



Shatavari: Galactogenic Drug in Ayurveda

Dr. Shipra

Lecturer

Prasuti Tantra & Stri Roga

L. B. S. Govt. Ayurvedic College & Hospital Handia, Allahabad

Abstract

WHO and UNICEF advocate exclusive breast feeding for first 6 months is best for baby everywhere. Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants. It is also an integral part of the reproductive process with important implications for the health of mothers. Milk production is essential for optimal feeding of infants and has a direct impact on growth, development, and health in neonatal period. Breastfeeding is influenced by nutritional and non-nutritional factors (associated with endocrinology, climate, and management) that affect milk synthesis and secretion. Galactogenic drugs are used to induce, maintain, and increase milk production. In modern medicine metoclopramide, domperidone like drugs have remarkable side effects both for mother and newborn. In Ayurveda, to augment breast milk production herbal drugs are described which are safely used and encourages towards organic uses. Shatavari (*Asparagus racemosus*) is widely accepted drug by obstetrician. The probable mode of action of this drug is mediated by nutritional value (essential micro and macro nutrients) as well secondary metabolites for therapeutic action. The chemical ingredients present in it, have phytoestrogenic activity, may have similar action of endogenous oestrogen that promotes the proliferation of MEC. It is hypothesized that supply of isoflavone phytoestrogen induces mammary gland hyperplasia and the action of PRL receptors.

Keywords: Breastfeeding, Galactogenic, Phytoestrogens etc.

INTRODUCTION

Review of evidence has shown that, on a population basis, exclusive breastfeeding for 6 months is the optimal way of feeding infants. Thereafter infants should receive complementary foods with continued breastfeeding up to 2 years of age or beyond¹.

To enable mothers to establish and sustain exclusive breastfeeding for 6 months, WHO and UNICEF recommend: (i) Initiation of breastfeeding within the first hour of life, (ii) Exclusive breastfeeding – that is the infant only receives breast milk without any additional food or drink, not even water, (iii) Breastfeeding on demand – that is as often as the child wants, day and night, (iv) No use of bottles, teats or pacifiers¹.



Breast milk promotes sensory and cognitive development, and protects the infant against infectious and chronic diseases. Exclusive breastfeeding reduces infant mortality due to common childhood illnesses such as diarrhoea or pneumonia, and helps for a quicker recovery during illness. These effects can be measured in resource-poor and affluent societies².

The review focuses on human-milk nutrients, which may become growth limiting, and on nutrients for which there is a high prevalence of maternal dietary deficiency in some parts of the world; it assesses the adequacy of energy, protein, calcium, iron, zinc and vitamins A, B6 and D. This task is confounded by the fact that the physiological needs for vitamins A and D, iron, zinc - and possibly other nutrients - are met by the combined availability of nutrients in human milk and endogenous nutrient stores.

In evaluating the nutrient adequacy of exclusive breastfeeding, infant nutrient requirements are assessed in terms of relevant functional outcomes. Nutrient adequacy is most commonly evaluated in terms of growth, and other functional outcomes, e.g. immune response and neurodevelopment.

DISCUSSION

Alveoli are the milk-secreting bunches of cells found within breast tissue. Prolactin also stimulates milk production after birth in conjunction with two other hormones, insulin and cortisol. Oxytocin, another hormone, aids in the let-down reflex, which allows milk to flow from the alveoli when the infant nurses.

Most common galactagogue for human use are metoclopramide, domperidone, chlorpromazine, and sulpiride. Their remarkable side effects in mothers are xerostomia (dry mouth syndrome or hyposalivation), gastrointestinal disorders, cardiac arrhythmia, lethargy, sedation, extrapyramidal symptoms such as hypertension, tremor, tic, facial seborrhea, and hyperhidrosis, and even sudden death. In infants that ingested milk from treated mothers symptoms include intestinal discomfort, lethargy, and sedation³.

Shatavari is described to induce, maintain, and increase milk production in nourishing mother in Ayurvedic literature.



SHATAVARI

<p>Kingdom: Plantae Subkingdom: Tracheobionta Division: Magnoliophyta Class: Magnoliopsida Subclass: Magnoliidae Order: Asparagales Family: Liliaceae Genus: Asparagus Species: racemosus</p>	
--	--

Ayurvedic Properties ⁴	
Rasa	Guru, Snigdha
Guna	Madhur
Virya	Sheeta
Vipaka	Madhur
Doshkarma	Vata-pittshamak
Part used	Tubers
Action	Vedanasthapana, Medhya, Rakta-pittashamaka, Rasayana, Chaksshushya, Nadibaladayaka, Pittashamaka, Shoolhara, Balya, Shamaka, Grahi, Garbhaposhaka, Stanyajanana, Shukrala, Mutrala.
Indication	Apasmara, Murcha, Vatavyadhi, Amlapitta, Shoola, Grahani, Arsha, Hridroga, Raktapitta, Shotha, Stanyakshaya, Shukrakshaya, Mootrakriccha, Kshaya, Daurbalya.
Dose	Juice : 10 to 20 ml Decoction : 50 to 100 ml Powder: 3 to 6 gm.



Chemical constituents ⁵		
Asparagusic acid	Sarsasaponin	Asparagine Shataverin
Anginine Shatavarin IV	β sitosterol	Steroidal glucoside -1 - 9
Coniferin	Succinic acid	Sarsasapogenin Starch
Diosgenin	Fructo oligosaccharides - 8	Tyrosine, Insulin
Tannin	Vanillin	Saponin A4 Alpha amino dimethyl gamma butyrothetin.

Active constituents:

- **Steroidal saponins** – known as shatavarin I to IV. Shatavarin I is the major glycoside with 3 glucose and rhamnose moieties attached with sarsasapogenin. Shatavarin IV contains alkaloids, proteins, starch and tannin. It is classified under phytoestrogen.
- **Isoflavones**
- **Asparagamine** – a polycyclic alkaloid
- **Racemosal** – a cyclic hydrocarbon
- Polysaccharide and mucilage present in roots.

Galactagogue action of Shatavari (*A. racemosus*)

- The plant *Asparagus racemosus* is famous and widely used as a galactagogue since antiquity. In one of the studies it was shown that in the oestrogen primed rats, *Asparagus racemosus* causes both increase in the weight of mammary lobulo alveolar tissue and the milk yield. The action is said to be due to the release of cortico- steroid or an increase in prolactin⁵.
- It has phytoestrogenic properties and it has been observed to increase milk secretion following administration in women suffering from hypogalactia⁶, the gradual decrease in milk secretion, on withdrawal of the drug, suggested that the increase in milk secretion was due to drug therapy only and not to any psychological effect⁷.
- In 2011, the root powder oral administration in women in a double-blind randomized clinical trial has demonstrated a threefold increase in PRL level in subjects of the research group compared to the control group⁸.
- In rats supplemented with the plant (2% of their diet), a lactogenic effect was reported. Systemic administration of alcohol extract of *A. racemosus* in weaning rats increased weight of mammary glands, inhibited involution of lobuloalveolar tissue, and maintained milk secretion⁹.



- Other studies with alcohol extract of Shatavari demonstrated oestrogenic effects in genital organs and in mammary glands in rats with hyperplasia in alveolar tissues and acini and with increased milk production¹⁰.
- Chemical analysis of Shatavari roots reveals the presence of steroidal saponins (as Shatavarins I-IV), one hypothesis states that the estrogenic activity results from the hormone-like actions of these steroidal saponins¹¹. Another hypothesis declares that the growth of mammary tissue is caused by the action of released corticoids or PRL. Although estrogens have a stimulating effect on the ductal epithelial cells, causing them to lengthen, their primary role seems to be the potentiation of PRL production¹⁰.

CONCLUSION

Shatavari works not only on improving on quantity of breast milk but also on quality of it. This herb stimulates production of two important hormones, namely prolactin and corticoids. These two hormones are the main key role player in successful breastfeeding, so lactating mother needs healthy balanced production of these two hormones. Shatavari is safe and most effective way for ensuring proper and enough breast milk production. Its supplement is recommended for galactogenic function.

REFERENCES

1. who.int/nutrition/topics/exclusive breastfeeding
2. Kramer M et al Promotion of Breastfeeding Intervention Trial (PROBIT): A randomized trial in the Republic of Belarus. *Journal of the American Medical Association*, 2001, 285(4): 413-420.
3. Tabares F.P. et al (2014), *J. Vet. Med. international, Pharmacological Overview of Galactogogeous*, Aug.
4. Sharma P.V. (2006), *Dravyaguna vigyana II, Vrishyadi varga-Shukrajanana, Shatavari, Chaukhambha Bharati Academy, reprint, P.N. 562-564.*
5. Negi J.S. et al (2010), *Pharmacognosy Review J., Chemical constituent of A. racemosus*, July-Dec, 4(8): 215-220.
6. Di Pierro F et al, *Clinical efficacy, safety and tolerability of BIO-C: as a galactagogue. Acta Biomedica de l'Ateneo Parmense. 2008;79(3):205-210.*
7. Goyal RK, Singh J, Lal H. *Asparagus racemosus—an update. Indian Journal of Medical Sciences. 2003;57(9):408-414.*
8. Gupta M, Shaw B. *A double-blind randomized clinical trial for evaluation of galactagogue activity of asparagus racemosus willd. Iranian Journal of Pharmaceutical Research. 2011;10(1):167-172.*
9. Sabnis PB, Gaitonde BB, Jetmalani M. *Effects of alcoholic extracts of Asparagus racemosus on mammary glands of rats. Indian Journal of Experimental Biology. 1968;6(1):55-57.*



International journal of basic and applied research

www.pragatipublication.com

ISSN 2249-3352 (P) 2278-0505 (E)

Cosmos Impact Factor-5.86

10. Sharma K, Bhatnagar M. Asparagus racemosus (Shatavari): a versatile female tonic. International Journal of Pharmaceutical and Biological Archive. 2011;2(3):855–863
11. Saxena G, Singh M, Bhatnagar M. Phytoestrogens of Asparagus racemosus *wild.* Journal of Herbal Medicine and Toxicology. 2010;4(1):15–20.

Corresponding Author; maaguru011@gmail.com