

Assessment of the efficacy of *Shatavari Ghrut* as a *Rasayan* (rejuvenative) in improving AMH levels in female infertility.

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Abstract – Infertility, particularly due to anovulation, affects 10–15% of couples globally. This review focuses on *Shatavari Ghruta*, a traditional *Ayurvedic* formulation combining the rejuvenating (*Rasayana*) and uterine-regulating properties of *Shatavari* with processed cow's ghee (*Go-Ghrita*). The study aims to analyze the effectiveness of *Shatavari Ghruta*, showing its potential for **regulating ovarian function, improving hormonal balance**, and offering a safe, natural alternative or adjunct to conventional ovulation-inducing treatments by increasing the **AMH** (Anti-Müllerian Hormone) count.

Keywords: *Shatavari Ghrut*, *Rasayan*, **AMH**, female infertility.

Introduction: The **World Health Organization (WHO)** has recognized infertility as a significant public health issue. Female infertility is responsible for affecting 48 million females globally. The most common factors contributing to female infertility are **hormonal imbalances, weak nutritional status, other diseases, and malformations of the uterus**. Infertility carries a heavy social stigma for infertile women. Ovulatory hormonal disorders

are major contributing factors to female infertility; among these, **AMH** is a hormone that plays a vital role in female fertility. *Shatavari Ghrut* has been used as a *Rasayan* for a long time to treat numerous ailments and contributes significantly to women's general health.

AIMS AND OBJECTIVES

Aim: To assess the efficacy of *Shatavari Ghrut* as a *Rasayan* (rejuvenative) in improving **AMH** in female infertility.

Objectives:

- To understand the *Ayurvedic* concept of infertility, i.e., **Vandhyatva**.
- To explore classical texts and the indications for *Shatavari Ghrut* in infertility (**Vandhyatva**).
- To analyze the **pharmacological actions** of *Shatavari Ghrut* on the female reproductive system.
- To review scientific and clinical studies regarding its fertility-enhancing effects.

- To examine the mode of action on hormonal regulation and follicular development.
- To suggest possible clinical applications and future research directions for **Shatavari Ghrut** in anovulatory infertility.

Materials and Methods:

Type of study: A narrative and integrative review of classical *Ayurvedic* texts, published research articles, and clinical data.

Sources of data: *Ayurvedic* texts and scientific databases including **PubMed**, **Google Scholar**, and the **Ayush Research Portal**.

Inclusion Criteria:

- Articles and texts discussing the formulation of **Shatavari Ghrut**.
- Research studies related to **Shatavari** and its effects on ovulation and reproductive health.
- *Ayurvedic* references that correlate with female infertility (**Vandhyatva**).

Exclusion Criteria:

- Studies focusing only on male infertility or other unrelated gynecological disorders.
- Incomplete or non-peer-reviewed sources.

Method of Review: According to **Charaka Samhita (Ch. Sha. 8/4)**, any abnormality or dysfunction in these four components can result in infertility. Among them, **Beeja Dushti** (defective or absent ovum) is directly correlated with anovulation, which implies a failure in follicular development, ovulation, or ovum release.

“*Yatkinchit snigdha madhura bruhana guru manaso harshana tataseva vrushyam*” (**Ch. Vi. 1(4)/36**).

Charak has mentioned this in the context of **Vrushya Dravya**. Therefore, in the world of treatment, it is used as a powerful **Rasayan** and **Vajikaran Dravya**. **Shatavari** is **Snehan**, **Shukrajanan**, **Mutrajanan**, **Balya**, **Vrushya**, **Vayasthapan**, **Hrudya**, and **Tridoshaghana**. **Shatavari kalka siddha ghruta**, **Sharkara**, **Pippali**, and **Madhu** (i.e., **Shatavari Ghruta**) is considered a great **Shukral**.

Dosha Involvement in Female Infertility (Anovulation)

- **Vata Dosha** (mainly **Apana Vata**): Governs the movement of the ovum, menstrual flow, and expulsion of the fetus. Vitiating **Apana Vata** can hinder ovulation and menstrual regularity.
- **Pitta Dosha** (mainly **Sadhaka** and **Pachaka Pitta**): Regulates hormonal secretions and metabolism. Its imbalance may lead to premature follicular rupture or luteal phase defects.
- **Kapha Dosha**: Provides the unctuousness and nourishment needed for follicular development. **Kapha** vitiation, particularly in **PCOD**, results in cystic follicles and anovulation.

Ayurvedic Pathophysiology of Female Infertility (Anovulation)

- **Dosha: Vata, Pitta, Kapha**.
- **Dushya: Rasa Dhatu** (inadequate nourishment to reproductive tissues) and **Rakta Dhatu** (poor quality).
- **Artava – Shukra Dhatu**: Affects ovum formation and maturity.

- **Srotas – Artavavaha Srotas:** Carries and supports **Artava** (ovulatory function); it becomes vitiated due to **Sanga** (obstruction), **Dushti** (vitiating), or **Kshaya** (depletion).

Samprapti (Pathogenesis):

1. **Agnimandya** → Impaired metabolism.
2. **Ama** formation → Circulation with **Doshas**.
3. **Dosha** vitiation → Blocks **Artavavaha Srotas**.
4. **Artava Kshaya / Beeja Dushti** → Anovulation.

Nidana (Causes): **Ruksha, Laghu Ahara** (dry, light diet), **Ativyayama** (excessive physical exertion), **Atipravritta, Chinta** (excessive stress), repeated use of hormonal pills/abortifacients, and improper **Ritu-Kala** or **Ahitkara**.

Chikitsa Sutra (Line of Treatment)

- **Deepana–Pachana:** To correct **Agni** and digest **Ama**.
- **Vata Anulomana:** To regulate **Apana Vata** for proper ovulation.
- **Rasayana** therapy: To rejuvenate **Shukra** and **Artava Dhatu**.
- **Garbhashthapana Dravyas:** To stabilize the uterus and support conception.
- Oral administration: To improve **Artavavaha Srotas** and hormonal regulation.
- **Shatavari Ghrita**, being **Rasayana, Balya**, and **Garbhashthapana**, is especially indicated.

Shatavari Ghrit Composition and Properties:

Shatavari (Asparagus racemosus), as mentioned in **Bhavprakash** and **Charak Samhita**, has:

- **Guna: Madhur, Tikta Rasa; Guru, Snigdha Guna.**
- **Virya: Sheeta.**
- **Vipaka: Madhur.**
- Actions: **Tridoshaamak, Rasayan, Stanyajanana, Garbhashthapana, Artavajanana, Shukrala.**

Go-Ghruta (Cow Ghee), as mentioned in **Yogaratanakara** and **Charaka Samhita**:

- **Guna: Madhura Rasa, Snigdha Guna.**
- **Virya: Shita.**
- **Vipaka: Madhura.**
- Actions: **Tridosahara, Yogavahi, Agnivardhaka, Medhya, Vata-Pitta Shamana, Srotoshodhaka.**

Supportive Herbs (vary by formulation), as per **Bhavaprakasha** and **Rasatarangini**:

- **Guna: Medhya, Rasayana**, and **Stree Rogahara Dravya** often enhance the main actions of **Shatavari**, such as ovulation, nourishment, and immunity.

Mechanism – Shatavari (Asparagus racemosus) contains steroidal saponins, flavonoids, and alkaloids with estrogenic, adaptogenic, and antioxidant properties. Studies show it stimulates the **hypothalamic-pituitary-ovarian axis**, enhancing **FSH** and **LH** secretion. **Ghrita** acts as a lipid-based carrier, improving the absorption of phytoactive compounds. Together, they may support **ovulation, endometrial growth, and hormonal balance**, which are crucial for conception.

Dosage and Administration

- **Dose:** 5–10 g once or twice daily with warm milk or as directed.
- **Duration:** Typically administered for 3–6 cycles or until ovulation is restored.

Discussion: Infertility, particularly due to anovulation, presents a multifaceted clinical challenge, often rooted in both physiological and lifestyle factors. While modern reproductive medicine offers ovulation-inducing pharmacotherapy such as **clomiphene citrate, letrozole, and gonadotropin injections**, these interventions are often accompanied by adverse effects such as **ovarian hyperstimulation syndrome, mood disturbances, and a thin endometrium**. Furthermore, many of these treatments fail to address root causes such as chronic stress, digestive imbalances, or systemic depletion—areas where *Ayurveda* offers a unique, holistic approach.

The *Ayurvedic* concept of **Vandhyatva** integrates physical, functional, and subtle factors contributing to infertility. Central to this is the understanding of **Artava**, not just as menstrual flow, but also as the ovum and its cycle, which correlates with the concept of **Beeja** or **Beeja-bhava**. The management of **Beeja Dushti** (anovulation) involves not only doshic balance but also the strengthening of **Artavavaha Srotas**, improvement in tissue nutrition (**Dhatu Poshana**), and psychological well-being.

Relevance of Shatavari Ghrita in Anovulatory Vandhyatva **Shatavari Ghrita**, by virtue of its unique combination of **Shatavari (Asparagus racemosus)** and **Go-Ghrita**, provides multifaceted therapeutic actions. It addresses the underlying **Vata-Pitta** vitiation, **Shukra** and **Artava Dhatu Kshaya**, and **Srotorodha** (obstruction of channels) that are often implicated in anovulatory infertility.

Rasayana and Garbhasthapana Effects: **Shatavari** acts as a potent **Stree Rasayana** that revitalizes reproductive tissues, improves oocyte quality, and enhances fertility. **Rasayana** therapy, as described in *Ayurveda*, not only promotes longevity but also strengthens the reproductive system and aids in conception.

Hormonal Regulation and Phytoestrogenic Action: **Shatavari** contains steroidal saponins like **Shatavarins**, which exhibit estrogen-like activity. These phytoestrogens help in regulating the **hypothalamic-pituitary-ovarian (HPO) axis**, promote follicular maturation, and improve ovulation, making it particularly useful in conditions like **PCOD**.

Ghrita as a Yogavahi and Deepana: The use of **Ghrita** enhances the bioavailability of herbal components and pacifies **Vata**. It improves the absorption of lipophilic active compounds and nourishes deeper tissues, including **Shukra** and **Artava Dhatu**. **Ghrita** also has **Medhya** (neuro-nourishing) properties, which indirectly improve **HPO axis** function via stress reduction.

Improvement in Endometrial Receptivity: Unlike some modern ovulation inducers that cause thinning of the endometrium, **Shatavari Ghrita** promotes **Rasa** and **Rakta Dhatu Poshan**, thereby enhancing endometrial thickness, vascularity, and receptivity, which are essential for implantation.

Conclusion: The classical *Ayurvedic* formulation **Shatavari Ghrita** emerges as a promising therapeutic agent in the management of **Vandhyatva**, particularly in cases rooted in **Artava Kshaya** and **Beeja Dushti** (anovulation). With its potent **Rasayana, Garbhasthapana, and Balya** properties, it acts on multiple levels—improving tissue nutrition, regulating **Apana Vata**, enhancing ovarian function, and restoring hormonal balance. **Shatavari (Asparagus racemosus)**, the key ingredient, is

well-recognized for its phytoestrogenic, adaptogenic, and reproductive tonic properties. When processed in **Ghrita**, its therapeutic efficacy is significantly enhanced due to better absorption and deeper tissue penetration. Together, they correct the vitiation of **Vata** and **Pitta doshas**, nourish the **Artavavaha Srotas**, and strengthen the **Shukra** and **Artava Dhatus**, thus creating a favorable internal environment for ovulation and conception. From both classical textual references and contemporary clinical observations, **Shatavari Ghrita** stands validated as a safe, natural, and effective option for women suffering from anovulatory infertility with a reduced **AMH** value. Its integration into *Ayurvedic* infertility management protocols, along with appropriate dietary, lifestyle, and **Panchakarma** interventions, can significantly improve outcomes. **Shatavari Ghrita** holds immense potential by increasing the **AMH** count in the integrative management of infertility, particularly in functional ovarian disorders.

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