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Review Article

A REVIEW ON PROTECTING NATIONAL HEALTH THROUGH *RASAYANA* AND *VAJIKARANA CHIKITHSA* (REJUVENATION AND APHRODISIAC THERAPIES)

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ABSTRACT

"Health is Wealth". *Rasayana* (Rejuvenation therapy) promote longevity by retarding ageing process and preventing diseases. Ayurveda describes different classifications of *Rasayana*. According to the methods of prescribing, *Rasayana* is of two types namely; *Kutipravesika* (Indoor treatment, meaning taking treatment while staying in a special room), and *Vatatapika* (Outdoor treatment, meaning taking treatment while being in a normal environment, attending day to day duties). As per scope of use, *Rasayana* is of two types. That is, *Naimitthika Rasayana* which promotes vitality in specific diseases and *Kamyas Rasayana* which promotes health. *Kamyas Rasayana* is of three types; namely; *Pranakamyas* (Promoter of vitality and longevity of life), *Medhakamyas* (Promoter of intelligence) and *Shrikamyas* (Promoter of complexion).

Further Ayurveda describes three types of *Rasayana*. They are; *Ajasrika Rasayana* (rejuvenation through food), *Aushadha Rasayana* (rejuvenation through drugs) and *Acharya Rasayana* (rejuvenation through behavior and controlling mental urges such as anger, jealousy so on). *Droni Pravesika* is an another special type of *Rasayana* procedure described in Ayurveda. A person may attain longevity, freedom from diseases, excellence of complexion and voice, enhanced memory power and intellect and preservation of youth, through rejuvenation therapy.

Vajikarana (Aphrodisiac therapy) deals with the promotion of sexual health, healthy progeny, treatment of male sexual disorders (erectile dysfunction, premature ejaculation) and infertility. *Vajikarana* therapy improves the nourishment and function of the reproductive organs and vitalizes tissues of reproductive organs, increasing semen count and strengthening their motility and making sperms more viable for conception. *Vajikarana* helps to increase fertility of both sexes, thereby leading to the propagation of healthy future generations. Authentic texts state that *Vajikarana* makes a man capable of sexual intercourse with women with vigor of stallion and for a long duration. *Rasayana* (Rejuvenation therapy) and *Vajikarana* (Aphrodisiac therapy) play an important role in promoting and protecting the health of the human race.

Keywords: *Rasayana*, *Vajikarana Chikithsa*, Rejuvenation, Aphrodisiacs, National health.

INTRODUCTION

Ayurveda means "Science of life". According to Ayurveda health is a dynamic equilibrium of *Doshas*, *Agni*, *Dhathus* and *Malas* and is a state where the *Athma* (soul), *Indriya* (senses) and *Manas* (mind) are pleasant and joyful. According to World Health Organization (WHO) health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.

Ayurveda has eight branches; *Rasayana* and *Vajikarana* are two of them. Further Ayurveda describes two therapeutic measures i.e. *Apatharpana* and *Samtharpana*. *Apatharpana*

(*Langhana*) is depleting therapy to handle the excess and *Samtharpana* (*Vrumhana*) is nourishing therapy to manage the shortage. *Samtharpana Chikithsa* (Nourishing treatment) is administered in two ways that is *Rasayana Chikithsa* (Rejuvenation therapy) and *Vajikarana Chikithsa* (Aphrodisiac therapy).

The aim of the study is to enhance the awareness of public on importance of *Rasayana* and *Vajikarana Chikithsa* towards national health.

MATERIAL AND METHODS

Data was gathered from authentic Ayurvedic texts.

RESULTS

01. Rasayana:

Etymology, types of *Rasayana Chikithsa*, its indications and contraindications, procedure of administration, selection of *Rasayana Aushadha*, health benefits and the recent research findings on *Rasayana* are described under this section.

01.1 Etymology of *Rasayana*¹

Rasayana, is a Sanskrit word made of two words “*Rasa*” and “*Ayana*”, with literal meaning: *Path (Ayana) of essence (Rasa)* which refers to nutrition & its transportation in body.

01.2 Types of *Rasayana Chikithsa*

01.2.1 Depending on the procedure of *Rasayana Chikithsa*², it is divided into two:

- Kuti Praveshika Rasayana* (Indoor *Rasayana* Therapy) and
- Vathathapika Rasayana* (Outdoor *Rasayana* Therapy).

01.2.2 According to the selection of *Rasayana Aushadha*³, it can be divided into three:

- Kamy Rasayana* (Promoter of general health and longevity),
- Naimithika Rasayana* (Disease specific *Rasayana*) and
- Ajasrika Rasayana* (*Rasayana* to use daily routine).

01.2.3 *Kamy Rasayana*⁴ again can be classified into three:

- Pranakamy* (Promoter of vitality and longevity of life),
- Medhakamy* (Promoter of intellect) and
- Shrikamy* (Promoter of complexion and luster).

01.2.4 On the basis of diet and life styles⁵, *Rasayana* can be classified again into three:

- Aushdha Rasayana* (*Rasayana* through drugs),
- Ahara Rasayana* (*Rasayana* through diet) and
- Acharya Rasayana* (*Rasayana* through good conduct).

01.3 Indications of *Rasayana Chikithsa*⁶

This *Rasayana Chikithsa* has been indicated for young and middle aged persons after prior unctio and evacuation and also people, who are healthy, intelligent, having self-control, a good amount of money and sufficient time, can be treated with *Rasayana Chikithsa*.

01.4 Contraindications of *Rasayana Chikithsa*⁷

Rasayana Chikithsa is contraindicated for people, who are afflicted with evil attitudes and intensions.

01.5 Procedure of *Rasayana Chikithsa*

Rasayana Chikithsa is administered in different ways:

01.5.1 *Kuti Praveshika Rasayana* (Indoor *Rasayana* Therapy)

This is conducted making a person to stay in a special chamber and the person is subjected to *Shodhana Chikithsa* prior to administration of *Rasayana Chikithsa*.

- Building the *Thrigarbha Kuti*⁸ (The Special Treatment Chamber)

A *Thrigarbha Kuti* has to be built placing its entrance towards north or east in an acceptable place with easy access to procuring necessary *Rasayana* drugs and the place should be free from alarm. It should have thick walls and a good space with a high roof and narrow ventilators. It also should be well lighted and livable in any season.

- Method of Preparation and Performing the *Kuti Praveshika Rasayana*⁹

A person should undergo:

a.) *Purva Karma*, which includes entering a suitable person into the *Thrigarbha Kuti*, and carrying out *Samshodhana Karma* (detoxification) along with *Samsarjana Krama*, as preparatory procedures before subjecting to *Rasayana Chikithsa* for better results.

The *Samshodhana* process detoxifies both body and mind. A detoxified body and mind is like a clean cloth which readily absorbs the color in which it has been dipped unlike a soiled cloth which looks soiled even after coloring with best colors.

If a person is not eligible for *Samshodhana Karma* then he can also undergo with *Rasayana Chikithsa* (which boost the qualities of *Rasa* in his body) without *Samshodhana*.

b.) *Pradhana Karma*, where a properly detoxified person is administered with *Rasayana* drugs.

c.) *Pashchath Karma*, which is the stage proper dietary measures and a correct code of conduct are advised to be followed by the rejuvenated person, before discharging him from the *Kuti*.

01.5.2 *Vathathapika Rasayana*¹⁰ (Outdoor *Rasayana* Therapy)

Apart from *Kuti Praveshika Rasayana*, a person should also be treated with *Vathathapika Rasayana*, which is more easier, practicable and affordable than *Kuti Praveshika Rasayana* in the present society.

01.5.3 *Droni Praveshika Rasayana*¹¹

This is a special type of *Rasayana Chikithsa* administered in a very spectacular manner, where a person is made to consume stomach full of the juice of *Divya Aushadhi* (Divine herbs) and made to lie down unconsciously in a wooden casket for a period of six months. Although many textual references can be found regarding this procedure as being one that will enable an old person to completely regain his youth, but this has no known history of being performed anywhere in the near past.

01.6 Selection of *Rasayana Aushadha* (*Rasayana* Drugs)

01.6.1 *Kamy Rasayana* (Promoter of general health and longevity)

Under *Kamy Rasayana*, a person may be administered following:

a.) *Pranakamy Rasayana*

This is administered to a person with an aim to promote the vitality and longevity of life. Drugs are used singly or in combination with other medicaments such as *Thriphala Rasayana*.

b.) *Medhakamy Rasayana*

Medhakamy Rasayana is administered to a person with an aim to promote intellect, which includes *Medhya Rasayana*: *Shankhapushpi* (*Convolvulus pluricaulis*), *Mandukaparni* (*Centella asiatica*), *Guduchi* (*Tinospora cordifolia*), *Madhuyashti* (*Glycyrrhiza glabra*).

Addition to these *Ashvagandha* (*Withania somnifera*), *Vacha* (*Acorus calamus*) and *Jyothishmathi* (*Celastrus paniculata*) have *Medhya* properties.

c.) *Shrikamy Rasayana*

Aim of administration of this *Shrikamy Rasayana* is to promote the complexion and luster of a person. These *Rasayana* drugs are *Divya Aushadhi* (Divine herbs).

01.6.2 *Naimithika Rasayana* (Disease specific *Rasayana*)

According to the disease condition, specific *Rasayana* drug will be selected for the administration.

- **Eye diseases:** *Thriphala* (Three myrobalans), *Shathavari* (*Asparagus racemosus*), *Yashtimadhu* (*G. glabra*)
- **Heart diseases:** *Arjuna* (*Terminalia arjuna*), *Shalaparni* (*Desmodium gangaticum*), *Pushkaramula* (*Inula racemosa*), *Guggulu* (*Commiphora mukul*)
- **Skin diseases:** *Bakuchi* (*Psoralea corylifolia*), *Gandhaka* (Sulphur), *Bhallathaka* (*Semecarpus anacardium*), *Thuvaraka* (*Hydnocarpus laurifolia*), *Vidanga* (*Embelia ribes*)
- **Joint diseases:** *Shallaki* (*Boswellia serrata*), *Amruthabhallathaka*, *Rasona* (*Allium sativum*)
- **Diabetes:** *Shilajathu* (Black bitumen), *Amalaki* (*Emblcia officinalis*), *Haridra* (*Curcuma longa*)
- **Anemia:** *Lauha* (Iron)
- **Hypertension:** *Rasona* (*A. sativum*), *Sarpagandha* (*Rauwolfia serpentina*), *Bala* (*Sida cordifolia*), *Rasna* (*Alpinia galanga*), *Medhya Rasayana*
- **Hypotension:** *Kupilu* (*Strychnos nux-vomica*), *Kasthuri* (Musk)
- **Asthma:** *Haridra* (*C. longa*), *Shirisha* (*Albezia lebbeck*), *Agastya* (*Sesbania grandiflora*), *Rasna* (*A. galanga*)
- **Allergies:** *Haridra* (*C. longa*)
- **Lipid disorders:** *Guggulu* (*C. mukul*), *Harithaki* (*Terminalia chebula*)
- **Brain and mental disorders:** *Brahmi* (*Becopa monnieri*), *Jyothishmathi* (*C. paniculata*),

Apart from the above list, numerous *Rasayana* formulations are given in the Ayurvedic texts¹²⁻¹³. Some of them are:

- *Brahmarasayana* I and II
- *Chyavanaprashavaleha*
- *Amalaka Rasayana*
- *Harithakiyoga* I and II
- *Amalaka Ghrutha*
- *Amalaka Avaleha*
- *Vidangavaleha*
- *Vidanga Rasayana*
- *Varahikanda Rasayana*
- *Mandukaparni Rasayana*
- *Brahmi Rasayana*

- *Vacha Rasayana*
- *Shathapaka Vacha Ghrutha*
- *Bhallathaka Kshira*
- *Bhallathaka Kshaudra*
- *Bhallathaka Thaila*
- *Thriphala Rasayana*
- *Shilajathu Rasayana*
- *Lauhadi Rasayana*
- *Pippali Vardhamana Rasayana*

In the Sri Lankan Traditional Medicine, number of *Rasayana* formulations can be found¹⁴. Some of them are:

- *Desadun Kalkaya*
- *Ranahamsa Rasayanaya*
- *Puhul Basnaya*
- *Ra Basnaya*
- *Elu Pikudu Basnaya*
- *Thora Basnaya*
- *Ha Basnaya*
- *Subharathna Ghruthaya*

01.6.3 *Ajasrika Rasayana* (*Rasayana* to use daily routine)

This can be advised to use daily routine, eg. *Kshira* (Milk), *Ghrutha* (Ghee)

○ *Achara Rasayana*¹⁵ (*Rasayana* through good conduct)

A person may be treated well with *Rasayana Chikithsa*, still that person has to observe a strict code of conduct, which consists of:

truthfulness, free from anger, devoid of alcohol and sexual indulgence, hurt no one, absence of exertion, self composed, speaking kindly, praying, virtuous, intelligent, donating, practicing austerities, honoring gods, cows, brahmana, teachers, seniors and elders, nonviolent, compassionate, moderate in wake and sleep, partaking ghee and milk, awareness of place, time and measure, courteous, non-egotism, polite, undemanding, spiritual, worshiping elders, believers, self-controlled and learned men.

01.6.4 Selection of *Rasayana Aushadha* According to Age¹⁶

Nowadays experts in the field of Ayurveda recommend to consume different drugs containing *Rasayana* property according to their age.

| Age | Degeneration | Indicated <i>Rasayana Aushadha</i> |
|---------|--------------------------------------|--|
| 01-10 | <i>Balya</i> (Childhood) | <i>Svarna</i> (Gold) |
| 11-20 | <i>Vruddhi</i> (Growth) | <i>Bala</i> (<i>S. cordifolia</i>) |
| 21-30 | <i>Chavi</i> (Complexion) | <i>Amalaki</i> (<i>E. officinalis</i>) |
| 31-40 | <i>Medha</i> (Intellect) | <i>Shankhapushpi</i> (<i>C. pluricaulis</i>) |
| 41-50 | <i>Tvak</i> (Skin) | <i>Bhrungaraja</i> (<i>Eclipta alba</i>) |
| 51-60 | <i>Drushti</i> (Vision) | <i>Thriphala</i> (Three myrobalans) |
| 61-70 | <i>Shukra</i> (Semen) | <i>Ashvagandha</i> (<i>W. somnifera</i>) |
| 71-80 | <i>Vikrama</i> (Courage) | - |
| 81-90 | <i>Buddhi</i> (Understanding) | |
| 91-100 | <i>Karmendriya</i> (Organ of action) | |
| 101-110 | <i>Chetha</i> (Mind) | |
| 111-120 | <i>Jivitha</i> (Life) | |

01.6.5 Selection of Rasayana Aushadha According to Dhathu¹⁷ (Tissue element)

Various Rasayana drugs are indicated according to the involvement of Dhathu in a disease conditions.

| Afflicted Dhathu | Indicated Rasayana Aushadha |
|------------------|---|
| Rasa (Lymph) | Kshira (Milk), Draksha (Vitis vinifera), Kashmari (Gmelina arborea) |
| Raktha (Blood) | Lauha (Iron), Nagabala (Sida spinosa), Palandu (Allium cepa) |
| Mamsa (Muscles) | Bala (S. cordifolia), Nagabala (S. spinosa), Ashvagandha (W. somnifera) |
| Medha (Fat) | Shilajathu (Black bitumen), Guggulu (C. mukul), Amrutha (T. cordifolia) |
| Asthi (Bone) | Laksha (Lac), Shukthi (Oyster shell), Shankha (Conch shell) |
| Majja (Marrow) | Lauha (Iron), Vasa (Marrow of the flesh), Majja (Bone marrow) |
| Shukra (Semen) | Ashvagandha (W. somnifera), Athmaguptha (Mucuna pruriens), Vajikarana Aushadha (Aphrodisiacs) |

01.6.6 Selection of Rasayana Aushadha According to Prakruthi¹⁸ (Body constitution)

Various Rasayana drugs are indicated according to the Prakruthi of the person.

| Prakruthi | Indicated Rasayana Aushadha |
|------------|---|
| Vathaja | Bala (S. cordifolia), Nagabala (S. spinosa), Ghrutha (Ghee) |
| Pitthaja | Shathavari (A. racemosus), Amalaki (E. officinalis), Ghrutha (Ghee) |
| Shleshmaja | Guggulu (C. mukul), Bhallathaka (S. anacardium), Pippali (Piper longum) |

01.6.7 Selection of Rasayana Aushadha According to their Agni Vardhaka (Strengthening digestive fire), Srothas Shodhana (Cleansing channels) and Rasa Dhathu Vardhaka (Increasing lymph) Properties¹⁹

| Therapeutic requirement | Indicated Rasayana Aushadha |
|--|---|
| Agni Vardhaka (Strengthening digestive fire) | Pippali (P. longum), Chithraka (Plumbago zeylanica), Vidanga (E. ribes) |
| Srothas Shodhana (Cleansing channels) | Pippali (P. longum), Guggulu (C. mukul), Bhallathaka (S. anacardium), Kasthuri (Musk) |
| Rasa Dhathu Vardhaka (Increasing lymph) | Kshira (Milk), Draksha (V. vinifera), Kashmari (G. arborea) |

01.6.8 Selection of Rasayana Aushadha According to Sathmya²⁰ (Homologation)

| Sathmya | | Indicated Rasayana Aushadha |
|----------------|------------------------|-----------------------------|
| Ruthu (Season) | Adana (Exhausting) | Amalaki (E. officinalis) |
| | Visarga (Replenishing) | Bhallathaka (S. anacardium) |
| Desha (Place) | Sadharana (General) | Amrutha (T. cordifolia) |
| | Jangala (Arid) | Ashvagandha (W. somnifera) |
| | Anupa (Wet) | Pippali (P. longum) |

01.7 Health Benefits of Rasayana Chikithsa²¹

A person may attain longevity, freedom from diseases, excellence of complexion and voice, enhanced memory power and intellect and preservation of youth, through rejuvenation therapy.

01.8 Recent Research Findings Validating the Claims of *Rasayana Aushadha*

a.) *Harithaki* (*T. chebula*)

The results of one experiment showed that all tested extracts and pure compounds of *T. chebula* exhibited antioxidant activity at different magnitudes of potency and it was derived from different pathways suggesting specificity of activity²².

All the results of another experiment, helped to conclude that the aqueous extract of *T. chebula* acts as a potent antioxidant and a probable radio protector²³.

Some other experiment showed that low concentrations of *T. chebula* fruit extract is able to initiate cellular pathways resulting apoptosis, whereas the high concentrations of the extract has direct toxic effects leading to rapid necrotic cell death. Phenolics such as chebulinic and ellagic acids of the extract showed moderate inhibition and may be responsible for the inhibiting cell proliferation²⁴.

b.) *Amrutha* (*T. cordifolia*),

Shathavari (*A. racemosus*) and

Amalaki (*E. officinalis*)

Experiments performed on representative plants from the *Rasayana* group described in Ayurveda revealed that *T. cordifolia*, *A. racemosus* and *E. officinalis* exerted significant anti-stress effects against a battery of stresses with varied mechanisms of actions, such as immunostimulant effects or prostaglandin release or anti-oxidative action, etc²⁵.

c.) *Ashvagandha* (*W. somnifera*)

Researchers found that *W. somnifera* possesses many qualities, including immunomodulatory, antitumor, and anti-inflammatory properties, as well as exerting an influence on the endocrine, nervous, and cardiopulmonary systems through various experimental studies on *W. somnifera*²⁶.

d.) *Pippali* (*P. longum*)

It also showed that administration of *P. longum* extract and piperine could act as non-toxic immunomodulators due to the combined action of humoral and cell-mediated immune responses, and also possess significant antitumor property due to the inhibition of the growth of solid tumor²⁷.

e.) *Bhallathaka* (*S. anacardium*)

One experimental study has indicated that *S. anacardium* nut extract exhibits a potential protective immunomodulatory effect by humoral as well as cell mediated immune mechanisms along with analgesic effect and also exerted strong anti-inflammatory and antipyretic effects. These activities are probably attributed to the presence of flavonoids in the drug²⁸.

f.) *Yashtimadhu* (*G. glabra*)

One scientific investigation revealed that, *G. glabra* is a promise as a memory enhancing agent in mice in all the laboratory models employed, due to a combination of neuroprotective, antioxidant and anti-inflammatory effects²⁹.

g.) *Brahmi* (*Bacopa monneri*)

The results of a clinical study showed a significant effect of the *B. monneri* on a test for the retention of new information and follow-up tests also showed that *B. monneri* decreases the rate of forgetting of newly acquired information³⁰.

02. *Vajikarana*:

Vajikarana is a branch of Ayurveda³¹ that explains the art of producing healthy progeny for the creation of a better society. Under *Vajikarana*, its Etymology, its indications, procedure of administration, selection of *Vajikarana Aushadha*, health benefits and the recent research findings on *Vajikarana* are described under this section.

02.1 Etymology of *Vajikarana*

The word *Vaji* means "horse". *Vajikarana* is the combined group of therapeutic modalities which enhance sexual power of a man as a horse is known as *Vajikarana Chikithsa*³².

02.2 Indication of *Vajikarana Chikithsa*³³

Vajikarana Chikithsa is beneficial for old people who are desirous of sexual intercourse, who are hankering after love of women, who are emaciated due to excessive intercourse, who are impotent and have poor semen. It is also beneficial for rich people who have numerous wives.

02.3 Procedure of *Vajikarana Chikithsa*³⁴

A person, who wishes to get treated with *Vajikarana Chikithsa*, should first get subjected to *Shodhana Chikithsa* in order to cleanse the body before administration of *Vajikarana Chikithsa* to get maximum benefits. If a person is not suitable for *Shamshodhana Karma*, then he can consume *Vajikarana Aushadha*.

A person should undergo:

- Purva Karma**, which includes carrying out *Samshodhana Karma* (detoxification) along with *Samsarjana Krama*, as preparatory procedures before subjecting to *Vajikarana Chikithsa* for better results.
- Pradhana Karma**, where a properly detoxified person is administered with *Vajikarana* drugs.
- Pashchath Karma**, during this period, a proper dietary measures is advised to be followed by the person, who has consumed *Vajikarana* drugs.

02.4 Selection of *Vajikarana Aushadha* (*Vajikarana* Drugs)

Similar to the selection of *Rasayana* drugs, selection of *Vajikarana* drugs also depend on various disease conditions.

- **The best aphrodisiac:** The loving and aroused woman³⁵
- **Oligozoospermia:** *Shukrajanana*³⁶ (Spermatogenetics) drugs such as *Ashvagandha* (*W. somnifera*), *Musali* (*Curculigo orchoides*), *Shathavari* (*A. racemosus*)
- **Disordered ejaculation:** *Shukrapravarthaka*³⁷ (Promoters of ejaculation) drugs such as *Vruhathi phala* (*Solanum indicum*)
- **Premature ejaculation:** *Shukrastambhaka* (Prolongation of ejaculation) drugs containing *Jathiphala* (*Myristica fragrans*)
- **Pus cells in semen:** *Shukrashodhana*³⁸ (Spermatopurificators) drugs, which include *Ela* (*Elettaria cardamomum*), *Ikshu* (*Saccharum officinarum*)

Apart from the above list, numerous *Vajikarana* formulations are given in the Ayurvedic texts³⁹. Some of them are:

- *Vajikarana Ghrutha*
- *Vajikarana Pinda Rasa*
- *Vrushya Kshira*
- *Vrushya Ghrutha*
- *Vrushya Gutika*
- *Vrushya Uthkarika*
- *Vrushya Masha Yoga*

- *Vrushya Pippali Yoga*
- *Vrushya Pupalika I and II*
- *Vrushya Mahisha Rasa I and II*
- *Vrushya Shathavari Ghrutha*
- *Makaradhvaja*
- *Apatyakara Ghrutha*
- *Kameshvara Modaka*

Following are the *Vajikarana* formulations found in the Sri Lankan Traditional Medicine:

- *Rati Kalyana Rasayanaya*
- *Vajikarana Modakaya*
- *Shathavari Modakaya*
- *Kadalyadiya*
- *Ranahamsa Rasayanaya*⁴⁰

02.5 Health Benefits of *Vajikarana Chikithsa*⁴¹

Fathering a child will ensure *Dharma* (Morality), *Artha* (Wealth), *Prithi* (Pleasure) and *Yasha* (Fame), as they all depend upon children endowed with good qualities.

With properly administered *Vajikarana* measures, a person is capable of:

- a.) producing a sufficient amount of semen,
- b.) having sexual intercourse with any woman without fear of failure,
- c.) both giving and receiving an optimal climax to himself and his partner and
- d.) begetting a child to continue his lineage.

02.6 Recent Research Findings Validating the Claims of *Vajikarana Aushadha*

a.) *Ashvagandha* (*W. somnifera*)

The treatment with *W. somnifera* effectively reduced oxidative stress, as assessed by decreased levels of various oxidants and improved level of diverse antioxidants. Moreover, the levels of T, LH, FSH and PRL, good indicators of semen quality, were also reversed in infertile subjects after treatment with the herbal preparation⁴².

b.) *Musali* (*C. orchioides*)

Testes of experimental and controlled animals when studied under microscope, noteworthy enhanced in spermatogenic activities were observed in experimental animals due to the effect of extract of *C. orchioides*. The conclusion derived in present investigation; provide that *C. orchioides* has spermatogenic activities enhancing properties⁴³.

Male rats treated with the extract displayed more frequent and vigorous anogenital sniffing and mounting as compared to untreated animals. The increased spermatogenesis in treated group was confirmed by change in histoarchitecture as evidenced by increase in number of spermatocyte and spermatids. These findings support the folk use of this plant as aphrodisiac⁴⁴.

The results thus suggest that the *C. orchioides* rhizomes ethanolic extract seems to be effective in treatment of erectile dysfunction and in enhancement of overall sexual performance in rats. The results therefore corroborate the hype of plant as herbal cure for sexual dysfunction. The findings also seem to support the traditional use of the plant as aphrodisiac⁴⁵.

c.) *Thila* (*Sesamum indicum*)

Seeds increase lactation in females and also used as aphrodisiac⁴⁶.

d.) *Athibala* (*Abutilon indicum*)

Seeds used in piles and gonorrhoea. Roots are also used as aphrodisiac⁴⁷.

e.) *Athmaguptha* (*M. pruriens*)

The potency test significantly increased erections, quick flips, long flips and total reflex. Therefore, the results indicated that the ethanolic extracts of *M. pruriens* seed produced a significant and sustained increase in the sexual activity of normal male rats at a particular dose (200 mg/kg). Therefore, the resulting aphrodisiac activity of the extract lends support to the claim that it has traditionally been used for the treatment of sexual disorders⁴⁸.

f.) *Jathiphala* (*M. fragrans*)

Lavanga (*Syzygium aromaticum*)

The extracts of the nutmeg and clove were found to stimulate the mounting behavior of male mice, and also to significantly increase their mating performance. The drugs were devoid of any conspicuous general short term toxicity. The extracts (50% ethanolic) of nutmeg and clove enhanced the sexual behavior of male mice.

The resultant significant and sustained increase in the sexual activity of normal male rats without any conspicuous adverse effects indicates that the 50% ethanolic extract of nutmeg possesses aphrodisiac activity, increasing both libido and potency, which might be attributed to its nervous stimulating property. The present study thus provides a scientific rationale for the traditional use of nutmeg in the management of male sexual disorders⁴⁹.

Effect of hexane extract of flower buds of *S. aromaticum* at 15, 30, and 60 mg/kg, p.o. for 35 days were evaluated for a single spermatogenic cycle in Parkes (P) strain mice. Lower dose (15 mg/kg, p.o.) of the extract increased the activities of Delta 5 3 beta -HSD and 17 beta -HSD, and serum level of testosterone⁵⁰.

g.) *Rasona* (*A. sativum*)⁵¹

Aphrodisiac effect of *A. sativum* extracts at 0.57, 1.13 and 2.25 mL/kg, p.o. for 28 days on male mice was investigated and it was found that it increased sexual behavior in dose dependent manner.

h.) *Akarakarabha* (*Anacyclus pyrethrum*)⁵²

Effect of petroleum ether extract of *A. pyrethrum* at dose of 50 mg/kg and 100 mg/kg, p.o. in male rats showed more receptive and oriented towards female rats and increased precopulatory activities like licking and sniffing of female anogenitals. The penile erection index was significantly increased with reduction in ML and IL period.

i.) *Shathavari* (*A. racemosus*)⁵³

Aqueous root extract of *A. racemosus* treatment had showed enhancement of body weight and reproductive organs, penile erection, mount frequency in rats, and indicates an improvement in sexual behavior.

j.) *Chaya* (*Camellia sinensis*)⁵⁴

C. sinensis tea at 84, 167 and 501 mg/ mL, p.o. dose level in rats were found to possess marked aphrodisiac activity in terms of prolongation of latency of ejaculation shortening of ML, IL and elevation of serum testosterone level.

k.) *Kumkuma* (*Crocus sativus*)⁵⁵

Effect of aqueous extract of *C. sativus* stigma (80, 160 and 320 mg/kg, i.p.), crocin (100, 200 and 400 mg/kg, i.p.), safranal (0.1, 0.2 and 0.4 mL/kg, i.p.), on male rats were

investigated. Crocin and extract increased MF, IF and erection frequency behaviors and reduced ML, IL and EL, whereas safranal did not show any aphrodisiac effects

l.) **Durio zibethinus**⁵⁶

Aphrodisiac activity of petroleum ether extract and isolated compound 3- beta -hydroxy-21-normethyl-19-vinylidenylursane of *D. zibethinus* were screened for different dose level and it was found that 400 mg/kg, p.o. was most active in the mice and have better aphrodisiac activity than all other treated dose

m.) **Shati** (*Kaempferia parviflora*)⁵⁷

The alcoholic, hexane and aqueous extracts of *K. parviflora* showed no effect on the weights of reproductive organ, fertility or sperm motility even in 5-week male rats. However, alcohol extract at a dose of 70 mg/kg, p.o. significantly decreases mount and ejaculatory latencies and increases blood flow to the testis. Whereas, hexane and water extracts had no influence on any sexual behavior parameters.

n.) **Litsea chinensis**⁵⁸

Ethanol extract of the bark of *L. chinensis* on male sexual behavior in rats at 500 mg/kg, p.o. produced a significant increase in penile erection index, homosexual mounting and facilitated sexual behavior and orientational activity, as shown by increased mounting performance, anogenital sniffing, intromission and ejaculation frequencies.

o.) **Vanya Thulasi** (*Ocimum gratissimum*)⁵⁹

Effect of ethanolic extract of leaves of *O. gratissimum* at 100, 250, and 500 mg/kg, p.o. for seven days on mice significantly increases the MF, IF, IL, erections as well as aggregate of penile reflexes and caused significant reduction in the ML and PEI. A dose of 500 mg/kg showed maximum effect without any conspicuous gastric ulceration and adverse effects.

p.) **Vruhath Gokshura** (*Pedalium murex*)⁶⁰

Aphrodisiac activity of petroleum ether extract of *P. murex* plant at 200 and 400 mg/kg, p.o. in ethanol induced germ cell damage and infertility in male rat models depicted an increase in mating and mounting behavior, body weight, percentage of pregnancy, litter size, sperm motility and also showed an increased levels of testosterone, germinal cells and the luminal spermatozoa in treated compared to control group.

q.) **Passiflora incarnata**⁶¹

Effect of methanolic extract of *P. incarnata* on male mice exhibited significant aphrodisiac behavior at 75, 100 and 150 mg/kg, p.o. Amongst these, the highest activity was observed with the 100 mg/kg, p.o. dose when the mountings were calculated about 95 min after the administration of the test extracts.

r.) **Gokshura** (*Tribulus terrestris*)⁶²

Effect of *T. terrestris* at 5 mg/kg, p.o. for 8 weeks in adult Sprague-Dawley rats on sexual behavior and intracavernous pressures (ICP) showed increase in mount and intromission frequencies, decrease in mount, intromission, ejaculation latencies and PEI revealing the improvement of the sexual behavior parameters.

Effect investigation of *T. terrestris* extract at 20 and 10 mg/kg for 4 weeks on androgen metabolism in young males showed no significant difference between *T. terrestris* supplemented groups and control in the serum testosterone, androstenedione or luteinizing hormone.

Aphrodisiac properties of the furostanol glycoside fraction of *T. terrestris* in male castrated rats were investigated at 5, 10, and 25 mg/kg, p.o. for 14 days and found to increase orientational activity parameters such as licking, anogenital and genital grooming and decreased climbing and nongenital grooming by male rats indicating increased sexual stimulation. Effect of *T. terrestris* at dose of 2.5, 5 and 10 mg/kg, p.o. for 8 weeks on sexual behavior and ICP measurements in Sprague-Dawley rats reveals an increase in body weight and ICP, mount and intromission frequencies and decrease in mount latencies compared to the control group.

DISCUSSION

Rasayana drugs act inside the human body by modulating the neuro-endocrino-immune system to keep away from disease. *Rasayana* therapy enhance the qualities of *rasa*, enriches it with nutrients so one can attain longevity, memory, intelligence, freedom from disorder, youthfulness, excellence of luster, complexion and voice, optimum development of physique and sense organs, mastery over phonetics and brilliance.

Vajikarana therapy increases sexual energy and strength like a horse. This is a method of strengthening *Shukra Dhathu*, or the reproductive tissues of the body and gives a state of health and relaxed being to the person. Impotency may occur due to several reasons, some common causes are psychological factors such as stress, depression, and performance anxiety, injuries and diseases that affect blood flow to the penis and nerves supply. Impotency can be treated with the help of *Vajikarana Chikithsa*.

CONCLUSION

Rasayana Chikithsa helps to prevent from diseases, delay ageing, enhance life span and improve health. This leads to healthy nation. *Vajikarana Chikithsa* enhances the production of healthy sperm which leads to produce mentally and physically healthy children as the corner stones of a healthy future society. It could be concluded that *Rasayana* and *Vajikarana Chikithsa* play a major role in protecting national health.

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