, *Pitta* imbalance can affect fertility through hormonal disruptions.
- *Kapha*, connected to water and earth, provides stability and nourishment, influencing reproductive tissue development. An imbalance in *Kapha* can lead to cysts and reproductive issues due to its nurturing role^[18].

Ayurvedic Management

Ayurvedic management strategies focus on correcting *doshas* imbalances and nourishing reproductive tissues, using strength-enhancing (*Balya*), fertility boosting (*Vrushya*), nourishing (*Brumhana*), rejuvenating (*Rasayana*), and potency-enhancing (*Vajeekarana*) therapies^[19,20].

Artavkshaya (PCOD) is managed through principles like use of *Agneya dravya*^[21], *Agni Deepana*, *Vata Shamana* and *Piita Vardhna*.

Properties of Seeds

Properties of seeds are *Bruhan* , *Vrushya* , *Vaatkaphhar* which is an etiological factor of PCOD and Infertility.

In *Ayurveda*, seeds are classified as *bruhana*—substances that nourish and strengthen the body. Their inherent *madhura rasa* (sweet taste) and composition of *Prithvi* (earth) and *Jala* (water) Mahabhutas make them ideal for building and rejuvenating all *dhatu*s, especially *rasa dhatu*, which supports the health of the uterus and ovaries. Regular consumption of seeds like flax, sesame, pumpkin, and sunflower, when taken appropriately, is traditionally recommended for maintaining female reproductive vitality and enhancing fertility.^[22]

Functions of Seeds

According to *Ayurveda*, a woman's menstrual cycle reflects the dynamic interplay of *doshas* and *dhatu*s, particularly the balance of *Shukra dhatu* and *rasa dhatu*. The cycle consists of two key phases—*Rajodarshana purva avastha* (follicular phase) and *Ritu kala* (luteal phase)—each governed by different hormonal and elemental influences.

Follicular Phase (Day 1–14):

This phase begins with the onset of menstruation and extends up to ovulation. It is predominantly influenced by *Kapha dosha*, which supports tissue growth, nourishment, and *Shukra dhatu* formation. During this phase, estrogen levels gradually rise. Seeds rich in phytoestrogens, such as **flax seeds** and **pumpkin seeds**, are recommended. These seeds contain lignans—plant-based compounds that mimic the body's own estrogen—helping to naturally support *rasa dhatu* and enhance estrogenic activity in a balanced manner.

Luteal Phase (Day 15–28):

Following ovulation, this phase is primarily governed by *Pitta dosha*, which governs transformation and hormonal regulation. Progesterone becomes the dominant hormone. **Sesame seeds** and **sunflower seeds** are traditionally favored during this phase, as they are considered *bruhana* and *rasayana*, helping to support *Shukra dhatu* and stimulate the natural production of progesterone. Sesame seeds, in particular, are *ushna virya* (hot in potency), aiding in hormonal regulation and uterine support.

A proper balance of the fertility hormones estrogen and progesterone is essential for a healthy cycle, as well as for mental balance and fertility preservation^[25].

Properties of Beej

1. *Kushmand Beej*

- *Guna* (Qualities): *Laghu* (light), *Snigdha* (unctuous)
- *Rasa* (Taste): *Madhura* (sweet)
- *Vipaka* (Post-digestive effect): *Madhura*
- *Virya* (Potency): *Shita* (cold)
- Effect on *Doshas*: Balances *Pitta* and *Kapha*
- ***Prajanan Sanstha* (Reproductive Impact):**
 - Enhances *Shukra dhatu utpatti* (formation of reproductive fluids) due to *Snigdha* and *Madhura* attributes
 - Acts as *Vrishya* (aphrodisiac)
 - Beneficial in *Kaphaja yoni vyapad* and infertility with inflammatory or heat-related components
- Other Uses: *Beej Kalka* acts as *Krumighna* (anti-parasitic)
- Relevance to PCOD: Supports hormonal balance and ovulation in *Kapha-dominant* pathologies [26, 27].

2. *Jav Beej*

- *Guna*: *Guru* (heavy), *Snigdha* (unctuous), *Pichchhila* (slimy)
- *Rasa*: *Madhura* (sweet), *Tikta* (bitter)
- *Vipaka*: *Katu* (pungent)
- *Virya*: *Ushna* (hot)
- Effect on *Doshas*: Balances *Kapha*, mildly stimulates *Pitta*
- *Prajanan Sanstha*:
 - Acts as *Kamuttejak* (libido stimulant)
 - Improves uterine tone and metabolism
- Relevance to PCOD: By balancing *Pitta* and *Kapha*, *Jav* may help in regulating menstrual cycles and reducing symptoms associated with PCOD. [26,28]

3. *Til Beej*

- *Guna*: *Guru*, *Snigdha*
- *Rasa*: *Madhura*
- Anurasa: *Kashaya* (astringent), *Tikta* (bitter)
- *Vipaka*: *Madhura*

- *Virya: Ushna* (hot)
- Effect on *Doshas: Vata-Kaphahar*
- Used to Nourish: *Shukra Dhatu, Oja*
- ***Prajanan Sanstha:***
 - *Ushna Guna – Vajikarana* (promotes fertility), *Artavjanana* (stimulates menstruation)
 - *Snigdha Guna – Stanyajanana* (lactation promoter)
 - *Madhura-Snigdha* combination – *Balya* (strengthening), *Vrishya* (reproductive enhancer)
 - Effective in *Rajorodha* (amenorrhea), *Kashtaartava* (dysmenorrhea), *Stanyalpata* (low breast milk)
- Relevance to PCOD: Promotes follicular maturation and regulates menstrual cycle through *Ushna* and *Balya* effects. ^[26]

4. *Suryaphul Beej*

- *Guna: Snigdha, Guru*
- *Rasa: Madhura*
- *Vipaka: Madhura*
- *Virya: Ushna*
- Effect on *Doshas: Vata-Kaphahar*
- ***Prajanan Sanstha:***
 - *Shukra Vardhaka* (enhances reproductive fluids)
 - *Balya* (improves strength and tissue nourishment)
 - Useful in *Kashtaartava*
- Relevance to PCOD: Helps manage menstrual irregularities and supports ovulation through *Shukra vardhana*^[30].

Seed Cycling for Hormonal Balance:

Seed cycling helps balance hormones by giving the body the right nutrients during different parts of the menstrual cycle. According to Ayurveda, the menstrual cycle is controlled by natural elements in the body. For the cycle to stay regular, these elements need to be in balance. The foods used in seed cycling can support this balance and help keep the body in harmony.

- **Follicular Phase (Days 1-14):** During this phase, estrogen levels are rising as the body prepares for ovulation. Flax seeds are rich in **lignans**, which act as phytoestrogens, potentially helping to balance estrogen levels. Sunflower seeds, high in vitamin E, also support estrogen metabolism.
- **Luteal Phase (Days 15-28):** In this phase, progesterone levels rise in preparation for implantation if pregnancy occurs. Pumpkin seeds, which are rich in **zinc**, and sesame seeds, containing **magnesium** and **calcium**, help, support the production of progesterone and overall reproductive health.

By providing specific nutrients at the right times, seed cycling aims to address hormonal imbalances that could be contributing to infertility.

Conclusion:

Ayurveda, the ancient Indian system of medicine, views infertility as an imbalance of the body's three *doshas*: *Vata*, *Pitta*, and *Kapha*. The imbalance of these *doshas* can affect the reproductive system and lead to infertility. In *Ayurvedic* terms, infertility is often seen as an issue related to *Shukra dhatu* (reproductive tissues) and *Aartav dhatu* (menstrual health).

Infertility, particularly when associated with PCOD, is a complex condition rooted in hormonal imbalances, irregular ovulation, and disrupted menstrual cycles. Both *Ayurveda* and modern medicine recognize the central role of ovulatory dysfunction in infertility, with *Ayurvedic* texts correlating these issues to *dosha* imbalances primarily *Vata*, *Pitta*, and *Kapha* and deficiencies in reproductive tissues (*dhatu*s). Seeds such as *Kushmand*, *Jav*, *Til*, and *Suryaphul* possess unique properties ranging from nourishing (*bruhana*) and aphrodisiac (*vrushy*) effects to balancing specific *doshas*—that directly address the underlying causes of PCOD-related infertility.

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