Role of Ayurvedic herbs in managing Shukra Dosha - A Review

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ABSTRACT

Ayurveda possesses a wealth of ancient and well-established theories aimed at achieving holistic physical, mental and social well-being. To comprehend Ayurvedic state of well-being, an individual must delve into the study of Dosha, Dhatu, and Mala. Ayurvedic texts outline seven Dhatu with Shukra being the seventh Dhatu, revered as the essence of all Dhatus. Recent studies have frequently indicated that despite men exhibiting favourable semen parameters, they may still face difficulties in conceiving after a prolonged period of unprotected intercourse. Ayurveda places significant emphasis on the preservation of both physical well-being and emotional contentment. In order to attain overall happiness and a harmonious existence, it becomes imperative to accomplish all life's objectives. The creation of offspring is an integral aspect of human life, alongside the pursuit of happiness. This abstract explores the role of Ayurvedic herbs in managing Shukra Dosha. Commonly used herbs include Musli, Kapikacchu, Jatiphla, Kupiulu etc. each offering unique benefits. Overall, Ayurvedic herbs present promising avenues for managing Shukra Dosha and improving overall reproductive health.

Key words: Shukra Dosha, Vajikarana, Shukra-Srutikaram, Shukra Pareeksha, reproductive tissues

INTRODUCTION

In the realm of Ayurveda, optimal health is achieved when the Dosha, Agni, Dhatu, Mala, and all other physiological processes are in a harmonious state of balance. Furthermore, the soul, sense organs, and mind must also be in a state of complete well-being.[1] Dhatus are seven in number, hence called as Sapta Dhatu. These are Rasa (plasma), Rakta (formed blood cells), Mamsa (muscle tissues), Meda (fatty tissues), Asthi (bone tissue), Majja (bone marrow and nervous tissues) and Shukra (reproductive tissues). Shukra is the seventh Dhatu, which is considered as essence of all Dhatus providing the body with power and vitality.[2] In its Prakrut Awastha (equilibrium form), Shukra Dhatu provides nourishment to the body & helps in reproduction, while in its Dushta Awastha (imbalance form), it can lead to various health issues related to fertility and sexual health. In traditional Ayurvedic practice, several herbs are recommended for balancing Shukra Dosha and promoting reproductive well-being. This article aims to review the efficacy and therapeutic potential of commonly used herbs in Ayurveda for addressing Shukra Dosha.

Concept of Shukra Dosha in Ayurveda

The Tridosha theory forms the foundation of Ayurveda. This theory is not only utilized to comprehend the physiology of the body but also to understand various pathologies. The Shukra Dushti, which pertains to the pathological conditions of semen, has been extensively...
elucidated in Ayurvedic classics. Charaka has expounded upon eight factors for the examination of Retas (semen), while Sushruta has provided insights into different pathological conditions related to semen. The analysis of semen is facilitated by the examination of all the Dusti Laxana.

Table 1: Shudha Shukra Lakshan

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Charaka</th>
<th>Shusruta</th>
<th>Astanga Sangraha</th>
<th>Astanga Hrdaya</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Shuklam (White)</td>
<td>Tailanibham Kshaudranibham (resembling oil or Honey)</td>
<td>Shuklam (White)</td>
<td>Shuklam (White)</td>
</tr>
<tr>
<td>Taste</td>
<td>Madhuram (Sweet)</td>
<td>Madhuram</td>
<td>Madhuram</td>
<td>Madhuram</td>
</tr>
<tr>
<td>Smell</td>
<td>Avisram (not having a bad odour)</td>
<td>Madhugandhi (Smell of honey)</td>
<td>Madhugandhi (Smell of honey)</td>
<td>-</td>
</tr>
<tr>
<td>Consistency</td>
<td>Bahalam (thick)</td>
<td>Dravam (fluid)</td>
<td>Saumyam (Jala predominant)</td>
<td>Guru (heavy)</td>
</tr>
<tr>
<td></td>
<td>Snighdham (unctuous)</td>
<td>Snighdham (unctuous)</td>
<td>Snighdham (unctuous)</td>
<td>Snighdham (unctuous)</td>
</tr>
<tr>
<td></td>
<td>Spathikabham (Crystalloid)</td>
<td>-</td>
<td>Bahalam (thick)</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 2: Shukra Dusti Lakshan according to Charak

<table>
<thead>
<tr>
<th>Dosha</th>
<th>Shukra Dusti</th>
<th>Modern Corelation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vata</td>
<td>Phenila</td>
<td>Frothy</td>
</tr>
<tr>
<td>Vata</td>
<td>Tanu</td>
<td>Low in Concentration (Oligospermia)</td>
</tr>
<tr>
<td>Vata</td>
<td>Ruksha</td>
<td>Highly alkaline semen</td>
</tr>
</tbody>
</table>

Table 3: Shukra Dusti Lakshan according to Shushrut

<table>
<thead>
<tr>
<th>Dosha</th>
<th>Shukra Dusti</th>
<th>Modern Corelation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vata</td>
<td>Vataja</td>
<td>Painful (Throbbing pain) ejaculation</td>
</tr>
<tr>
<td>Pitta</td>
<td>Pittaja</td>
<td>Painful (Burning pain) ejaculation</td>
</tr>
<tr>
<td>Kapha</td>
<td>Kaphaja</td>
<td>Low motility (Asthenozoospermia)</td>
</tr>
<tr>
<td>Rakta &amp; etc</td>
<td>Anya Dhatu sansrushta</td>
<td>Mixed with Blood (Hematospermia)</td>
</tr>
<tr>
<td>Vata Kapha</td>
<td>Avasadi</td>
<td>Low motility (Asthenozoospermia)</td>
</tr>
</tbody>
</table>

Importance of balancing Shukra Dosha

Shukra is the highest essence of Ahara Rasa. It is distributed throughout the entire body, with its primary function being reproduction (Garbhhotpadana) alongside nourishment of Oja. Oja plays a role in numerous physiological processes, such as regulating the immune system, providing neuroprotection, and influencing emotional processing. If Oja is destroyed or malfunctions, it can result in physiological changes and potentially lead to death.
A sound mental state is essential for the correct development of Shukra Dhatu. Hence for the proper functioning of reproductive hormones and the Oja, it is very important to keep Shukra Dhatu in balanced state.

**Table 4: Normal values (Lower reference limits) of semen analysis (World Health Organization, 2010)**[10]

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>$\geq 1.5 \text{ ml}$</td>
</tr>
<tr>
<td>Ph</td>
<td>$\geq 7.2$</td>
</tr>
<tr>
<td>Sperm concentration</td>
<td>$\geq 15 \times 10^6/\text{ml}$</td>
</tr>
<tr>
<td>Total sperm count per ejaculate</td>
<td>$39 \times 10^6$</td>
</tr>
<tr>
<td>Sperm morphology</td>
<td>$\geq 4.0%$ normal forms</td>
</tr>
<tr>
<td>Vitality</td>
<td>$\geq 58%$ live forms</td>
</tr>
<tr>
<td>White blood cells</td>
<td>$\leq 1.0 \times 10^6/\text{ml}$</td>
</tr>
<tr>
<td>Motility</td>
<td></td>
</tr>
<tr>
<td>Total motility (PR+ non PR)</td>
<td>$\geq 40%$</td>
</tr>
<tr>
<td>Progressive motility (PR)</td>
<td>$&gt; 32%$</td>
</tr>
<tr>
<td>Mixed antiglobulin reaction test</td>
<td>$&lt; 50%$ motile sperms with adherent particles</td>
</tr>
<tr>
<td>Immunobead test</td>
<td>$&lt; 50%$ motile sperms with bound beads</td>
</tr>
</tbody>
</table>

**Table 5: Biochemical variables of semen analysis (World Health Organization, 1992, 2010)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total fructose (seminal vesicle marker)</td>
<td>$\geq 13 \text{ µmol/ejaculate}$</td>
</tr>
<tr>
<td>Total zinc (prostate marker)</td>
<td>$\geq 2.4 \text{ µmol/ejaculate}$</td>
</tr>
<tr>
<td>Total acid phosphate (prostate marker)</td>
<td>$\geq 200 \text{ U/ejaculate}$</td>
</tr>
<tr>
<td>Total citric acid (prostate marker)</td>
<td>$\geq 52 \text{ µmol/ejaculate}$</td>
</tr>
<tr>
<td>Neutral glucosidase (epididymis marker)</td>
<td>$\geq 20 \text{ mU/ejaculate}$</td>
</tr>
<tr>
<td>Carnitine (epididymis marker)</td>
<td>$\geq 0.8 - 2.9 \text{ µmol/ejaculate}$</td>
</tr>
</tbody>
</table>

Ayurvedic approach to Shukra Dosha management

In Ayurveda, Shukra Dosha refers to an imbalance in the Tridosha. Management involves herbal remedies to restore balance. Here are some common approaches -

1. **Shukra Shodhak Dravya**

   They help to neutralize the Dosha & Roga manifesting in the Shukra Dhatu. For e.g.: Kokilaksha, Kaphthal, Kuth, Kandekshu, Vasuka, Kadamb Niryasa etc.

2. **Shukra Sthambak Dravya**

   They help in treating premature ejaculation which increase duration of sexual intercourse. For e.g.: Aakarkarabh, Jatiphal, Ahiphena etc.

3. **Vrishya Dravya (Aphrodisiacs)**

   Vrishya refers to any substance that possesses the qualities of being sweet, unctuous, promoting bulk, heavy (difficult to digest), and exhilarating. While Vrishya and Vajikarana are often used interchangeably, the former specifically pertains to the secretion of semen, whereas the latter relates to sexual potency, symbolized by the bull and the horse respectively.

**Classification of Vrishya Dravya (Aphrodisiacs)**

**Shukra-Vridhikaram** - Factors which increase the quantity of semen. For e.g.: Musali, Kapikacchu, Munjataka, Utangan, Makhana, Jeevak, Mashaparni etc.

**Shukra-Srutikaram** - Factors which induce the ejaculation of semen such as determination for sexual act. For e.g.: Kupilu, Bhallatak, Amla etc.

**Shukra-Sruti Vridikaram** - Factors which increase the ejaculation of semen and increase the quantity as well. For e.g.: Ksheera, Ghrita, Masha etc.[11]

**Table 5: List of Dravya reviewed for Shukra Dosha management.**

<table>
<thead>
<tr>
<th>S N</th>
<th>Dravya</th>
<th>Latin Name</th>
<th>Rasa</th>
<th>Guna</th>
<th>Vipa ka</th>
<th>Veerya</th>
<th>Action</th>
</tr>
</thead>
</table>
Review of Herbal drugs for Shukra Dosha

This review examines the efficacy and therapeutic potential of commonly used herbs in Ayurveda for addressing Shukra Dosha. Key herbs discussed include the following:

1) Musali (*Asparagus adscendens*)

The root of this plant is utilized in Ayurvedic medicine for its fertility-enhancing properties in both males and females.

**Probable mode of action in Ayurveda**

- **Musali** has Madhura Rasa & Madhura Vipaka which are Sarva Dhatu Vardhak so by anabolic action they act as Shukra Dhatu Vardhak, also Guru Guna is Brihan in nature acting as Dhatu Vardhak. They all ultimately nourish Oja.

- As Sheeta Veerya & Snigdha Guna are Saumya (Sheeta) in nature they help in maintaining consistency of semen by providing it with Snighdta, Bahalata, Saumyata, Guruta which are Shudh Shukra Lakshana.

- Madhura Rasa, Madhura Vipaka are Vata & Pitta Shamak. Due to Snigdha, Guru Guna & Sheeta Veerya it can also be given in Kshina Kapha. So Musali will act as Vata Pitta Nashaka and Kapha Vardhaka. Hence it can be given in following disorders:
  1. Tanu Shukra Dusti (Vata Dosha)
  2. Vivarana Shukra Dusti (Pitta Dosha)
  3. Ruksha Shukra Dusti (Vata Dosha)

**Mode of action & research study supporting herbal remedy**

One study in rats demonstrates the anabolic effects by AARR extract at 200 and 300 mg/kg doses indicating body and reproductive organ (testis, epididymis, ventral prostate, and seminal vesicle) weight gain. The testicular/epididymal function was evident by an increase in the testicular tubular diameter, spermatogenic germ cells (spermatids) population, DSP, and ESC in rats. Further, the extract also produced a significant increase in sexual behavioural aspects such as MF, IF, EL, and penile erections, and exhibited decreased ML, IL, and PEI in a dose-dependent manner in rat. Thus, the results of the study provide scientific rationale for traditional use of AARR extract as an aphrodisiac as well as for male sexual disorders.[20]

2) Kapikacchu (*Mucuna prurita*)

The seeds of this plant are considered to be aphrodisiac (Shukra-Vridhikaram).

**Probable mode of action in Ayurveda**

- Its Madhura Rasa & Madhura Vipaka are Sarva Dhatu Vardhak so by anabolic action they act as Shukra Dhatu Vardhak, also they ultimately nourish Oja. Snigdha & Guru Guna helps in maintaining consistency of semen by providing it with Snighdta, Bahalata, Saumyata, Guruta which are Shudh Shukra Lakshana.
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- Its Ushna Veerya helps in Agni Deepan and Pachana of Aama helping in clearing Shroto Dushti and facilitating Dhatu Poshan.

- Madhura Rasa, Madhura Vipaka, Ushna Veerya, Snigdha & Guru Guna all are Vata Shamak. Due to Snigdha & Guru Guna it can be given in Kshina Kapha. Due to Ushna Veerya, it can also be given in Kshina Pitta. So Kapikacchu will act as Vata Pitta Nashaka and Kapha Pitta Vardhaka. Hence it can be given in following disorders:
  1. Phenila Shukra Dusti (Vata Dosha)
  2. Painful (Throbbing pain), Ejaculation (Vata Dosha)
  3. Puti Shukra Dusti (Pitta Dosha)

Mode of action & research study supporting herbal remedy

Study in Human population demonstrated Mucuna pruriens stimulates the secretion of L-Dopa which converts to the Dopamine. This dopamine stimulates the Pituitary to secrete FSH and LH. With the help of LH, secretion of the Testosterone may occur. Improved level of Testosterone lead to improvement in spermatogenesis and performance. It will be helpful to upgrade the general health. Mucuna pruriens is also found to inhibit the secretion of high Prolactin; which is one of the causes in erectile dysfunction and thus it will help to improve the sexual drive.[21]

3) Munjataka (Orchis latifolia)

The bulbous rhizomes of Orchis latifolia are used traditionally in India.

Probable mode of action in Ayurveda

- Munjataka has Madhura Rasa & Madhura Vipaka which are Sarva Dhatu Vardhak so by anabolic action they act as Shukra Dhatu Vardhak, also Guru Guna is Brihan in nature acting as Dhatu Vardhak. They all ultimately nourish Oja.

- As Sheeta Veerya & Snigdha Guna are Saumya (Sheeta) in nature they help in maintaining consistency of semen by providing it with Snighdta, Bahalata, Saumyata, Guruta which are Shudh Shukra Lakshana.

- Madhura Rasa, Madhura Vipaka, Snigdha & Guru Guna are all Vata Shamak. Due to Sheeta Veerya, it is also Pitta Shamak. So Munjataka will act as Vata Pitta Nashaka. hence it can be given in following disorders:
  1. Kshina Shukra Dusti (PittaVata Dosha)
  2. Burning ejaculation (Pitta Dosha)

Mode of action & research study supporting herbal remedy

Study demonstrated that oral administration of Orchis latifolia in male albino rats notes a significant increase in serum testosterone post treatment. The greatest effects were observed at a dose of 200 mg/kg body weight, providing concomitant increases in body mass, reproductive organ mass, and sexual behaviour. Interestingly, improvements to spermatogenesis were also noted via histological examination of the testicular tissues.[22]

4) Utangan (Blepharis edulis)

The seeds of this plant are considered to be aphrodisiac (Shukra-Vridhikaram).

Probable mode of action in Ayurveda

- Its Madhura Rasa & Madhura Vipaka are both Sarva Dhatu Vardhak so by anabolic action they act as Shukra Dhatu Vardhak, also they ultimately nourish Oja. Snigdha Guna helps in maintaining consistency of semen. Guru & Picchila Guna are Brihan in nature acting as Sarva Dhatu Vardhak.

- Its Ushna Veerya helps in Agni Deepan and Pachana of Aama helping in clearing Shroto Dushti and facilitating Dhatu Poshan.

- Madhura Rasa, Madhura Vipaka, Snigdha, Guru Guna & Ushna Veerya are all Vata Shamak so it can be given in Vataj Shamak. So Utangan will act as Vata Nashaka. Hence it can be given in following disorders:
  1. Ruksha Shukra Dusti (Vata Dosha)
  2. Granthibhuta Shukra Dusti (Sleshma Vata Dosha)
Mode of action & research study supporting herbal remedy

Study indicated that the ethanolic extract of **Blepharis edulis Linn.** (family Acanthaceae) produced a significant and sustained increase in hormonal levels of testosterone indicating for the sexual activity of normal male mice without any adverse effects.[23]

5) **Kokilaksha (Asteracantha longifolia)**

The seeds of this plant are considered to be aphrodisiac (Shukra-Shodhak).

Probable mode of action in Ayurveda

- **Kokilaksha has Madhura Rasa & Madhura Vipaka** which are Sarva Dhatu Vardhak so by anabolic action they act as Shukra Dhatu Vardhak, also Guru & Picchila Guna is Brihan in nature acting as Dhatu Vardhak. They all ultimately nourish Oja.

- As its Sheeta Veerya & Snigdha Guna are Saumya (Sheeta) in nature they help in maintaining consistency of semen by providing it with Snighdta, Bahalata, Saumyata, Guruta which are Shudh Shukra Lakshana.

- **Madhura Rasa & Madhura Vipaka are Vata & Pitta Shamak**, So Kokilaksha will act as Vata Pitta Nashaka. Hence it can be given in following disorders:
  1. Vivarana Shukra Dusti (Pitta Dosha)
  2. Leukospermia (Pitta Dosha)
  3. Teratozoospermia.

Mode of action & research study supporting herbal remedy

A study in male rats showed that ethanolic extract exhibited pronounced anabolic effects in treated animals, as evidenced by gains in the body and reproductive organ weights. Increased spermatogenesis due to treatment with extracts were also witnessed in transverse section. The treatment further markedly affected sexual behaviour of the animals, as reflected by the reduction of ML (Mount Latency), increase in MF (Mount Frequency) and enhanced attractability towards females. A significant increase in the sperm count as well as fructose levels of seminal vesicles were noted.[24]

Here Kokilaksha act’s Shukra Shodhan by increasing the fructose content in the sperm count. As fructose is an indispensable liveliness resource for metabolism and motility of sperm.

6) **Aakarkarabh (Ancyclus pyrethrum)**

The roots of this plant are considered to be aphrodisiac (Shukra-Sthambhak).

Probable mode of action in Ayurveda

- Its **Katu Rasa is Vayu & Agni Mahabhuta Pradhana** which are Laghu & Ruksh in nature. Aakarkarabh also has Ruksh Guna in its property which help in Dhatu Shoshan i.e., Shukra Shoshan correcting Taral Veeryata present in pre mature ejaculation.

- Its **Ushan Veerya is Agni Mahabhuta Pradhan** which is opposite to Shudh Shukar Lakshana of Saumyata here Ushan Veerya again helps in Shukra Shoshan, pacifying the Vata Dosha present in Shukra Gata Vata (Pre mature ejaculation).

- Due to its **Katu Rasa, Katu Vipaka & Ushan Veerya** it acts as Kapha Vata Nashaka. Hence it can be given in following disorders:
  1. Pre-Mature Ejaculation (Shukra Gata Vata)
  2. Swapan Dosha.
  3. Avsadi Shukra Dusti (Vata Kapha Dosha)

Mode of action & research study supporting herbal remedy

A study showed that the treated male rats were more receptive and oriented towards female rats and showed increased precopulatory activity. The penile erection index was significantly increased with reduction in mount latency and intromission latency period. There were four-fold increase in mount and three-fold increase in intromission frequency in treated rats reflecting improved sexual performance.[25]

7) **Jatiphal (Myristica fragrans Houtt)**

The Seeds of this plant are considered to be aphrodisiac (Shukra-Sthambhak).
Probable mode of action in Ayurveda

- Its Tikta, Katu Rasa are Vayu & Aakash; Vayu & Aagni Mahabhuta Pradhana respectively, which are mainly Laghu and Ruksh Guna predominant. These two act as Dhatu Shoshak i.e., Shukra Shoshak correcting Taral Veeryata present in premature ejaculation.

- The Shukra Stambhaka property is increased by virtue of decreasing Saratva (responsible for Prerana) of the Shukra Dhatu and enhancing Shhiratva (which favors Dharana), helps in the retention of semen for a longer duration.

- Due to its Tikta, Katu Rasa, Katu Vipaka & Ushan Veerya it acts as Kapha Vata Nashaka. Hence it can be given in following disorders:
  1. Pre-Mature Ejaculation (Shukra Gata Vata)
  2. Swapan Dosha.
  3. Avsadi Shukra Dusti (Vata Kapha Dosha)

Mode of action & research study supporting herbal remedy

Oral administration of the extract at the dose of 500 mg/kg, produced significant augmentation of sexual activity in male rats. It significantly increased the Mounting Frequency, Intromission Frequency, Intromission Latency and caused significant reduction in the Mounting Latency and Post Ejaculatory Interval. It also significantly increased Mounting Frequency with penile anaesthetisation as well as Erections.[26]

8) Kupilu (Strychnos nuxvomica)

The Seeds of this plant are considered to be aphrodisiac. (Shukra-Srutikaram)

Probable mode of action in Ayurveda

They act by irritation on the Shishindriya.[27]

Clinical Evidence Supporting Herbal Remedy

- They work by stimulation of sex centre in spinal cord as ejaculatory response is the efferent (motor) component of a spinal reflex.[28]

CONCLUSION

Ayurvedic herbs offer valuable support in managing Shukra Dosha by promoting spermatogenesis, decrease in mount latency, increased libido, delayed ejaculation in PME, preventing exhaustion during intercourse, alleviate symptoms, and maintain reproductive health.

These herbal drugs can be classified into following categories:

1) Shukra Janak/Shukra Vridhikaram/Shukraal

Some of these drugs help in spermatogenesis by acting directly on epididymis or indirectly by acting on hormonal level. From our study it can be concluded that these drugs mainly have Madura Rasa, Guru, Snigdha Guna & Madhura Vipaka.

2) Shukra Pravartak/Shukra Srutikaram

These drugs do not increase the quantity of Shukra but helps in its ejaculation. Some of them act directly by stimulation of sex centres in the spinal cord; by activation of sympathetic system with visual, auditory stimulations or indirectly by causing irritation in the bladder.

3) Shukra Janka Pravartak/Shukra Vridhi Shrutilakaram

They act as both to increase the sperm count and also help in ejaculation.

4) Shukra Sthaban

They help in stopping premature ejaculation (PME). From our review we studied that, they mainly have Katu Rasa, Katu Vipaka, Laghu Guna & Ushana Veerya.

5) Shukra Shodhan

Shodhan means to pacify the abnormal constitution of semen. Shukra Shodhan Gana by Acharya Charaka have mainly Tikta, Kashaya Rasa and Katu Vipaka but from our review we studied that Kokilaksha having Madhura Rasa & Madhura Vipaka can also act as Shukra Shodhan.

Apart from using these drugs in Shukra Dosha Treatment. Incorporating these herbs singly or in combination to one’s daily lifestyle can contribute to improved health and overall well-being as they are Balya, Vrisya & Brihan in nature.
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