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Review Article

ASSESSMENT OF VRISHYA DRUGS OF MADHURASKANDHA W.S.R TO APHRODISIAC ACTIVITY

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ABSTRACT

The sustainers of the body, *Saptadhatu* and their respective *agnis* undergo metabolic transformation in two ways, viz. *Kitta-paka* and *Prasada-paka*. Therefore, last *dhatu Shukra* does not have *Kitta-paka* at all after transformation. It nourishes the foetus. When *Shukra* gets vitiated due to some etiological factors, it leads to diseases like infertility, loss of libido, premature ejaculation etc. It's a common issue among couples dealing with sexual dysfunctions like erectile dysfunction starts with failures of sexual advances. When a man cannot satisfy his own partner's sexual needs, he can feel devastated and alone. From this cascade of events, the couple starts to alienate themselves emotionally and physically. Likewise, the long term use of medicaments for sexual dysfunction may lead to symptoms like headache, dizziness, flushing etc. Hormonal therapy may have side effects like mild fluid retention, increases risk of heart attacks and stroke, changes in cholesterol and lipid levels. The need of an hour is to adopt the therapy having fewer side effects on its prolonged use.

In Ayurveda, these conditions can be managed by *Samshodhana* (Purification of body) and *Rasayana* (Rejuvenation), *Vajikarana* (aphrodisiac) therapies. The drugs having *Madhura*, *Sheeta*, *Guru*, *Jeevaniya*, *Brihamniya* properties can be considered as *Vrishya*. Acharya Charaka had described about classification of drugs based on Rasa known as *Rasaskandha*. In the present study, *Madhuraskandha* had been taken into consideration as drugs having *Madhurarasa* or *Madhuravipaka* or *Madhuraprabhava* have *Rasayana* or *Shukrala* or *Vrishya* activities, which can be used for the management of seminal morbidities. The analysis of the *Madhuraskandha* drugs showed that, among 85 drugs of *Madhuraskandha*, in total 14 drugs are having *Vrishya* and 12 drugs possessing *Shukrala* activity. These drugs can be administered in the management of sexual dysfunction and to increase spermatogenesis. The drugs having *Balya* activity can be used as generalised tonic for healthy body. There are in total 18 drugs are having *Balya* activity. Recent research works showed that 13 drugs are aphrodisiac and 6 drugs have anti-fertility activity. The pharmaceutical sciences reported that the drugs with flavonoids, alkaloids, xanthine, and phenols may show aphrodisiac activity. It can be concluded that apart from *Vajikara* drugs, the drugs mentioned in the *Madhuraskandha* can be used for the management of sexual dysfunctions.

Keywords: *Madhuraskandha*, *Vrishya*, *Rasayana*, Sexual dysfunction.

INTRODUCTION

Sexual dysfunction is the difficulty experienced by an individual or a couple during any stage of a normal sexual activity, including physical pleasure, desire, preference, arousal or orgasm. Sexual dysfunctions can have a profound impact on an individual's perceived quality of sexual life¹.

The semen which is *Snigdha* (unctuous), *Ghana* (dense), *Pichhila* (Slimy), *Madhura* (Sweet), *Avidahi* (non-irritating) and *Sphatikanibha* (Transparent, white in colour) is known to be pure or normal semen².

Acharya Charaka had mentioned etiological factors for vitiation of *Shukra* as excessive and untimely sexual intercourse, intake of unwholesome, ununctuous, bitter, pungent, astringent and salty food; suppression of natural urges; injury to and vitiation of *Dhatu*s; psychological factors like anger, fear, worry, grief and lack of confidence³. He explained about eight types of morbidities of *Shukra* i.e. *Phenila* (frothy), *Tanu* (Thin), *Ruksha* (Ununctuous), *Vivarna* (Discoloured), *Puti* (foul smelling), *Pichhila* (slimy), *Anyadhatu upasamsrushta* (semen mixed with other tissue like blood) and *Avasadi* (sinking to the bottom when placed in water). Among them first three symptoms may be due to

vitiating of *Vata*, later two may be because of vitiating of *Pitta dosha* and *Avasadi* is due to *Kapha* vitiating.

According to *Dosha* dominance, *Vata* vitiating *Shukra* can be alleviated by *Niruha* and *Anuvāsana Basti*, for *Pitta Vitiating*, *Abhaya-amalaki Rasayana* and for *Kapha dosha vitiating*, *Pippali rasayana*, *Amalaki Rasayana*, *Loha-rasayana*, and *Bhallataka Rasayana* can be used⁴.

General treatment for *Shukradosha* includes aphrodisiac recipes, therapeutic measures of *Raktapitta* (Blood disorders) and *Yoni-vyapad* (Genital disorders); *Chyavanprasha* and *Shilajatu*⁵. Other *Shukrala* and *Vrishya* dravyas like *Ghee*, *Dugdha*, *Mamsarasa*, *Shali*, *Yava*, *Godhuma*, *Shashitika* can be used as *Pathya-ahara*⁶.

Acharya Charaka had mentioned classification of drugs based on *Rasa* in the context of *Asthapana bastidravya* known as *Rasaskandha*. He included the drugs basing on *Rasa* as well as *Vipaka* and *Prabhava*. *Madhurarasa dravya* has *Preenana* (soothing), *Jeevaniya* (invigorating) and *Brihmaniya* (nourishing) properties. They bring about stability and can be used in management of emaciation and consumption. They possess *Snigdha* (unctuous), *Guru* (heavy to digest), *Sheeta* (cold) properties⁷. *Madhura vipaka* aggravates *Kapha*, increases *Shukra* (promotes semen) and helps in the proper elimination of stool and urine⁸.

Aphrodisiac activity in Ayurveda:

The word Aphrodisiac is derived from “Aphrodite” the Greek goddess of love. By definition aphrodisiacs are the substance, which stimulate sexual desire (Greek-Aphrodisiakos-sexual)⁹. The factors which make a man capable of entering into sexual intercourse with woman with stallion vigour and which make him capable of performing excessive sexual intercourse are called as *Vajikarana* e.g. sexually excited female partner¹⁰. All the objects of sense found in the person of a woman evoke the maximum delight in men.

The *dravyas* which are *Madhura* (sweet), *Snigdha* (Unctuous), *Jeevaneeya* (invigorating), *Brihmana* (bulk forming), *Guru* (Heavy to digest), which can cause *Harsha* (excitement) can be called as *Vrishya*¹¹.

The man becomes capable of not only for sexual intercourse with stallion vigour but also perform sex act repeatedly by resorting to aphrodisiac therapy. There are three types of aphrodisiac drugs like *Shukravridhikara* (factors which increase the quantity of semen, e.g. Black gram), *Shukrasritikara* (factors which induce the ejaculation of semen, e.g. determination of sexual act), *Shukrasritivridhikara* (factors which can do both the functions, e.g. milk)

Pharmacological activities related to Shukra:

Acharya Sharangdhara¹² and Charaka¹³ had described different pharmacological activities related to *Shukra*:

1. *Vajikara*: It is aphrodisiac, improves sexual desire. E.g. Nagabala, Kapikachhu
2. *Shukrala*, *Shukrajanana*: It improves quantity of semen. E.g. Ashwagandha, Mushali, Sharkara, Shatavari and Shukrajanana Dashemani
3. *Shukrapravartaka- Rechaka*: It stimulates production of semen and helps in ejaculation. E.g. Dugdha, Masha, Bhallataka & Amalaki majja
4. *Shukrarechaka*: induce ejaculation of semen. E.g. Women, Brihatiphala

5. *Shukrastambhaka*: Delays time of ejaculation. E.g. Jatiphala

6. *Shukrashoshana*: Reduces quantity of semen. E.g. Haritaki

7. *Shukrashodhana*: Purification of semen. E.g. Kushta, Elavaluka etc.

Significance of Vajikarana:

A person devoid of sexual potency regains potency through *Vajikarana* therapy. He can earn *Dharma* (Righteousness), *Artha* (Wealth), *Preeti* (Love), and *Yasha* (Fame) through this therapy which enables him to procreate children. Between *Rasayana* and *Vajikarana* therapy, the former one is more useful than latter. Therefore the person, who seeks *Vajikarana* therapy, should undergo *Rasayana* therapy as it is primary desire. The main objective of this therapy is to enable a person to reproduce progeny who can help him to perform *Dharma* (virtuous act)¹⁴.

Keeping in the view, the functions of *Madhurarasa* and *Madhuravipaka dravya* included in the *Madhuraskandha*, the review of the *Madhuraskandha's* drugs have been made basing on its *Rasa*, *Veerya*, *Vipaka*, *Guna*, and *Prabhava*; action and relevant research activities like antioxidant, aphrodisiac activities, which can be administered in seminal morbidities and sexual dysfunctions.

MATERIALS AND METHODS

The commentaries on Charakasamhita (Ayurvedadipika, Jalpakalpataru, Charakopskara) were consulted to interpret the source of drugs of *Madhuraskandha*. For proper identification of the drugs ‘Glossary of vegetable drugs in Bruhatrayi’ by Thakur Balawat Singh was referred. Different Karmas attributed to *dravyas* were reviewed from Dhanvantarinighantu, Bhavaprakashanighantu, Rajanighantu, Kaiyadevanighantu and Priyanighantu. Internet browsing from Google scholar, PubMed was done to find out reported aphrodisiac activity of the drugs.

RESULTS AND DISCUSSION

Madhuraskandha of Charakasamhita incorporates in total 85 drugs. Among them, 68 drugs are identified, 14 are unidentified and 3 are controversial drugs. There are in total 62 drugs which are botanically identified as some drugs have similar botanical source¹⁵. E.g. *Atibala*, *Kulingakshi*, *Rishyaprokta* and *Sahadeva* belong to *Abutilon indicum*.

Among 85 drugs, in total 14 drugs attributed with *Vrishya* activity, i.e. *Bharadvaji*, *Sharamoola*, *Gundra*, *Ikshu*, *Rajadana*, *Kapikachhu*, *Mridvika*, *Samharsha*, *Gokshura*, *Eranda*, *Kshudrasaha* (Kumari), *Chhatra*, *Shringataka*, *Prishniparni*¹⁵.

In total 12 drugs possess *Shukrala* activity i.e. *Gopavalli*, *Rajakshavaka*, *Talamastaka*, *Madhulika*, *Yashtimadhu*, *Madhookapushpi*, *Shatavari*, *Vrischira*, *Ashwagandha*, *Kshiravidari*, *Vidari*, *Mudgaparni*¹⁵.

Ten drugs like *Jivanti*, *Shalaparni*, *Guduchi*, *Vidari*, *Kshiravidari*, *Kshudrasaha*, *Ashwagandha*, *Samharsha*, *Shatavari* and *Hansapadi* are attributed with *Rasayana* activity¹⁵.

There are 18 drugs possessing *Balya* activity. They are *Jivanti*, *Guduchi*, *Bala*, *Atibala*, *Vidari*, *Kshiravidari*, *Kshudrasaha*,

Ashwagandha, Vrishchira, Gokshura, Shatavari, Madhookapushpi, Yashtimadhu, Kharjura, Kapikachu, Rajadana, Ikshu, and Shali¹⁵.

There are in total 19 drugs evaluated for aphrodisiac activity (13 drugs) as well as anti-fertility activity (6 drugs). These drugs are tabulated in Table 1.

Table 1 List of the Madhuraskandha drugs having aphrodisiac activity

No	Drugs	Botanical source	Rasa & Vipaka	Karma (Dh.Ni, Bh.Ni, R.Ni, K.Ni, P.Ni)	Part used	Experimental model
1.	Jivanti	<i>Leptadenia reticulata</i> W.&A.	Rasa: Madhura Vipaka: Madhura	Rasayani, Balakari, Chakshushya	Methanolic and chloroform extracts of Whole plant	In Stress induced sexual dysfunction by acting on HPA/HPG axis ¹⁶
2.	Tamalaki	<i>Phyllanthus amarus</i> Schum. &Thonn. <i>Phyllanthus fraternus</i> Webster.	Rasa: Tikta, Kashaya, Madhura Vipaka: Katu	-	Whole plant	Improvement in penile erection by increasing cGMP level in penile tissue of guinea pig ¹⁷
3.	Chhinnaruha	<i>Tinospora cordifolia</i> (Willd.) Miers ex Hook. f. &Thoms.	Rasa: Tikta, Kashaya; vipaka Madhura	Rasayani, Balya, Deepaniya	Hydro-alcoholic extract of Stem	Increase in copulatory sexual behaviour i.e. Mating performance, latency of mounting ¹⁸
4.	Chhatra Ikshuvatika	<i>Asteracantha longifolia</i> Nees	Madhura, Amla, Tikta Rasa; Madhura vipaka	Vrishya	Ethanollic extract of Seeds	Anabolic effect, increased spermatogenesis ¹⁹
5.	Shravani	<i>Sphaeranthus indicus</i> Linn.	Rasa: Tikta, Madhura; Vipaka: Katu	Medhya	Root	Aphrodisiac activity ²⁰
6.	Vidari	<i>Pueraria tuberosa</i> DC.	Rasa: Madhura Vipaka: Madhura	Brimhani, Stanya-shukrada, Mootrala, Jivaniya, Balavarnakara, Rasayani	Ethanollic extract of Tuber	Androgenic activity ²¹
7.	Ashwagandha	<i>Withania somnifera</i> Dunal.	Rasa: Katu, Tikta, Vipaka: Katu	Atishukrala, Balya, Rasayani	Root	Sperm count increases ²²
8.	Vrischira	<i>Trianthema portulacastrum</i> Linn.	Rasa: Katu, Kashaya Vipaka: Katu	Chakshushya, Balya, Varnya, shukrala, keshya, Svarya	Stem, Leaves, Root	Abortifacient, Estrogenic activity ²³
9.	Punarnava	<i>Boerhavia diffusa</i> Linn <i>B. repens</i> <i>B. rependa</i>	Rasa: Katu, Kashaya Vipaka: Katu	Grahi	Aqueous extract of leaves	Produced adverse effects in semen and testicular morphology of the rats ²⁴
10.	Urubuka	<i>Ricinus communis</i> Linn.	Rasa: Madhura Vipaka: Madhura	Vrishya	Aqueous and methanolic extracts of root bark	Uterine tissue contractility increases ²⁵
11.	Shvadranshta	<i>Tribulus terrestris</i> Linn.	Rasa: Madhura, Tikta; Vipaka: Tikta	Deepana, Vrishya, Pushtida, Balya	Aqueous extract of dried fruits	Improvement in the sexual behaviour and sr.testosterone level ²⁶
12.	Shatavari	<i>Asparagus racemosus</i> Willd.	Rasa: Madhura, Tikta; Vipaka: Madhura	Rasayani, Shukra-stanyakari, Balya, Netrya	Hydro-alcoholic extract of Tuber	Increased in copulatory sexual behaviour and mounting in rats ²⁷
13.	Yashtimadhu	<i>Glycyrrhiza glabra</i> Linn	Rasa: Madhura Vipaka: Madhura	Chakshushya, Balya, Varnya, Shukrala, Keshya, Svarya	Aqueous extract of root	Increase in copulation time, fecundity and fertility by <i>D. melanogaster</i> flies ²⁸
14.	Mridvika	<i>Vitis vinifera</i> Linn	Rasa: Madhura; Vipaka: Madhura	Chakshushya, Brimhani, Vrishya, Svarya	Hydro-alcoholic extract of Leaves	Sperm motility and spermatogenesis decreases ²⁹
15.	Kharjura Kharjuramastaka	<i>Phoenix sylvestris</i> Roxb.	Rasa: Madhura, Kashaya; Vipaka: Madhura	Ruchya, Tarpana, Balya	Pollen suspension	Improves sperm morphology ³⁰
16.	Aatmagupta	<i>Mucuna pruriens</i> DC	Rasa: Madhura Tikta; Vipaka: Madhura	Vrishya, Brihmaniya Balya	Seed powder	Stress induced infertility, Improves semen quality ³¹
17.	Pushkara-beeja	<i>Nelemubo nucifera</i> Hook.f	Rasa: Madhura, Kashaya; Vipaka: Madhura	Garbha-samsthapaka	Seed	Decreased sexual behaviour ³²
18.	Hansapadi	<i>Adiatum lunulatum</i> Burn	Rasa: Katu; vipaka: Katu	Rasayani	Alcoholic extract of whole plant	Anti-implantation ³³ , Anti-fertility activity ³⁴
19.	Kapotavalli	<i>Elettaria cardamomum</i> Maton	Rasa: Katu, Tikta; Vipaka: Katu	-	Seed extract	Spermicidal activity ³⁵

[Dh.Ni- Dhanvatarinighantu, Bh.Ni- Bhavaprakashanighantu, R.Ni- Rajanighantu, K.Ni- Kaiyadeavanighantu, P.Ni- Priayanighantu]

Male sexual dysfunction can be caused by various factors stress, anxiety, androgen deficiency, chronic metabolic diseases, penile disease, neurological diseases like Parkinsonism's disease, Alzheimer's disease, drug abuse like anti-hypertensive, addictions like alcohol and tobacco and other systemic diseases like cardiac, hepatic disorders. The sexual dysfunction includes problems related to ejaculation (pre-mature or delayed ejaculation), erectile dysfunction, disorders of orgasm, failure of detumescence³⁶.

Based on mechanism of action, aphrodisiacs can be divided into three categories: sexual behaviour depends on neurochemicals, Nitric oxide (NO) mechanism and androgen based mechanism. Drugs affecting sexuality can either act on the central nervous system (Brain) and/or on the peripheral nervous system. Five major neurochemically distinct systems are supposed to work together for increasing sexual arousal. They are norepinephrine, dopamine, serotonin, acetylcholine, and histamine. Dopamine plays a crucial role in the central control of sexual behaviour in males. Recent studies suggest that NO is a major physiological stimulus for relaxation of penile vasculature and trabecular smooth muscle, essential for penile erection. Androgens play a crucial role in the development of secondary male sexual organs such as the epididymis, vas deferens, seminal vesicle, prostate, and the penis³⁷. Hence drug acting on neurochemical may have *Vajikara*, *Vrishya* activity, the drugs acting through NO mechanism may have *Shukrapravartana*, *Shukrasriti*, *Shukrarechaka* properties and drugs action hormones (Androgen) may be of *Shukrala*, *Shukrajanana* activities.

Aphrodisiac drugs provide nourishment to *Shukradhatu* by virtue of their *Prabhava* (factor responsible for the specific or inexplicable action)³⁸. Majority of the drugs listed in table are having *Madhura rasa* or *Madhura vipaka* except *Tamalaki*, *Ashwagandha*, *Vrischira*, *Punarnava*, *Hansapadi* and *Ela* which possess *Katu*, *Tikta*, *Kashaya rasa* or *Katu vipaka* but have *Rasayana* and *Vrishya* properties. These drugs act through their *Madhuraprabhava* (the drugs show actions as that of *Madhurarasa* or *Madhuravipaka*, though they do not possess it)³⁹.

Among the 19 aphrodisiac drugs, *Mundi* may act as aphrodisiac; *Tamalaki*, *Guduchi*, *Shatavari*, and *Yashtimadhu* may be acting on penile vasculature, smooth muscles; *Jivanti*, *Kokilaksha*, *Vidari*, *Ashwagnadha*, *Kapikacchu*, and *Kharjura* may be functioning on hormonal level like testosterone. Among 85 drugs of *Madhuraskandha*, in total 57 drugs are reported for their antioxidant activity, which can be used as generalised tonic in sexual dysfunctions.

Vrischira, *Punarnava*, *Mridvika*, *Hansapadi*, *Padmabeeja* and *Ela* act as anti-fertility agent. It can be used as contraceptive agents. The benefits can be achieved by reducing the number of unplanned pregnancies that subsequently result in unsafe abortions and by preventing pregnancies in those at high risk, which ultimately result in production of healthy progeny.

In this way, these drugs can be used in various semen morbidities. According to *dosha* dominance, the drugs having *Madhura rasa* or *Ushna veerya* or *Guru*, *Snigdha* attributes can be used in *Vata* dominant conditions, e.g. *Jivanti*, *Vidari*, *Kapikacchu*; The drugs attributed with *Madhura*, *Tikta rasa* or *Sheeta Veerya* or *Snigdha*, *Sheeta guna* can be administered in

Pitta dominant condition, e.g. *Guduchi*, *Shatavari*, *Tamalaki*, *Yashtimadhu* and *Katu*, *Tikta*, *Kashaya rasa* or *Ushna Veerya* or *Laghu*, *Ushna*, *Ruksha guna* can be used for *Kapha* dominant semen morbidities, e.g. *Kokilaksha*, *Mundi*. For *Shukrajanana Karma*, one can administer the drugs having *Madhura rasa*, *Sheeta veerya* and *Guru*, *Snigdha*, *Manda* attributes. The drugs with *Katu*, *Tikta rasa* or *Ushna Veerya* or *Laghu*, *Snigdha* attributes may be used for *Shodhana* (purification of semen) purpose.

The compounds responsible for aphrodisiac activity can be separated into three main groups, according to structures similarities: flavonoids and others phenolics compounds; alkaloids, xanthis and others amines; and saponins⁴⁰. The above mentioned drugs contain alkaloids e.g. *Ashwagandha*⁴¹, *Guduchi*⁴²; flavonoids e.g. *Jivanti*⁴³, *Tamalaki*⁴⁴, *Yashimadhu*⁴⁵ and Saponin glycosides e.g. *Shatavari*, *Gokshura*⁴⁶ which may be responsible for their aphrodisiac and antioxidant activity.

CONCLUSION

Charaka's *Madhuraskandha* consists of 85 drugs; among them 14 drugs are attributed with *Vrishya* activity and 13 drugs are reported for their aphrodisiac activity and 6 drugs for anti-fertility activity. These drugs act through their *Madhurarasa*, *Madhuravipaka* or *Madhuraprabhava*. The drugs can be used for the management of seminal morbidities according *dosha* dominance. The drugs having *Balya*, *Vrishya*, *Shukrajanana* or *Shukrala*, *Shukrashodhana*, *Vayasthapana* activities can be used in the management of seminal disorders, sexual dysfunction and infertility. The phyto-constituents like alkaloid, flavonoids, saponin may help to exert aphrodisiac, antioxidant activities. The drugs of *Madhuraskandha* can be used in the management of sexual dysfunctions to lessen the side effects of the synthetic drugs.

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