



## A phytopharmacognostic review on shivlingi seeds (*Bryonopsis Laciniosa*): a folk medicine for infertility

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### Abstract

Infertility varies worldwide and it's been calculable to have an effect on 8-12% of couples worldwide. The United Nations agency has calculated the prevalence of physiological infertility in Bharat to be in between 3.9 to 16.8%. *Bryonia Laciniosa* Linn. Is a plant of pharmacological importance commonly known as shivlingi seeds and it belongs to the family cucurbitaceae. In this physiological state of (infertility), couples prefer ethno medicines that are getting used over for centuries as use of this medicine is also mentioned in Ayurveda, and therefore it holds high esteem and trust in this field. Shivlingi beej is an underated medication that shows smart results for counteracting the infertility Main chemical constituent is "Bryonin" and its ancient uses are rumored like adenosis, asthma, bronchitis, carbuncles, cholera, convulsions, cough, delirium, and it is especially used for the treatment of infertility of either sex. It is a uterine tonic and it increases the chances of conception in women suffering from this physiological state. A trial is done through this literature to explain the role of shivlingi seeds in infertility of either sex hypothetically.

**Keywords:** shivlingi seeds, infertility, bryonin

### Introduction

From time immemorial the phenomenon of infertility become accepted during the arena which may additionally persist so long as the human race exists. Every man or women has an inherent, intense preference to continue one's personal race. Infertility varies across the regions of the world and it has been anticipated to affect 8-12% couples international. The WHO has anticipated the overall prevalence of number one infertility in India to be among 3.9 and 16.8%<sup>[1]</sup>. Contemporary artificial medicines have come into prominence with mind-blowing and instantaneous outcomes. However, these are not providing good enough remedy to commonplace humans of the developing countries because of their soaring charges and complex facet outcomes. Shivlingi Beej or Shivlingi Seeds are used for remedy of woman infertility. It is a uterine tonic and improves the chances of conception in ladies suffering from infertility. Moreover it's also used traditionally as an aphrodisiac and seasoned-fertility compound, touted to boom masculinity and beautify youthfulness during growing older. Hence this ethno-herb has mammoth ability of research in this area of infertility of either sex.

### Plant

*Bryonia laciniosa* Linn. Normally referred to as shivlingi is a medicinal plant belongs to the circle of relative's cucurbitaceae. It is an annual climber with wright red- pink fruits and is reported to be a high medicinal value. The seeds of *B.laciniosa* are known as "Shivlingi" because the upper surface of seeds has a making and morphology, which resembles „Shivlingi“, icon of Lord

Shiva, a popularly worshiped deity by Hindus. Traditionally it is used as acrid, anti-inflammatory, and tonic<sup>[3]</sup> as shown in fig 1. The seeds are useful useful in curing in case of sterility<sup>[2]</sup>. It is also a consitituent of Ayurvedic formulation "*Strirativallabhugpak*" described in ancient text to improve sexual behavior and as a gernal tonic<sup>[5]</sup>. It is fertility enhancer herb used in ayurveda along with Putrajeevak Beej. However, it has different ayurvedic properties and based on these properties, it reduces KaphaDosh. Therefore, Shivlingi is more beneficial if the patient has more symptoms of increased or aggravated Kapha<sup>[4]</sup>.

It is seen from the literature that *Bryonia laciniosa* is a very important plant for its huge wide variety of medicinal properties as well as medicinally important chemical compounds like Glucomannan, Goniotalamin, Arabinoglucomannan. The plant indicates many pharmacological activities like analgesic, antipyretic, anti-convulsant, antimicrobial, cytotoxic, antiasthmatic, anti-inflammatory and anti- fertility. Many traditional uses also are pronounced like adenopathy, ague, bronchial asthma, bronchitis, carbuncles, cholera, colic, intake, convulsions, cough, delirium, fertility, headache, megalosplen, paralysis, phthisis, snake bite which might be being studied until these days and in addition research must be carried out. Thus, *Bryonia laciniosa* is pretty promising as a multipurpose medicinal agent so in addition clinical trials must be carried out to prove its efficacy<sup>[5, 6]</sup>.

Table 1

Botanical Name	<i>Bryonia laciniosa</i>
Botanical synonym	Bryonopsis Laciniosa, Diplocyclos Palmatus
Common Name	Shivlingi, Gargumara
Plant Family	Cucurbitaceae

Genus	Bryonia
Distribution	India-Madhya Pradesh, Uttar Pradesh, Gujarat, Uttarakhand
Parts used	Leaves, Fruits, Seeds (Especially seeds)
Chemical constituent	Main phytoconstituent: Bryonin
	1. Punic acid 2. Goniotalamin 3. Glucomannan
Medicinal Properties	<ul style="list-style-type: none"> <li>▪ Uterine tonic</li> <li>▪ Fertility booster</li> <li>▪ Aphrodisiac</li> <li>▪ Spermatogenic</li> <li>▪ Antioxidant Anodyne</li> <li>▪ Anti-inflammatory</li> <li>▪ Carminative</li> <li>▪ Anti-fungal</li> <li>▪ Antimicrobial</li> </ul>

### Ethnobotany of Plant

It is commonly used as hypoglycemic herb by means of the local human beings of Porbander area. A literature survey indicated using complete plant as a sour tonic, hepatoprotective, antipyretic and laxative. It is also used to correct metabolic abnormalities. The leaves of the plant are generally implemented as an anti-inflammatory paste<sup>[7, 8]</sup>. Women take the seeds in aggregate with different medicinal herbs for helping idea and prevent miscarriage. Traditional healers of Gulgul village, Chhattisgarh suggest the use of three-four seeds once each day by way of women, in empty belly for 1 to 2 months to be got a male infant<sup>[9]</sup>. Gond and Bharia tribes of Patalkot valley worship this plant and they consider that, this herb is boon for the childless parents. Traditional healers of Gaildubba advise a mixture of Shivlingi seeds with Tulsi (*Ocimum basilicum*) leaves and Jaggery in girl infertility (five). The seeds of Shivlingi are potentially contraceptive while utilized in combinaton with ginger (dry), pepper, Putrajivi, Root bark of vata (*Ficus bengalensis*) and milk. The home grown healders (Bhumkas) set upcertain mix of herb and recommend it to the required individual. Interseting, Bhumkas in Harra-Ka-Chhar town in Patalkot recommend the seeds of this herb for imagining male children. In Gailduba, customary healers make a mix of Shivlingi seeds with Tulsi (*Ocimum basilicum*) leaves and blend it in Jaggery (the conventional gurngy sugar utilized as a part of India) what's more, offer it to the woman who is not imagining infant because of any reason. Shivlingi is a twinner and can be very much recognized by its bloom/natural products/seeds. The foul what's more, simply diverse kind of smell of the plant is likewise a method for distinguishing it<sup>[10, 11]</sup>.



Fig 1: Shivlingi seeds

### Ayurvedic Properties

Table 2

Rasa (Taste)	Katu (pungent), tikka (bitter)
Guna (Main quality)	Laghu (light), ruksha(dry), tikshna(sharp)
Virya (Potency)	Ushna (hot)
Vipaka (Resultant)	Katu(pungment)
Prabhava (Specific action)	Uterine tonic
Dosha karma (Effect on Humors)	Pacifies Kapha Dosha and increases Pitta Dosha
Karma	Rasayana, Sidhma, Kushthahara
Organs effect	Uterus, ovaries and testes
Main indication	Infertility

### Dosage

The gernal dosage of Shivlingi Beej is follows.

Adult: 1-3 grams.

Maximum Dosage allowed: 6 grams Per Day (in divided doses).

Doses: Twice an afternoon with milk; warm water for weight reduction.

Best Time to Take: 3 hours after meal.

Recommended Treatment Duration: Minimum 3 months (a few patients may additionally require remedy with Shivlingi for six months or greater depending at the fitness condition).

### Shivlingi beej should be consumed in below enlist cases:

- Female infertility.
- Male infertility due Oligzoospermia.
- Impaired spermatogenesis.
- Asthenozoospermia –decreased spermatic motility.
- Teratospermia –defective or peculiar spermatic morphology.
- Constipation.
- Obesity & weight reduction (while used by myself).
- Hyperglycemia & Diabetes

### Female Infertility

Diminished ovarian reserve (DOR) is a circumstance that causes infertility, basically in older women. Aartavakshaya, which may be correlated with DOR, has been defined as deficiency or loss of Artava dosha not acting in time, is delayed, or is scanty. DOR can arise in any condition in keeping with Ayurvedic varieties of Vandhyatva (inherent infertility). Shivlingi Beej promotes fertility and will increase the possibilities of having pregnant. It additionally enables to normalize the menstrual cycle if the

patient has mild periods with a touch blood waft. But if the patient has heavy blood drift for the duration of menstruation, then Shivlingi is contraindicated.

According to ayurvedic analysis, it's miles more beneficial if the affected person is obese or overweight and has absent menses, light menstruation, having a feeling of heaviness inside the decrease stomach and feeling of puffiness or swelling at some point of the premenstrual and menstrual duration. It is likewise beneficial if a female with infertility suffering from despair at the side of a sense of unhappiness and laziness, emotional eating, leucorrhoea, expanded sleep and swelling in legs or whole body. If the patient has thick mucus all through her length or yeast infection, then it's also most suitable. In such cases, Shivlingi should be utilized in most dosage.

Rasayan action of Shivlingi facilitates to synthesize purest Rasa dhatu eventually; Upadhatu Artava is shaped having required great for fertilization. Hypothetically the Rasayan karma in this regard can also act thru androgenic impact through DHEA<sup>[12]</sup>.

### Impotency and Oligospermia

In traditional medication, Shivlingi is used as an aphrodisiac. It is fertility booster for men too. It will increase masculinity and testosterone stage inside the body. It is considered as a capability testosterone booster. Due to this motive, it's far utilized in guys for treating impotence. Shivlingi seeds also have spermatogenic movement. Therefore, Shivlingi seeds enhance the spermatogenesis process and enhance the entire depend<sup>[13]</sup>. According to Ayurveda, Shivlingi seeds are best in cases of impotence and oligospermia if the affected person has excess Kapha Dosha or signs and symptoms of expanded or aggravated Kapha. Shivlingi reduces blockage of numerous channels in the frame by using clearing the extra Kapha and Ama. This mechanism additionally improves the delivery of nutrients to the testes and blood goes with the flow to male reproductive organs, which in the end helps to improve the process of spermatogenesis and treat impotence.

Action of ethanolic extract of seeds of Bryoniaciniosa Linn on male Albino rats showed androgenic hobby and results on hypothalamo-pituitary gonadal axis<sup>[8, 4, 15]</sup>.

Action becomes evaluated as follows.

1. Increase frame weight, testis, prostate, epididymis and seminal vesicle.
2. Increase in spermatogenesis.
3. Increases in sperm are counted.
4. Increase in fructose content material of seminal vesicle.
5. Increase in serum testosterone and LH.

Shivlingi has a rasayan and Vajikarana consequences by which the purest Shukradhatu is synthesized, for that reason helping with fertilization in instances of Oligozoospermia, Asthenozoospermia and Oligoasthenozoospermia. Shivlingi is hypothesized to deal with these situations through androgenic outcomes thru DHEA. In the case of Azoospermia, there's absence of sperm because of obstruction or failure of spermatogenesis, Obstruction may be relieved by means of remedy of Katu Rasa, Ushna Veerya and Rasayan effects that has reduced first-rate causing spermatogenesis.

### Conclusion

Various ethobotanical herbs were again and again used to treat

Infertility. Many of them have shown terrific consequences on treating infertility of either sex. Shivlingi is one such drug which offers an Ayurveda a top hand because of its twin effect for infertility remedy in both the sexes. The plant seeds are used by traditional healers for the reason that thousands of years. In spite of its extensive area of usage and its innumerable claims of effect on infertility, the information and literature concerning Shivlingi could be very limited. Hence clinical validation for its attributes and concepts is the need of hour. Infertility specialists, research pupils and scientists have an extensive scope to obtain in –intensity understanding of Shivlingi. This effort of the hypothetical assessment of anti –infertility action of Shivlingi may additionally form a base for in addition research and revalidation.

Studies record the extract of seed powder of Bryonopsis laciniosa show androgenic activity and its impact on hypothalamic pituitary gonadal axis. This essential interest can be due to androgens. Whether chemical composition of seed influences the extent of intercourse hormone desires to be investigated further.

Shivlingi (*Bryonopsis Laciniosa*) actually has a plethora of medicinal blessings and it holds pretty quiet a few promises as a multi –reason remedy but in addition clinical trials are needed to scientifically prove its efficacy.

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