

A SCIENTIFIC REVIEW ON MODE OF ACTION OF SHIVLINGI ON  
GARBHASTHAPANA W.S.R. TO CORRECTION OF HORMONAL CASCADEDr. Payal Sahuji<sup>1\*</sup>, Dr. Varsha Jadhao<sup>2</sup>, Dr. Ekta Singh Parihar<sup>3</sup> and Dr. Priyanka Hajare<sup>4</sup>PG Scholar<sup>1\*</sup>, Professor<sup>2</sup>, Assis. Professor<sup>3</sup>, Assis. Professor<sup>4</sup>Department of Prasuti Tantra Evum Stri Roga, Mansarovar Ayurvedic Medical College, Hospital and Research Center,  
Bhopal (M.P.)

\*Corresponding Author: Dr. Payal Sahuji

PG Scholar, Department of Prasuti Tantra Evum Stri Roga, Mansarovar Ayurvedic Medical College, Hospital and Research  
Center, Bhopal (M.P.). Email ID: [drpayalsahuji@gmail.com](mailto:drpayalsahuji@gmail.com)

Article Received on 31/05/2024

Article Revised on 21/06/2024

Article Accepted on 11/07/2024

## ABSTRACT

Infertility is a global health issue which affects millions of people of reproductive age worldwide. As per data, one in six people experiences infertility i.e., 8-12% couples of reproductive age worldwide & 15-20 million people of reproductive age in India. Infertility is inability to achieve pregnancy after 1 year or more of regular unprotected sexual intercourse. As, it causes psychological, physical, mental detriment to patients. Infertility occurs due to various factors, in which lifestyle & hormonal factors dominantly affect fertility in the current era. In these, the disorders of endocrine system causing an imbalance of reproductive hormones is one of the burning issues for infertility. In *Ayurvedic Samhitas*, *Acharyas* mentioned that normal *Garbhasambhava Samagri* results in *Garbhasthapana* but abnormalities in any one of them cause *Vandhyatva*. This *Samagri* may be correlated with hormonal cascade, as there are any abnormalities, the *Garbhasthapana* will not take place. Reviewing Infertility & role of *Shivlingi beej* in it through *Ayurvedic Samhitas*, commentaries, recent published books, research journals & modern science literature, the collection of data done to get co-relation between *Ayurveda* & Modern literature. *Shivlingi beej churna*, is unfamiliar & unnoticed medicine which shows great results in countering infertility as it corrects the imbalance of hormones & acts as *Garbhasthapaka*. An effort has been made in this paper to review scientifically & explain the role, advantages & positive results of *Shivlingi* as *Garbhasthapaka* in condition of disturbed hormonal cascade in both sexes. The uses of ayurvedic medicine promotes hormonal activity in body & improves stability. *Shivlingi* is very less commonly used medicine to treat infertility in both sexes. The amount of information given in ayurvedic texts about *Shivlingi* is so minimal. So, it shows the necessity of scientific verification of characteristics & principles of *Shivlingi*.

**KEYWORDS:** Infertility, *Garbhasthapaka*, Ovarian reserve, DHEA, *Shivlingi beej*.

## INTRODUCTION

In *Ayurvedic Samhita*, *Acharya* mentioned that natural conception happens only when *Garbhasambhava Samagri* is in healthy & normal condition. Because normal *Garbhasambhava Samagri* are the only factors responsible for *Garbhasthapana*<sup>[1]</sup>, when there are abnormalities in any one of them, it causes *Vandhyatava* (Infertility). So here we may correlate the *Beeja* in *samagri* as ovum or sperm which is the main factor for *Garbhasthapana*.<sup>[2]</sup>

Infertility is a global health issue which affects millions of people of reproductive age worldwide. As per data, one in six people experiences infertility i.e., 8-12% couples of reproductive age worldwide & 15-20 million people of reproductive age in India.<sup>[3]</sup> Infertility is inability to achieve pregnancy after 1 year or more of regular unprotected sexual intercourse.<sup>[4]</sup> Infertility occurs due to various factors, in which lifestyle &

hormonal factors dominantly affect fertility in the current era. In these, the disorders of endocrine system causing an imbalance of reproductive hormones is one of the burning issues for infertility.

In the event of Infertility, *Ayurveda* holds high esteem & great results in this field. As there are wide range of *Ayurvedic* drugs used in infertility in both sexes.

*Shivlingi* is traditional medicine and having a wide range of natural actions. *Shivlingi beej* was explained by *Bhavaprakasha* under *Punsavana Vidhi dravya*<sup>[5]</sup>, but its scientific mode of action is seen as anti-infertility, aphrodisiac and in correction of hormonal cascade.

As per *Tikakar Dalhana*, we can use *Punsavana Vidhi dravya* by three ways, in that they explained that, we can use those drugs before the existence of *Garbha* to conceive as *Garbha-prapti dravya* and also after

conception for establishment of pregnancy as *Garbhasthapaka dravya*.<sup>[6]</sup>

*Shivlingi* is one of the ingredients of '*Strirativallabhugpak*', which is described under *Vajikaranadhikar* by *Bhavprakasha*.<sup>[7]</sup>

In *Vanaspati shastra* also, they mentioned that swallowing the *Shivlingi beeja* with banana leads to *Garbhasthapana* in females.<sup>[7]</sup>

On the basis of this, *Shivlingi* can be use as *Garbhasthapak dravya* and *Garbhaprapti dravya*.

### AIM AND OBJECTIVE

1. To review & evaluate mode of action of *Shivlingi* in *Vandhyatva* in both male & female.
2. To interpret hypothetical action of *Shivlingi* in *Vandhyatva* in both male & female.
3. To review the action of *Shivlingi* on *beeja* factor of *Vandhyatva* in both male & female.

### METHODOLOGY

Reviewing Infertility & role of *Shivlingi beej* in it through Ayurvedic *Samhitas*, commentaries, recent published books, research journals & modern science literature, the collection of data done to get co-relation between *Ayurveda* & Modern literature.

### DISCRIPTION OF DRUG

#### Shivlingi

Latin name – *Bryonopsis Laciniosa Naud*.<sup>[8]</sup>

Family – *Cucurbitaceae*.<sup>[8]</sup>

Sanskrit synonyms - *Lingini, Bahupatra, Ishwari, Shaivamallika, Swayambhu, Amruta, Pandoli, Lingasambhuta, Lingi, Chitrphala, Lingaja, Devi, Chanda, Apstambhini, Shivaja, Shivavalli, Sutbandhini*.<sup>[9,10]</sup>

Rasa – *Katu, Tikta*

Virya – *Ushna*

Vipaka – *Katu*

Guna – *Laghu, Ruksha, Tikshna*

Doshaghna – *Kaphaghna*

#### Prabhava – Uterine tonic

Useful part – Seeds

Karma – *Rasayana*.<sup>[11]</sup>

**Medicinal properties** - Uterine tonic, Fertility booster, Aphrodisiac, Spermatogenic, Antioxidant etc.

#### Chemical composition

- 1) Punicic acid
- 2) Goniotalamin
- 3) Glucomannan

#### Indications

- Male infertility – due to Oligospermia (less in count), Asthenozoospermia (reduced spermatic

motility), Teratozoospermia (abnormal spermatic morphology).

- Impaired spermatogenesis.
- Female infertility – due to Imbalance in hormonal cascade, DUB, Tubal blockage, ovarian factors like PCOS, Diminished ovarian reserved.
- Obesity & weight loss.

#### Dosage<sup>[12]</sup>

The general dose of *Shivlingi beeja churna*.

1 to 3 gm twice a day for adult (max. 6gm per day) With milk

3 hours after a meal is best time to take it.

For minimum 3 months.

**Properties of Milk** (cow milk)- *Madhur rasatmak, Vrushya, Balvardhak, Vajikar, Rasayan, Bruhaniya, Jivaniya, Yoniroga & Shurkraroga nashak*.<sup>[13,14]</sup>

#### PREVIOUS WORK DONE

1. A Scientific Review on *Shivlingi Beej (Bryonia Laciniosa)*: A Mystical Ethno-Medicine for Infertility (August 2017) by Dr. Khyati Sud – Dhanwantari Ayurved College, Koydum, Virpur, Dist. Mahisagar, Gujarat Ayurved University, Jamnagar.
2. Role of *Shivlingi* in Infertility (2013) by Chaudhari VM, Avlaskar AD – SSAM, Pune.
3. A Review on *Shivlingi* Seeds for Infertility (2021) by Ritika Bhabhor – Sigma Institute of Pharmacy, Vadodara.
4. Super-critical fluid extract of *Bryonopsis laciniosa* (*Shivlingi*) seeds restores fertility in zebrafish models through revival of cytological and anatomical features (2022) by Acharya Balkrishna - Drug Discovery & Development Division, Patanjali Research Institute, Haridwar.

#### PROBABLE MODE OF ACTION OF SHIVLINGI BEEJA

##### Male Infertility

In *Ayurveda*, *Acharya Sushruta* explained the properties of *Shuddha Shukra & Dushta Shukra*. While explaining the 11 types of abnormalities (*dushti*) in *Shukra* (Beeja factor) *Acharya Sushruta* mentioned that, all those types of *Dushta Shukra* will be unable to fertilize and leads to *Vandhyatva*, it means *beeja* factor is crucial factor in process of conception.<sup>[15]</sup>

The infertility in male is seen due to impaired spermatogenesis, oligospermia, Asthenozoospermia, teratospermia i.e., impaired functioning in formation of sperm, low quantity & quality of sperm reported as major cases.

Infertility is linked to psychological stress which leads failure to reproduce, which indirectly affects spermatogenesis.

The prolonged psychological stress increases cortisol level in blood which further affects spermatogenesis and increased cortisol level may inhibits action of luteinizing hormones (LH), resulting in lower amount of testosterone and gonadotropins. It leads to impotence, oligospermia, teratospermia, premature ejaculation etc.

In those conditions, DHEA boosts the hormones and correct the cascade. DHEA (dehydroepiandrosterone) is an adrenal steroid that functions as indirect building block for other hormones & has androgenic (testosterone producing) and estrogenic (estrogen producing) action, depending on body's need & hormone balance.

DHEA supplementation can also help to restore levels of hormones that have been lost as a result of ageing, as well as providing other health advantages.<sup>[16]</sup>

*Shivlingi*, as previously stated, has androgenic effects and operates on the hypothalmo-pituitary gonadal axis and increase spermatogenesis, sperm count, serum testosterone & LH.

*Shivlingi* by its *Rasayana karma* treats those conditions by androgenic effects through DHEA. In the case of Azoospermia, there is absence of sperm due to obstruction or failure of spermatogenesis. This obstruction may be relieved by *Katu Rasa, Ushna Veerya, Tikshna Guna and Rasayana Karma* of *Shivlingi*.

*Shivlingi* also improves supply of nutrients to testes and blood flow to male reproductive organs, which ultimately helps to improve the process of spermatogenesis and treat impotence.

### Female Infertility

In female, infertility occurs due to imbalance of hormones and mainly due to Diminished Ovarian Reserve (DOR). Beeja factor of *Garbhasambhav samagri* is abnormal or we can say it's in less quantity. According to ayurvedic types of *Vandhyatva*, DOR can occur in any condition.

DOR not only occurs due to female aging, but also occurs as consequence of premature ovarian aging (POA).

Thus, here *Shivlingi beeja* acts as androgenic drug through DHEA. It also helps to patients with ovulation issues, which are common in DOR.

DHEA is naturally existing hormone in female body which converts into androgens, mainly testosterone. As we say androgens are male hormones, they present in both sexes. In female body they are essential for production and development of healthy eggs.<sup>[17]</sup>

So, the androgenic effect of *Shivlingi* boosts the DHEA supplementation which improves response to ovarian

stimulation with gonadotropins by increasing quality of eggs/ oocytes and numbers of embryo. It also reduces the chances of miscarriage rates and improves the chances of pregnancy in women with DOR.<sup>[18]</sup>

So, the *Rasayana karma* of *Shivlingi* work through androgenic impact via DHEA.

*Shivlingi* also beneficial in patients with overweight, scanty or absent menstruation, feeling heaviness or puffiness during premenstrual and menstrual period.

*Shivlingi beeja* helps to normalise the menstrual cycle if patient has scanty menses (*Artavkashaya*). *Rasayana* action of *Shivlingi* helps to synthesis purest *rasa dhatu* which further form purest *upadhathu artava*, of essential quality for fertilisation.

### DISCUSSION

In the management of infertility, it is difficult to find a cause as its pathologic process is often poorly understood and hence treatments need to be specific. In modern medical, infertility in female treated with protocol of Letrozole & Gonadotropins, but one of the studies revealed that these drugs leading to Neonatal morbidities including gestational diabetes & locomotor malformation. That's why we have to provide our best formulations with successful results in the field of infertility as it is burning problem of current fast & luxurious lifestyle of people.

*Shivlingi* have androgenic effect used to treat infertility and boosts hormone in both male and female. But *Shivlingi* is just undiscovered and unpublished yet because the information given in ayurvedic texts about *Shivlingi* is so minimal. That's why it shows necessity for scientific verification of its *Guna*, properties and characteristics and also need to done studies to prove the mode of action and evaluation of its effect in infertility of both sexes.

This effort of review evaluation of anti-infertility action of *Shivlingi* may give base for further research, revalidation and evaluation of its effect which shows the potency of drug and make it popular medication in the management of infertility in both female and male.

Management of infertility can be done by correcting the factors involved and affects the fertility. Modifying the lifestyle, avoiding stress and any other noticeable cause should be avoided. The right management and choice of drug helps to correct the factors which affects fertility. *Rasayana karma* and *Garbhasthapak Prabhava* of *Shivlingi* gives best outcome of the treatment by acting on imbalance hormonal cascade, on spermatogenesis, on ovulation process and also on menstrual cycle irregularities.

*Rasayana karma* and uterine tonic properties of *Shivlingi* gives best results in infertility mainly due to *beeja* factor

in both sexes. *Shivlingi* by *Rasa, Guna, Virya, Vipaka, Krama and Prabhava* works on hormonal cascade and balance them by boosting and correcting them.

### CONCLUSION

*Shivlingi* is effective on sperm and ovum factor i.e., *beeja* factor, which is important for *Garbhasthapana*; conception.

This single drug will be effective in male and female infertility by treating and correcting their hormones which further corrects the process of conception.

*Rasayana karma* and *prabhava* of *shivlingi* gives expected results in infertility concerned with hormonal imbalance and ovulation.

### REFERENCE

1. Ayurvediya Prasutitantra Evum Striroga, Part 1, Prasuti tantra by Dr. Premvati Tewari, Second edition, Chaukhamba Orientaliya, Varanasi, Page No. 88.
2. Ayurvediya Prasutitantra Evum Striroga, Part 1, Prasuti tantra by Dr. Premvati Tewari, Second edition, Chaukhamba Orientaliya, Varanasi, Page No. 87.
3. <https://bmcpublikealth.biomedcentral.com/articles/10.1186/s12889-023-16793-3#:~:text=Infertility%20is%20a%20major%20reproductive,accidentally%20lose%20their%20only%20child>
4. DC Dutta's textbook of Gynecology edited by Hiralal konar, jaypee brothers medical publishers, sixth edition, chapter 16- Infertility, page no. – 227.
5. Ayurvediya Prasutitantra Evum Striroga, Part 1 Prasuti tantra by Dr. Premvati Tewari, Second edition, Chaukhamba Orientaliya, Varanasi, Page No. 195.
6. Ayurvediya Prasutitantra Evum Striroga, Part 1 Prasuti tantra by Dr. Premvati Tewari, Second edition, Chaukhamba Orientaliya, Varanasi, Page No. 191.
7. Bhavprakasha, edited with vidyotini Hindi commentary by Pandit Shri Brahma Mishra, Chaukhamba Sanskrit Bhavan, Varanasi, Part 2, Athhottarkhandam, Vajikaranadhikar, Rativardhanyoga, Page no. 817,818.
8. Nighantu Adarsha by Bapalal Vaidya, Chaukhamba Bharati Academy, Varanasi, Part 1, Page no. 658.
9. Indian Medicinal Plants by Kirtikar & Basu, published by Lalit mohan basu, volume 2, Second edition, Page no. 1159.
10. Nighantu Adarsha by Bapalal Vaidya, Chaukhamba Bharati Academy, Varanasi, Part 1, Page no. 657.
11. Rajnighantu of Pandit Narahari edited with Dravyagunaprakashika Hindi commentary by Dr. Indradeva Tripathi, Chowkhamba krishnadas Academy, Varanasi, Guduchyadi varga, Page no. 36-37.
12. Rajnighantu of Pandit Narahari edited with Dravyagunaprakashika Hindi commentary by Dr. Indradeva Tripathi, Chowkhamba krishnadas Academy, Varanasi, Guduchyadi varga, Page no. 37.
13. <https://www.afdil.com/userfiles/b-laciniosa-in-infertility.pdf> A scientific review on Shivlingi beej: A myastical ethno medicine for infertility by Dr. Santwani Khyati & Dr. Sushant Sud (2017)
14. Sushrut Samhita of Maharshi sushruta edited with Ayurveda tattva sandipika Hindi commentary, by Kaviraj Ambikadutta Shastri, Part 1, Sharirsthana, Adhyaya – 2, Shukrashonitshuddhishariram, Page no. 11.
15. Textbook of gynecology and obstetrics by Dr. Punit Bhojani, page no. 212.
16. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9044614/> Super-critical fluid extract of Bryonopsis laciniosa (Shivlingi) seeds restores fertility in zebrafish models through revival of cytological and anatomical features (2022) by Acharya Balkrishna.
17. <https://www.nature.com/articles/ijir200962> Effects of Bryonia laciniosa seeds on sexual behaviour of male rats (2009) by N S Chauhan & V K Dixit.
18. Biljan MM, Hemmings R, Brassard N. The outcome of 150 babies following the treatment with letrozole or letrozole and gonadotropins. Fertil Steril, 2005; 84: S95.
- 19.