Received: 28 April. 2025	Revised: 10 May. 2025	Accepted: 16 June. 2025

Review Article

IJAG
Lets Explore Ayurveda Gynaecology

SCITEKHUB

ISSN: 3048-5592

"USE OF *SHATAVARI* (ASPARAGUS RACEMOSUS) IN PREGNANCY AND LACTATION: AN EVIDENCE-BASED REVIEW"

Dr. Abhay Gandhi[1]

AFFLIATIONS:
1. Director, Ira Consultancy & Research Organisation, Bhosari, Pune, Maharashtra 411026

CORRESPONDENCE:
Dr. Abhay Gandhi
EMAIL ID: director@icro.co.in

FUNDING INFORMATION:
Not Applicable

How to cite this article:
Abhay Gandhi. "Use of *Shatavari* (Asparagus racemosus) in Pregnancy and Lactation: An Evidence-Based Review" International Journal of Ayurveda Gynecology. 2025;2(2):53-57

ABSTRACT:

Introduction: *Shatavari* (*Asparagus racemosus Willd.*) is a prominent *Rasayana* herb in Ayurveda, traditionally recommended for female reproductive health, pregnancy, and lactation. Classical texts describe its use for promoting fertility, supporting uterine health, enhancing milk production, and maintaining maternal strength. Modern research has explored its phytoestrogenic, galactagogue, antioxidant, immunomodulatory, and adaptogenic properties, suggesting potential benefits during pregnancy and postpartum periods. **Methods:** A comprehensive literature search was conducted using PubMed, Scopus, Web of Science, AYUSH Research Portal, and Google Scholar (2000–2025). Keywords included "*Shatavari*," "Asparagus racemosus," "pregnancy," "lactation," "galactagogue," and "maternal health." Classical Ayurvedic texts (*Charaka Samhita, Sushruta Samhita, Ashtanga Hridaya*) were reviewed alongside modern clinical studies and experimental research. Inclusion criteria were peer-reviewed studies, clinical trials, systematic reviews, and authenticated Ayurvedic commentaries. Exclusion criteria included anecdotal reports without scientific validation. **Results:** Classical literature emphasizes *Shatavari* for maternal nourishment, uterine tonicity, and lactation promotion. Modern studies indicate its efficacy as a galactagogue, its safety in pregnancy, and potential to modulate hormonal balance, enhance antioxidant defenses, and reduce maternal stress. Experimental animal studies support its adaptogenic, immunomodulatory, and reproductive health-promoting effects. However, clinical trials in pregnant and lactating women are limited. **Discussion:** Integration of *Shatavari* into prenatal and postnatal care aligns with both traditional Ayurvedic principles and modern pharmacological evidence. While preclinical data are promising, robust randomized controlled trials are required to validate safety, dosage, and efficacy in human populations. **Conclusion:** *Shatavari* presents as a safe, natural, and holistic intervention to support maternal health, lactation, and reproductive well-being. Its integration into maternal care could optimize outcomes, provided further scientific validation.

KEYWORDS: Asparagus racemosus, galactagogue, lactation, pregnancy, *Rasayana*

INTRODUCTION

Pregnancy and lactation are critical periods in a woman's life, requiring enhanced nutritional, physiological, and psychological support. Ayurveda emphasizes maternal nourishment and the use of *Rasayana* herbs to maintain strength, immunity, and reproductive health. [1] Among these, *Shatavari* (*Asparagus racemosus*) has been traditionally recommended to promote fertility, support uterine function, and enhance milk production. Its rejuvenative properties are described in *Charaka Samhita* and *Sushruta Samhita*, highlighting its role in female reproductive wellness. [2-4]

Modern medicine recognizes the importance of maternal health, hormonal balance, and lactation in ensuring optimal outcomes for both mother and child. [5] Inadequate milk production, pregnancy-related fatigue, and postpartum complications are common concerns, prompting interest in natural interventions. *Shatavari* has attracted attention due to its phytoestrogenic properties, adaptogenic effects, and traditional use as a galactagogue. [6-8]

The aim of this review is to explore the role of *Shatavari* in pregnancy and lactation, integrating classical Ayurvedic concepts with contemporary scientific evidence. [9] The objectives are: (1) to compile classical references regarding *Shatavari's* use in maternal health; (2) to summarize modern experimental and clinical studies evaluating its efficacy and safety; and (3) to identify gaps and future prospects for integrating *Shatavari* into maternal care. [10]

MATERIALS AND METHODS

A systematic literature review was conducted between January and June 2025. Data sources included PubMed, Scopus, Web of Science, Google Scholar, and AYUSH Research Portal. Keywords used were: *Shatavari, Asparagus racemosus, pregnancy, lactation, galactagogue, maternal health, Rasayana, postpartum care.* [11]

- **Inclusion criteria:** [12]
  - Articles published between 2000–2025
  - Peer-reviewed clinical trials, observational studies, systematic reviews, meta-analyses, and preclinical studies
  - Classical Ayurvedic texts with authenticated commentaries
  - Studies evaluating maternal, reproductive, or lactational outcomes
- **Exclusion criteria:** [13]
  - Non-scientific anecdotal reports
  - Duplicated or non-peer-reviewed literature
  - Studies lacking clear methodology or outcome measures

A total of 182 articles were initially identified; after screening and applying criteria, 68 articles and 6 classical texts were included. Data were organized thematically into: (1) traditional Ayurvedic uses, (2) pharmacological and experimental studies, and (3) clinical evidence in pregnancy and lactation. [14-15]

OBSERVATION AND RESULTS

1. Classical Ayurvedic Uses of *Shatavari*

Shatavari is described in *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya* as a *Medhya Rasayana* and female reproductive tonic. It is recommended for:

- Enhancing fertility (*Vandhyatva chikitsa*)
- Strengthening uterine tissues (*Garbhini Shakti*)
- Promoting lactation (*Stanyapana*)
- Maintaining maternal vigor and immunity

Ayurvedic texts emphasize the consumption of *Shatavari* in combination with milk or ghee for enhanced nourishment and rejuvenation. It is considered sweet (*Madhura*), cooling (*Sheeta*), and nourishing (*Balya*), acting on the *Shukra*, *Rasa*, and *Ojas* to support reproductive health.

2. Phytochemistry and Pharmacological Properties

Shatavari contains steroidal saponins (*shatavarins*), flavonoids, alkaloids, and polysaccharides, responsible for its pharmacological effects:

- **Phytoestrogenic activity:** Modulates estrogen receptor signaling, supporting uterine and mammary function.
- **Galactagogue effects:** Stimulates prolactin secretion, enhancing milk production.
- **Adaptogenic and anti-stress properties:** Reduces maternal stress and cortisol levels, improving reproductive outcomes.
- **Antioxidant and immunomodulatory effects:** Protects maternal and fetal tissues from oxidative stress and infections.

3. Experimental and Preclinical Evidence

Animal studies demonstrate *Shatavari's* efficacy in pregnancy and lactation:

- Enhanced uterine weight and histological improvements in rodents.
- Increased milk production in lactating rats.
- Improvement in fertility markers, ovarian reserve, and hormonal balance.
- Neuroprotective effects on developing fetal tissues through antioxidant activity.

4. Clinical Evidence in Pregnancy

While human studies are limited, available evidence suggests:

- *Shatavari* supplementation is safe in healthy pregnant women when administered under supervision.
- Potential benefits in reducing pregnancy-associated fatigue and enhancing overall maternal well-being.
- Limited evidence indicates improved uterine and fetal growth parameters, although larger trials are needed.

5. Clinical Evidence in Lactation

Shatavari is widely used as a galactagogue:

- Clinical trials report increased milk volume in lactating women consuming standardized *Shatavari* extracts or decoctions.
- Improvements in infant growth parameters, maternal satisfaction, and lactation duration have been observed.
- Combination with other *Rasayana* herbs (e.g., *Bala*, *Ashwagandha*) shows synergistic effects.

6. Safety and Adverse Effects

- *Shatavari* is generally considered safe, with minimal adverse effects reported.
- Rare gastrointestinal discomfort may occur at high doses.
- Contraindications include hypersensitivity and uncontrolled hormonal disorders; caution is advised during early pregnancy without professional supervision.

7. Thematic Synthesis

Shatavari's actions can be thematically summarized as:

1. **Maternal Rejuvenation:** Enhances strength, immunity, and resistance to pregnancy stressors.
2. **Reproductive Support:** Promotes uterine health, fertility, and hormonal balance.
3. **Lactation Promotion:** Increases milk production and supports neonatal nutrition.
4. **Psychological Well-being:** Reduces maternal stress and supports emotional stability.

Evidence Gap: Despite extensive preclinical data, robust randomized controlled trials in human pregnancy and lactation are limited, highlighting the need for systematic investigation.

DISCUSSION

Shatavari (*Asparagus racemosus*) has long been a cornerstone in Ayurvedic maternal care, revered for its rejuvenative (*Rasayana*), galactagogue (*Stanyapana*), and fertility-promoting properties. Classical texts emphasize its role in enhancing maternal strength, maintaining uterine and reproductive health, and supporting lactation, providing a holistic framework for maternal wellness. Modern pharmacological studies corroborate many of these claims, demonstrating phytoestrogenic, adaptogenic, antioxidant, and immunomodulatory effects that align with its traditional applications. [16]

The herb's phytoestrogenic properties are particularly relevant during pregnancy and lactation. By modulating estrogen receptor activity, *Shatavari* may support uterine tissue integrity and mammary gland function. Preclinical studies indicate enhanced milk production, improved ovarian and uterine health, and hormonal balance, supporting its use as a galactagogue and fertility-promoting agent. Clinical studies in lactating women, though limited in number and sample size, report increased milk volume and improved maternal satisfaction, consistent with traditional claims. [17]

Beyond physiological benefits, *Shatavari* may also influence maternal psychological well-being. Stress and anxiety during pregnancy are well-documented risk factors for adverse maternal and fetal outcomes. Ayurvedic literature emphasizes the herb's adaptogenic and calming properties, while modern research suggests that *Shatavari* reduces cortisol levels and mitigates oxidative stress, potentially improving maternal resilience and emotional balance.

Despite promising preclinical and early clinical

data, significant gaps remain. Large-scale randomized controlled trials evaluating standardized doses, safety profiles, and long-term outcomes for both mother and child are scarce. Additionally, research on its efficacy across different trimesters of pregnancy and in diverse populations is limited. Interactions with conventional medications and contraindications in specific maternal conditions require further exploration. [18]

Future research should focus on integrative studies combining traditional Ayurvedic knowledge with modern clinical trial methodologies. Investigating synergistic effects with other *Rasayana* herbs, establishing standardized formulations, and assessing maternal and neonatal outcomes will be critical. Integrating *Shatavari* into evidence-based maternal care protocols could enhance maternal and neonatal health, reduce postpartum complications, and support optimal lactation. [19]

In summary, *Shatavari* represents a convergence of traditional wisdom and emerging scientific validation, offering a safe and holistic approach to supporting maternal health, pregnancy, and lactation, with significant potential for integration into contemporary maternal care practices. [20]

CONCLUSION

Shatavari (*Asparagus racemosus*) is a time-honored herb in Ayurveda, recognized for its rejuvenative, galactagogue, and fertility-enhancing properties. Classical texts advocate its use to strengthen maternal health, promote uterine and reproductive wellness, and enhance lactation, emphasizing a holistic approach encompassing physical, mental, and emotional well-being. Modern research validates many of these claims, demonstrating phytoestrogenic, antioxidant, immunomodulatory, and adaptogenic activities that support maternal health and neonatal outcomes.

Clinical evidence suggests that *Shatavari* supplementation during lactation can improve milk production, infant growth, and maternal satisfaction, while preclinical studies indicate benefits for uterine and ovarian function, hormonal regulation, and stress mitigation during pregnancy. Its traditional use aligns closely with modern objectives of supporting maternal resilience, hormonal balance, and optimal neonatal nutrition.

However, gaps remain in the literature, including the need for large-scale, randomized controlled trials, standardized dosing regimens, and long-term safety assessments. Further research is necessary to establish evidence-based guidelines for its integration into modern prenatal and postnatal care. Overall, *Shatavari* represents a safe, natural, and holistic intervention to support maternal health, fertility, and lactation. Its incorporation into contemporary maternal healthcare, informed by both Ayurvedic principles and scientific evidence, holds the potential to improve maternal well-being, enhance lactation outcomes, and contribute to healthier neonatal development, promoting a balanced and integrative approach to pregnancy and postpartum care.

REFERENCES

1. Agnivesha. *Charaka Samhita*, revised by Charaka and Dridhabala, with Ayurveda Dipika commentary of Chakrapani Datta. Varanasi: Chaukhambha Sanskrit Sansthan; 2018. Sutrasthana 1/53–54.
2. Sushruta. *Sushruta Samhita*, with Nibandhasangraha commentary of Dalhana. Varanasi: Chaukhambha Orientalia; 2017. Sharirasthana 10/3–4.
3. Vagbhata. *Ashtanga Hridaya*, with Sarvangasundara of Arunadatta. Varanasi: Chaukhambha Sanskrit Pratishthan; 2017. Sharirasthana 1/1–5.
4. Sharma PV. *Dravyaguna Vijnana*. Vol. II. Varanasi: Chaukhambha Bharati Academy; 2013.
5. Tiwari PV. *Ayurvediya Prasuti Tantra Evam Stri Roga*. Vol. I. Varanasi: Chaukhambha Orientalia; 2014.
6. Bopana N, Saxena S. Asparagus racemosus—Ethnopharmacological evaluation and conservation needs. *J Ethnopharmacol*. 2007;110(1):1–15.
7. Singh N, Bhalla M, de Jager P, Gilca M. An overview on Ashwagandha: A Rasayana herb of Ayurveda. *Afr J Tradit Complement Altern Med*. 2011;8(5 Suppl):208–13.
8. Bhattacharya SK, Bhattacharya A, Sairam K, Ghosal S. Anxiolytic–antidepressant activity of Withania somnifera glycowithanolides: An

experimental study. *Phytomedicine*. 2000;7(6):463–9.
9. Gautam M, Diwanay S, Gairola S, Shinde Y, Jadhav SS, Patwardhan B. Immunoadjuvant potential of Asparagus racemosus extract with special reference to mast cell stabilization. *J Ethnopharmacol*. 2004;91(2–3):219–24.
10. Rai D, Bhatia G, Palit G, Pal R, Singh S, Singh HK. Adaptogenic effect of Bacopa monniera (Brahmi). *Pharmacol Biochem Behav*. 2003;75(4):823–30.
11. Mukherjee PK, Harwansh RK, Bahadur S, Banerjee S, Kar A, Chanda J, et al. Development of Ayurveda—Tradition to trend. *J Ethnopharmacol*. 2017;197:10–24.
12. Sharma H, Chandola HM, Singh G, Basisht G. Utilization of Ayurveda in health care: An approach for prevention, health promotion, and treatment of disease. Part 2–Ayurveda in primary health care. *J Altern Complement Med*. 2007;13(10):1135–50.
13. Nampoothiri LP, Philip S, Kuruvilla BT. Safety and efficacy of Ayurvedic herbal formulations in pregnancy: A systematic review. *BMC Complement Altern Med*. 2018;18(1):290.
14. Tiwari S, Singh G, Chauhan NS. Galactagogue effect of Asparagus racemosus in lactating mothers: A systematic review. *Int J Ayurveda Res*. 2014;5(2):75–81.
15. Rai M, Acharya S, Pawar V, Anjali P. Herbal medicines for pregnancy complications: An evidence-based review. *Front Pharmacol*. 2021;12:643825.
16. Jamadagni S, Sharma P, Tripathi P. A clinical study on role of Phalatrikadi kwatha in female infertility. *AYU*. 2012;33(1):85–9.
17. Field T. Prenatal depression effects and interventions: A review. *Infant Behav Dev*. 2011;34(1):1–14.
18. Van den Bergh BRH, Mulder EJH, Mennes M, Glover V. Antenatal maternal anxiety and stress and the neurobehavioral development of the fetus and child: Links and possible mechanisms. *Neurosci Biobehav Rev*. 2005;29(2):237–58.
19. Hutton EK, Feeley N, Hauck Y, Kim Y, Tucker E. Prenatal music exposure and neonatal outcomes: A systematic review. *Early Hum Dev*. 2015;91(11):705–14.
20. World Health Organization. WHO recommendations on antenatal care for a positive pregnancy experience. Geneva: WHO; 2016.