# International Journal of Indian Medicine

www.ijim.co.in

ISSN: 2582-7634

Volume - 6, Issue - 4

IJIM

INDEXED

April 2025

**Review Article**

Int J Ind Med 2025;6(4):39-44 ISSN: 2583-3677

International Journal of Indian Medicine

International Category Code (ICC): ICC-1702 International Journal Address (IJA): IJA.ZONE/258276217634 eISSN : 2582 - 7634

# Anti-Aging Effects of Shatavari (Asparagus Racemosus): A Review

**Kamdi P.[1], Chandekar S.[2], Taram N.[3]**

1. Assistant professor, Dept of Dravyaguna, Bhausaheb Mulak Ayurveda College and Research Hospital, Butibori, Dist, Nagpur 441122.
2. Assistant professor, Dept of Swasthavritta, Bhausaheb Mulak Ayurveda College and Research Hospital, Butibori, Dist Nagpur 441122.
3. Assistant professor, Dept of Prasuti tantra & Streeroga, Bhausaheb Mulak Ayurveda College and Research Hospital, Butibori, Dist Nagpur 441122.

**Abstract:**

A popular herb in Ayurvedic medicine, shatavari (Asparagus racemosus) has drawn interest due to its possible anti-aging qualities. Rich in bioactive substances such as polyphenols, flavonoids, and saponins, shatavari has immunomodulatory, adaptogenic, and antioxidant properties. This study summarises the most recent research on the mechanisms by which shatavari protects against aging-related conditions such as oxidative stress, hormone imbalance, and cognitive loss. According to the data, shatavari may be used as a natural remedy to encourage ageing in a healthy way. The Ayurvedic medicinal herb shatavari (Asparagus racemosus) may have anti-aging qualities. This review explores the phytochemical components of shatavari and looks at the most recent research that supports its ability to slow down the ageing process. Its anti-inflammatory, hormonal, adaptogenic, and antioxidant properties are highlighted, along with its uses in muscle and skin health.

**Keywords**: *Shatavari (Asparagus racemosus), Anti-aging, Rasayana, Antioxidant, Phytoestrogenic effects, Neuroprotection, Immune modulation.*

**Corresponding Author:**

**Dr. Payal Kamdi**
Assistant professor, Dept of Dravyaguna,
Bhausaheb Mulak Ayurveda College and Research Hospital, Butibori, Dist Nagpur 441122.
Emai: dr.payalkamdi@gmail.com **Orchid Id- 0000-0003-3741-9772**

**How to cite this article**:

Kamdi P., Chandekar S., Taram N. Anti-Aging Effects of Shatavari (Asparagus Racemosus): A Review. Int J Ind Med 2025;6(4):39-44 DOI: http://doi.org/10.55552/IJIM.2025.6404

## INTRODUCTION:

A complicated biological process, ageing is defined by the progressive deterioration of physiological processes, which raises mortality and disease vulnerability. The main causes of ageing include oxidative stress, hormone fluctuations, and immune system degradation. Herbs have long been used in traditional medical systems, such as Ayurveda, to lessen the symptoms of ageing. Known for its restorative qualities, shatavari has long been used to increase longevity and vigour [1]. The slow deterioration of physiological processes that occurs with ageing makes people more susceptible to illness and lowers their quality of life. Shatavari and other traditional herbs have gained attention in the search for natural ways to slow down the ageing process. Shatavari's many benefits, which have historically been utilised to encourage vitality and longevity, call for a thorough analysis in the context of ageing [2]. The term "Rasayana" is derived from two Sanskrit words: "Rasa" (essence or plasma) and "Ayana" (path or circulation), and it broadly refers to rejuvenation therapy or the science of lengthening lifespan, enhancing vitality, and improving quality of life**.** Rasayana is not merely a medicinal therapy but a comprehensive rejuvenative system including lifestyle, diet, ethical conduct (Achara Rasayana), and medicinal formulations [3].

**Primary goals or drug action of Shatavari**:
Promote longevity (Dirghayushyam); Enhance memory, intelligence, and strength (Medha, Smriti, Bala)
Delay aging (Vayahsthapanam); Improve immunity (Vyadhikshamatva); Maintain youthfulness (Yauvanam)

**Phytochemical Profile of Shatavari:**

Shatavari's rich phytochemical makeup is thought to be responsible for its medicinal properties. Important components consist of: Shatavarins I–IV, or saponins: These steroidal glycosides have immunomodulatory and antioxidant properties. Known for their ability to scavenge free radicals, flavonoids and polyphenols are part of Shatavari's antioxidant capability. Racemosol is an example of an alkaloids: has anti-inflammatory and neuroprotective properties [4]. Sarsasapogenin glycosides, or steroidal saponins, such shatavarins I–IV, are among the many bioactive substances found in shatavari. Its medicinal properties are thought to be mostly attributed to these saponins. Shatavari also includes polysaccharides, alkaloids, and flavonoids, all of which support its pharmacological properties [5].

**Antioxidant Properties:**

Oxidative stress, resulting from an imbalance between free radicals and antioxidants, accelerates aging. Shatavari demonstrates significant antioxidant activity:
**In vitro studies** reveal that Shatavari extracts neutralize free radicals, reducing oxidative damage.
**Animal models** show that Shatavari supplementation decreases lipid peroxidation and enhances antioxidant enzyme levels. These findings suggest that Shatavari may protect against oxidative stress-induced aging [6].

**Adaptogenic and Stress-Relieving Effects:**

Chronic stress contributes to aging by disrupting hormonal balance and immune function.Shatavari exhibits adaptogenic properties:

**Regulation of the HPA Axis:** By regulating the hypothalamic-pituitary-adrenal axis, shatavari lowers cortisol levels and damage brought on by stress [7]. Effects of Anxiety: Research on animals suggests that shatavari lessens anxiety-like behaviours, possibly via interacting with the GABA and serotonin systems. Many signs of ageing are caused by hormonal imbalances, especially during menopause. By binding to oestradiol receptors, the phytoestrogenic chemicals in shatavari may help reduce menopausal symptoms. According to clinical research, taking supplements of shatavari reduced menopausal symptoms such vaginal dryness, hot flashes, and night sweats without having any serious negative effects. Shatavari may decrease ageing processes linked to stress by reducing stress reactions [8].

**Anti-Inflammatory Effects:**
Numerous age-related disorders are caused by chronic inflammation, which also speeds up ageing. By preventing the secretion of pro-inflammatory cytokines such TNF-α, IL-1β, and IL-6, shatavari has anti-inflammatory qualities. Its capacity to support healthy ageing is highlighted by this modification of inflammatory pathways [9]. Support for Menopause and Hormonal Balance Age-related symptoms are accelerated by hormonal changes, especially after menopause. The phytoestrogenic qualities of shatavari provide hormonal support: Menopausal Symptom Relief: According to clinical studies, taking supplements of shatavari helps menopausal women with their mood swings, hot flashes, and night sweats. Reproductive Health: Shatavari has a role in hormone balance by promoting breastfeeding and increasing fertility [10]. These results highlight Shatavari's potential for regulating hormonal changes associated with ageing. These effects underscore Shatavari's potential in managing age-related hormonal changes.

By binding to oestradiol receptors, the phytoestrogenic chemicals in shatavari may help reduce menopausal symptoms. According to clinical research, taking supplements of shatavari reduced menopausal symptoms such vaginal dryness, hot flashes, and night sweats without having any serious negative effects. Many signs of ageing are caused by hormonal imbalances, especially during menopause. By binding to oestradiol receptors, the phytoestrogenic chemicals in shatavari may help reduce menopausal symptoms. According to clinical research, taking supplements of shatavari reduced menopausal symptoms such vaginal dryness, hot flashes, and night sweats without having any serious negative effects [11].

**Cognitive Function and Neuro-protection:**
Adaptogens enhance the body's resilience to stress, a factor that accelerates aging. Shatavari exhibits adaptogenic properties, showing antidepressant-like effects by modulating molecular pathways. These effects may contribute to improved stress response and neuroprotection in aging individuals [12].

Cognitive decline is a hallmark of aging. Shatavari exhibits neuroprotective effects:

**Cholinesterase Inhibition:** Shatavari inhibits acetylcholinesterase activity, enhancing cholinergic transmission and memory function.

**Antioxidant Activity in the Brain:** By reducing oxidative stress in neural tissues, Shatavari may protect against neurodegenerative diseases [13]. These properties suggest that Shatavari supports cognitive health during aging.

**Immune System Modulation:**
Aging impairs immune function, increasing disease susceptibility. Shatavari enhances immune responses:

**Leukocyte Production:** Shatavari stimulates white blood cell production, bolstering immune defense [14].

**Anti-inflammatory Effects:** It reduces systemic inflammation, a contributor to aging-related diseases. By strengthening immunity, Shatavari may promote healthy aging [15].

**Skin Health and Anti-Aging Effects:**

Dryness, elasticity loss, and wrinkles are signs of ageing skin. Shatavari promotes healthy skin: Dryness, wrinkles, and a lack of suppleness are signs of ageing skin. According to 2015 research, the saponins in shatavari root helped stop collagen breakdown and lessen free radical skin damage that causes wrinkles. Furthermore, topical preparations that include Shatavari extract have demonstrated efficacy in halting the advancement of wrinkles [16]. Collagen Synthesis: Shatavari keeps skin firm by encouraging the synthesis of collagen. Hydration and Elasticity: By improving skin hydration and elasticity, its moisturising qualities lessen the appearance of ageing indications. Because of these benefits, Shatavari is positioned as a natural skin-rejuvenating agent. Mobility and quality of life are impacted by sarcopenia, or age-related muscle loss. Young boys who use shatavari supplements during resistance training have shown enhanced training adaptations and greater muscular strength. These findings suggest potential benefits in preserving muscle function during aging [17].

**Longevity and Lifespan Extension:** Research indicates that Shatavari may extend lifespan.

**Drosophila Studies:** Supplementation with Shatavari root extract increased the lifespan of fruit flies by up to 41%. While human studies are needed, these findings suggest potential longevity benefits.

**Safety and Dosage Considerations:**

Shatavari is generally considered safe when used appropriately:

**Dosage:** Common doses range from 500 mg to 1,000 mg per day, depending on the form and purpose.

**Side Effects:** Rare cases of allergic reactions have been reported. Individuals with estrogen-sensitive conditions should consult healthcare providers before use. Ensuring proper dosage and monitoring can mitigate potential risks.

## DISCUSSION:

Shatavari (*Asparagus racemosus*), a renowned Rasayana herb in Ayurveda, exhibits significant potential in mitigating age-related physiological decline. Aging is a multifactorial process influenced by oxidative stress, hormonal changes, immune dysfunction, and chronic inflammation. Shatavari's multifaceted phytochemical profile, including steroidal saponins (shatavarins), flavonoids, polyphenols, and alkaloids, provides strong antioxidant, anti-inflammatory, and adaptogenic effects that combat these factors.

The herb's antioxidant activity is notable for its role in scavenging free radicals, reducing lipid peroxidation, and enhancing antioxidant enzyme levels, thereby protecting tissues from oxidative damage. Its adaptogenic properties, such as modulation of the hypothalamic-pituitary-adrenal axis and regulation of cortisol levels, contribute to stress resilience and improved neuroendocrine balance, both essential in delaying aging.

Shatavari's phytoestrogenic compounds interact with estrogen receptors, alleviating menopausal symptoms like hot flashes and mood disturbances, and supporting hormonal homeostasis. Its immunomodulatory actions, including increased leukocyte production and reduced pro-inflammatory cytokines, are crucial for

maintaining immune strength in aging individuals.

Furthermore, Shatavari enhances cognitive function by inhibiting acetylcholinesterase and reducing oxidative stress in the brain, supporting neuroprotection and memory enhancement. Topically and systemically, it improves skin hydration, collagen synthesis, and elasticity, delaying visible signs of skin aging. Additionally, evidence suggests Shatavari may aid in preserving muscle function, as indicated by increased muscle strength in younger populations, potentially offering benefits against sarcopenia.

Animal studies also show promise in lifespan extension, although human trials are required for validation. Shatavari is generally safe in doses of 500–1,000 mg daily, with rare allergic reactions; however, caution is advised in estrogen-sensitive individuals.

In summary, Shatavari demonstrates comprehensive anti-aging potential through its antioxidant, hormonal, neuroprotective, immunomodulatory, and skin-rejuvenating effects, validating its role as a natural therapeutic agent for promoting healthy aging and vitality.

## CONCLUSION:

Shatavari (Asparagus racemosus) has a variety of anti-aging benefits, including as skin-enhancing, hormonal, adaptogenic, antioxidant, and neuroprotective qualities. Its historic usage in fostering vigour and longevity is supported by its rich phytochemical profile. Even though the available data is encouraging, further clinical research is required to completely understand its processes and effectiveness in people. According to clinical research, Shatavari is safe and well-tolerated; no serious side effects have been noted. To create thorough guidelines for its usage in anti-aging therapies, however, standardised dosage schedules and long-term safety data are required. Rasayana is a whole rejuvenating system that includes medication formulations, ethical behaviour (Achara Rasayana), nutrition, and lifestyle. It is not just a medical treatment.

## REFERENCES:

1. Singh, A. K., Srivastava, A., Kumar, V., & Singh, K. (2018). Phytochemicals, Medicinal and Food Applications of Shatavari (Asparagus racemosus): An Updated Review. The Natural Products Journal, 8(1). https://doi.org/10.2174/2210315507666170922145258.
2. Shinde, R. V., Ambad, R. S., Warjukar, P., & Jha, R. K. (2021). Clinical Approach to Childhood Obesity with Lekhan Basti and Ayurvedic Regimen. *Annals of the Romanian Society for Cell Biology*, *25*(4), 7156-7163.
3. Shatavari Supplementation in Postmenopausal Women Improves Muscle Strength and Function. (2021). Link
4. Shatavari: Benefits, Side Effects, and More. Healthline. (2017). Link
5. Efficacy and Safety of Shatavari Root Extract for the Management of Menopausal Symptoms. PubMed. (2024). Link
6. Shinde, R. V., Ambad, R., Patil, S. C., & Aradhey, P. (2020). A Prospective Observational Case Series of Liver Injury in Paediatric Patients Secondary to Consumption of Ayurvedic Herbomineral Formulations. *Indian Journal of Forensic Medicine & Toxicology*, *14*(4), 7121-7125.
7. Exploring Pharmacological Properties and Food Applications of Shatavari. ScienceDirect. (2024). Link
8. Adaptogenic Property of Asparagus racemosus: Future Trends and Perspectives. PMC. (2023). Link
9. Shinde, R. V., Kale, A. B., Swami, T. Y., & Rana, A. P. (2018). IMMUNIZATION ACCORDING TO AYURVEDA.
10. Recent Research and Uses of Asparagus racemosus (Shatavari). ResearchGate. (2025). Link

11. Shatavari: Health Benefits, Uses, and Evidence. Medical News Today. (2018). Link
12. Recent Research and Uses of Asparagus racemosus (Shatavari). IJT Innovation. (2025). PDF
13. Shatavari: The 'Hundred Root' Miracle for Female Health. SUNDÃRI. (2022). Link
14. Adaptogenic Property of Asparagus racemosus: Future Trends and Perspectives. Cell. (2023). Link
15. A Comprehensive Review of the Nutritional, Therapeutic and Pharmacological Properties of Shatavari. Zenodo. (2025). [Link](https://zenodo.org/records/153.
16. Shinde, R. V., Rana, A. P., Rajurkar, H., & Kaple, M. N. (2020). Prameha and diabetes mellitus. *Int J Cur Res Rev| Vol*, *12*(14).
17. Singh, R. H., Narsimhamurthy, K., & Singh, G. (2008). Neuronutrient impact of Ayurvedic Rasayana therapy in brain aging. *Biogerontology*, *9*, 369-374.

**Authors Contribution:** All authors have contributed equally.
**Financial Support and Sponsorship:** None declared
**Conflict of Interest:** There are no conflicts of interest.
**Declaration of Generative AI and AI Assisted Technologies in the writing process:**
The author has not used generative AI/AI assisted technologies in the writing process.


**An Official Publication of ARCA- AYURVEDA RESEARCH & CAREER ACADEMY**
**Website:** https://www.ijim.co.in **Email**: ijimjournal1@gmail.com
**IIFS Impact Factor: 4.125**
**Frequency of Publication: Monthly**