



Study on Vājīkarana Drugs (Aphrodisiacs) for the Promotion of Reproductive Health - A Review

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Authors' contributions

This work was carried out in collaboration between both authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: Vājīkarana - Aphrodisiacs / Virilification Therapy is one branch of Ashtanga Ayurveda. It deals with preservation and promotion of sexual potency of a healthy man, conception of healthy progeny, and management of sexual and reproductive ailments. Vājīkarana drugs have been selected for the present review due to high prevalence of reproductive disorders among young people below age 40 years, recorded neonatal death caused by congenital anomalies and the urgency of effective medicines in the community.

Objectives: To identify Vājīkarana drugs mentioned in *Bhaisajya Rathnavali* and analyze the pharmacodynamics properties of commonly used Vājīkarana drugs.

Methodology: The review was mainly based on Vājīkarana drugs mentioned in *Bhaisajya Rathnavali* by Acharya Govinda Das Sen and commonly used and mostly available drugs have been analyzed according to their pharmacodynamics properties. Collected pharmacodynamics properties from authentic texts and journal articles were tabulated and analysis was done by using SPSS.

Results: Out of 67 Vājīkarana formulae, 208 single drugs were identified which included 83.65% of

herbal origin drugs and 74.6% of drug formulae were used to increase the sexual power. 37.3% of the formulae were prepared as *Churna* (Powder) and most frequently used *Anupana* (Vehicle) was cow's milk. Among frequently used & commonly available 10 drugs, *Maricha* - *Piper nigrum* has been used in majority of formulae (26.8%). Pharmacodynamics analysis revealed that 80% of drugs were *Madhura rasa* (sweet in taste), 70% were *Guru guna* (heavy in property), 70% were *Shita virya* (cold in potency) and 80% were *Madhura vipaka* (sweet in post digestive action). Based on modern science, 60% of the drugs had tonic action.

Conclusion: *Vājīkarana* formulae mentioned in *Bhaisajya Rathnavali* were mainly used to increase the sexual power of man. *Madhura rasa*, *Guru guna*, *Shita virya* and *Madhura vipaka* were the pharmacodynamics properties of commonly used drugs in the formulae.

Keywords: *Vājīkarana*; *Vājīkarana Tantra*; *Bhaisajya Rathnavali*; *Pharmacodynamics properties*.

1. INTRODUCTION

Ayurveda, the science of life is the world's oldest & most holistic medical system that guide every individual in the prevention of diseases and promotion of positive health. *Vājīkarana Tantra* is one of the eight branches of Ayurveda [1].

The word *Vājīkarana* is composed of two words; *Vājī* and *Karana*. *Vājī* means 'Horse' the symbol of sexual potency and performance and *Karana* means 'Power'. If something makes man endowed with good physique, potency, strength and complexion and sexually strong as like horse it is called as *Vājīkarana* drug or Aphrodisiacs [2,3].

Vrishya is another term for *Vājīkarana* [4]. Any substance or any conduct which help a man to have sex with the capability of satisfying woman; all of them are called as *Vrishya* [5-7]. *Vājīkarana Tantra* deals with methods of increasing semen which is either less, vitiated, decreased or dried up [8]. And it increases the time span of erections and helps in erectile dysfunction, prevents premature ejaculation, facilitates in reproducing vigorous off springs, helps the man to increase the power, intellect & memory in addition to promoting a healthy body [9,2].

Ahara (diet), *Nidra* (sleep) and *Brahmacharya* (continence) are the three pillars of healthy life. Whole body is sustained by the right use of these three sub supports [10]. Acharyas have approved *Brahmacharya* – continence / celibacy, which is the cause of righteousness, success in life, long life, good for both the worlds and lives and always pure [2]. *Vājīkarana* therapy improves the function of the reproductive organs and vitalizes reproductive

tissues increasing semen count and strengthening sperm motility in men etc.

According to Ayurvedic classics worry, old age, diseases, exercises, laborious activities, fasting and excessive intercourse with woman are the factors causing loss of semen [5]. Person who indulges in too much of copulation without using any aphrodisiac drug or food develops *dvaja bhanga* (impotency). And it may leads to weakness, tremors, looseness of body, weakness in power of sense organs, consumption, coughs, fever, piles, fistula and severe *vata* disorders etc. [5,6].

Ayurveda classified aphrodisiacs in to 4 main categories as *Shukra vardhaka* (Drugs which increase the quantity of semen), *Shukra pravarthaka* (Drugs arousing sexual desire), *Shukra vardhaka* and *pravarthaka* (Drugs which increase the quantity of semen and arousing sexual desire) and *Shukra stambhana* (Drugs delaying the time of ejaculation or improving ejaculatory performance).

Modern medical science defines aphrodisiac as a substance that increase sexual desire, sexual attraction, sexual pleasure or sexual behavior that typically fall into three different categories as for libido, potency and sexual pleasure. *Vājīkarana* therapy mentioned in Ayurveda deals with all the aspects of modern science related to aphrodisiacs along with their categorization.

At present reproductive disorders have considerably increased among young men. Male reproductive capacity was found to be deficient in nearly 50% of infertile couples [11]. And also one patient out of four with newly diagnosed erectile dysfunction is a young man below 40 years [12]. And one of three men with primary low sexual desire along with erectile

dysfunction was younger than 40 years [13]. In 2004, 7% of neonatal deaths worldwide were caused by congenital anomalies such as congenital heart defects, neural tube defects and Down syndrome etc. [14].

Bhaisajya Rathnavali is a unique classical textbook of Ayurveda written by Sri Kavi Raj Govinda Das Sen in 19th century A.D. It is a compiled text mainly from *Chakradatta*, *Rasendra Sara Sangraha*, *Charaka Samhitha* etc. It has translations in Hindi and English. English translation by Dr. Kanjiv Lochan has three volumes and divided into 106 chapters while 74th chapter has reserved for *Vājīkarana*. It is published by Chaukhambha Sanskrit Sansthan, Varanasi. Each chapter deals with separate disease and indispositions along with their line of treatment and drug formulations. *Bhaisajya Rathnavali* has been the most popular reference book among practitioners and students of Ayurveda emphasizing the materia medica & formulations of Ayurvedic pharmaceuticals. The name, *Bhaisajya Rathnavali* having the view of jewel of medicinal formulae fulfils its task providing effective herbal & herbo-mineral formulations along with their manufacturing methods, therapeutic indications, method of administration, and dosage forms.

2. METHODOLOGY

This is a literature review on *Vājīkarana* drugs mentioned in *Bhaisajya Rathnavali*. *Vājīkarana* formulae have been split out from the 74th Chapter - *Vājīkarana* of *Bhaisajya Rathnavali*. Then all the collected formulae were classified according to the indications, their different preparatory methods and the type of *Anupana* (vehicles) that have been used. Then found out

each and every drug ingredient that used in those *Vājīkarana* formulae and categorized them according to their origin (Herbal, Animal & Mineral).

Herbal drugs that used in more than 10 formulae have been selected and analyzed them according to their pharmacodynamics properties – *Rasa* (Taste), *Guna* (Property), *Virya* (Potency), *Vipaka* (Post digestive action) and *Karma* (Pharmacological action). And research papers published regarding aphrodisiac were also studied and relevant data was recorded.

Collected pharmacodynamics properties from authentic texts and journal articles were tabulated and analysis was done by using SPSS.

3. RESULTS

3.1 Amount of Formulae & Drugs

67 *Vājīkarana* formulae were gathered from the 74th Chapter– *Vājīkarana* of *Bhaisajya Rathnavali*. From these formulae 208 single drugs were identified which included 174 herbal origin drugs, 11 animal origin drugs and 23 mineral origin drugs.

3.2 Classification According to the Origin

Out of founded drug ingredients; majority were herbal in origin (83.65%).

3.3 Indication of Drug Formulae

Seven specific types of indications were found in this drug formulae. Majority of them were used to promote reproductive health (74.6%).

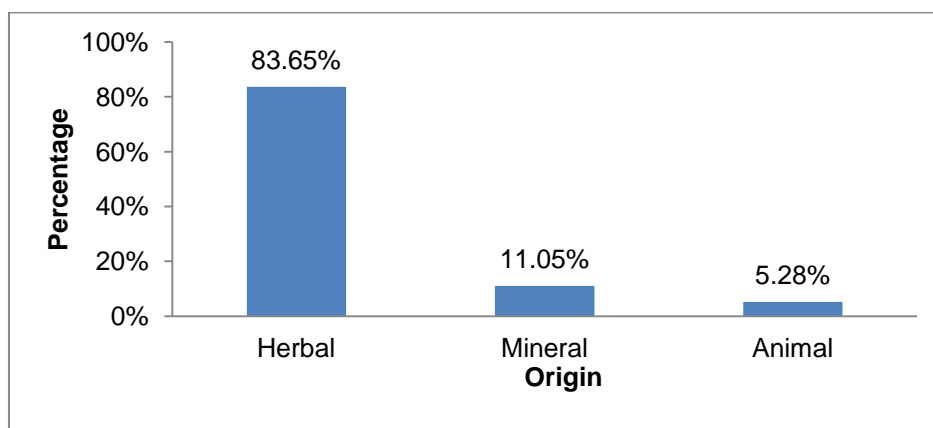


Fig. 1. Distribution of the origin of *Vājīkarana* drugs

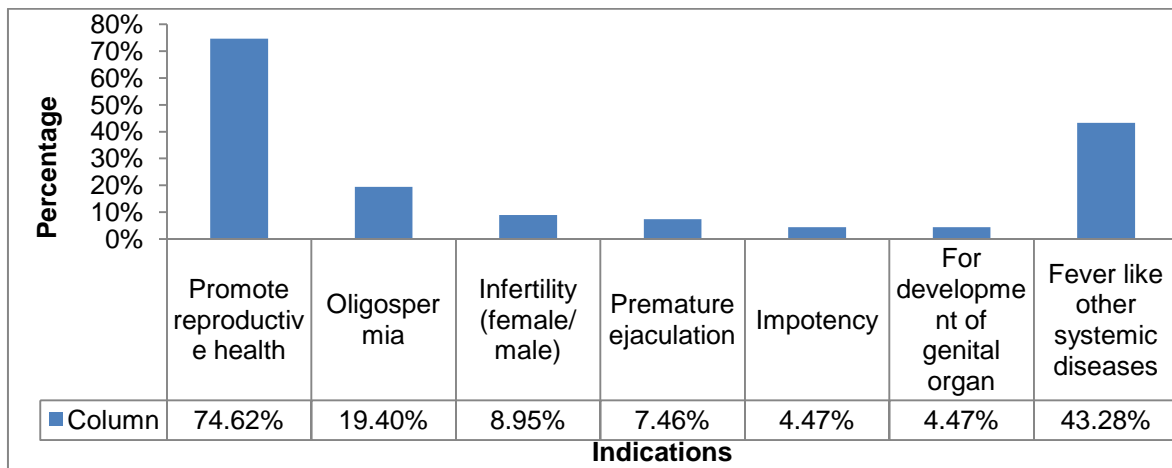


Fig. 2. Distribution of the indication of drug formulae

3.4 Preparatory Methods

Out of 67 drug formulae eleven specific types of drug preparatory method were found.

Most of the drug preparations were *Churna* (powder) (37.3%).

3.5 Anupana (vehicles)

From 67 drug formulae 41 prescriptions were taken with specific *Anupana* and most frequently used *Anupana* was cow's milk.

3.6 Commonly Used 10 Herbal Drugs

Out of 174 herbal drugs, frequently used & commonly available 10 drugs were selected. Among them *Maricha* has been used in majority of formulae (26.8%).

3.7 Pharmacodynamics Properties of Drugs

3.7.1 Rasa

Most of the drugs are *Madhura* in *rasa* (80%).

3.7.2 Guna

Majority of drugs have *Guru* (70%) and *Snigdha* (60%) *guna*.

3.7.3 Virya and Vipaka

Most of the drugs are *Shita* in *virya* (70%) and *Madhura* in *vipaka* (80%).

3.8 Pharmacological Action of Drugs According to Modern Science

Out of ten major pharmacological actions most of drugs have tonic action (60%).

4. DISCUSSION

Vājīkarana is a special therapy that improve the reproductive system and sexual function. There were 67 formulae related to *Vājīkarana* therapy in the 74th chapter of the text *Bhaisajya Rathnavali*. 74.62% of those formulae were mainly indicated to promote reproductive health. Among various preparation methods which have been used to prepare drugs, 37.31% were *Churna* (Powder). Out of all prescriptions, most of the formulae were used with cow's milk (60.97%) as *Anupana* (vehicles) followed by honey. 208 drug materials were found in 67 *Vājīkarana* formulations. According to their origin there were 03 categories as herbal, mineral & animal. Majority was found as herbal drugs with the percentage of 83.65%. Throughout those herbal drugs *Maricha*, *Amalaki*, *Shathavari*, *Nagakeshara*, *Madhuyashti*, *Vidarikanda*, *Kapikachchu*, *Gokshura*, *Mushali* and *Bala* were found as most frequently used drugs. *Maricha* was found as commonest herbal drug with the percentage of 26.86%. Pharmacodynamics analysis revealed 80% of herbal drugs were consisted of *Madhura rasa* (Sweet in taste) while 70% were *Guru* & 60% were *Snigdha* in *guna*. (Heavy and Demulcent in property). 70% of them comprised *Shita virya* (Cold in potency) while 80% were consisted of *Madhura vipaka* (Sweet in post digestive action).

Table 1. Distribution of the preparatory method of drug formulae

No	Preparatory method	Amount	Percentage
01	<i>Churna</i> (Powder)	25	37.31%
02	<i>Vati</i> (Pills)	15	22.38%
03	<i>Kalka</i> (Paste)	5	7.46%
04	<i>Ghritha</i> (Medicated ghee)	4	5.97%
05	<i>Leha</i> (Linctus)	4	5.97%
06	<i>Thaila</i> (Oil)	4	5.97%
07	<i>Ksheerapaka</i> (Milk decoction)	2	2.98%
08	<i>Arishta</i> (Fermented decoction)	1	1.49%
09	<i>Asava</i> (Fermented drinks)	1	1.49%
10	<i>Kashaya</i> (Decoction)	1	1.49%
11	<i>Paana</i> (Drink)	1	1.49%
12	Others	4	5.97%

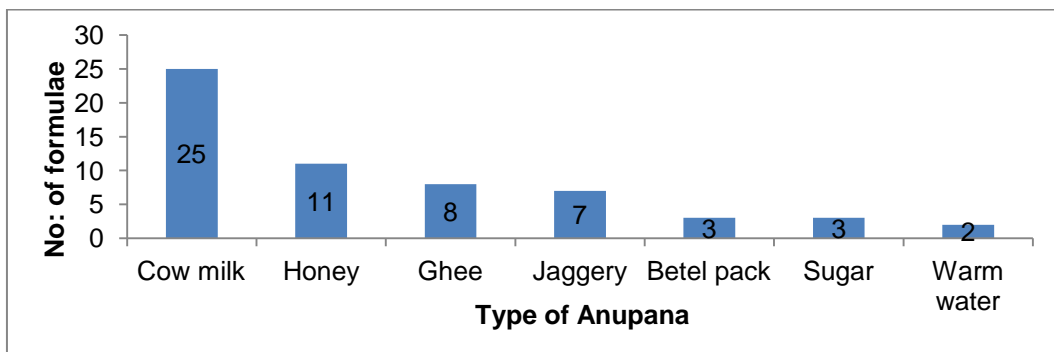


Fig. 3. Distribution of Anupana used with drug formulae

Table 2. Distribution of the frequency of commonly used 10 herbal drugs

Number	Drug	Botanical name	Frequency	Percentage
01	<i>Maricha</i>	<i>Piper nigrum</i>	18	26.86%
02	<i>Amalaki</i>	<i>Emblica officinalis</i>	17	25.37%
03	<i>Shathavari</i>	<i>Asparagus racemosus</i>	15	22.38%
04	<i>Nagakeshara</i>	<i>Mesua ferrea</i>	15	22.38%
05	<i>Madhuyashti</i>	<i>Glycyrrhiza glabra</i>	14	20.89%
06	<i>Vidarikanda</i>	<i>Ipomoea mauritiana</i>	13	19.40%
07	<i>Kapikachchu</i>	<i>Mucuna pruriens L.</i>	12	17.91%
08	<i>Gokshura</i>	<i>Tribulus terrestris</i>	12	17.91%
09	<i>Mushali</i>	<i>Asparagus adscendens</i>	10	14.92%
10	<i>Bala</i>	<i>Sida cordifolia</i>	10	14.92%

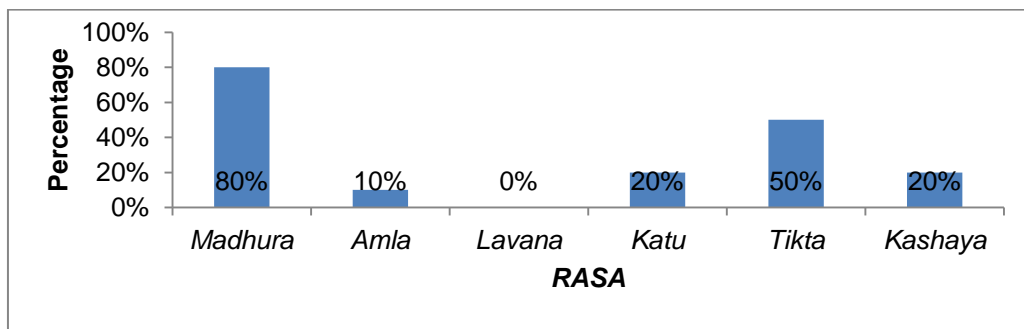


Fig. 4. Distribution of Rasa

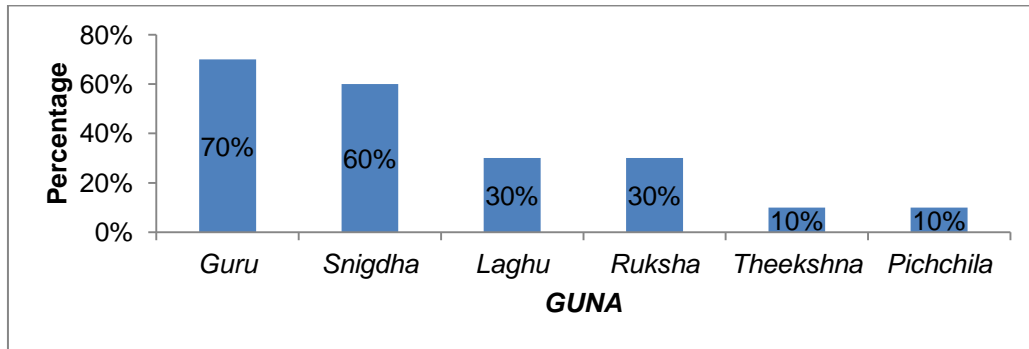


Fig. 5. Distribution of Guna

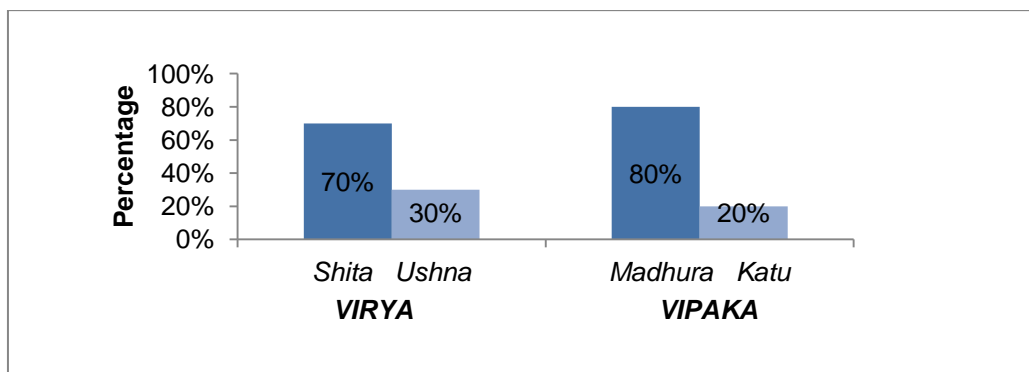


Fig. 6. Distribution of Virya and Vipaka

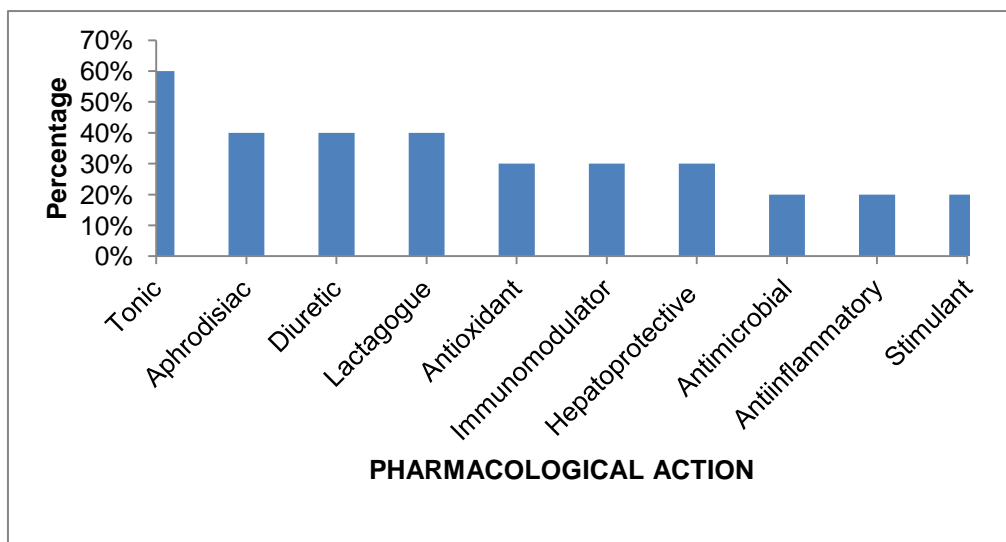


Fig. 7. Distribution of pharmacological actions of drugs

Shukra dhatu is a clear transparent liquid of *madhura rasa* and *snigdha* in nature [15]. Ayurveda fundamentals describe that the drug with similar properties of any *dhatu* nourishes that *dhatu* – *sarvada sarvabhavanam samanyam vridhikaranam* [16]. *Madhura rasa* increase

saptha dhathu included *shukra dhathu* and it is *shitha*, *snigdha* and *guru* in nature [17]. *Madhura vipaka* aggravate *kapha* and *shukra vardhaka* [18]. Drugs of *madhura rasa*, *snigdha guna*, *shita virya* and *madhura vipaka* nourishes *shukra dhatu*.

Cow milk have tremendous therapeutic action and it is mostly sweet in taste and post digestive action, demulcent in property, cold in potency and aphrodisiac in action [19].

According to modern scientific views, *Vājīkarana* drugs act on higher center of the brain; the hypothalamus and limbic system of human body by modulating the neuro-endocrine immune system. A scientific study has revealed that *Piper nigrum* (*Maricha*) extract can be used to improve sexual function in male subjects by proving *Piper nigrum* extract potentially affect sexual drive in male mice [20]. Administration of *Vājīkarana Rasayana* containing *Mucuna pruriens* L. (*Kapikachchu*) etc. modulate the level of pituitary hormones FSH and LH [21]. *Mucuna pruriens* L. & *Asparagus racemosus* (*Shatavari*) increase brain 5-HT & Melatonin. Therefore widely used as male and female aphrodisiacs [22]. Milk decoction of *Asparagus racemosus* enhance penile erection and sexual behavior [23]. *Ipomoea mauritiana* (*Vidarikanda*) is considered as a drug with aphrodisiac potential [23]. Influence of *Tribulus terrestris* (*Gokshura*) extract on androgen metabolism has found *Tribulus terrestris* improve testosterone, LH and sperm count significantly. And also it is consider as scientifically proven herb that improve libido and spermatogenesis [23,24]. *Glycyrrhiza glabra* (*Madhuyashti*) modulate the serotonin level that plays an important role in sex cycle [22]. Formulation made from roots of *Glycyrrhiza glabra* and *Sida cordifolia* (*Bala*) has showed significant therapeutic efficacy in male sexual disorders by inhibition of primary and secondary symptoms while enhancement in hormonal and seminal parameters validating its spermatogenesis effect without any toxic or adverse effect [25]. *Emblica officinalis* (*Amalaki*) enhances sexual activities and reproductive fitness along with longevity [26]. An experimental study has proved *Asparagus adscendens* (*Mushali*) can improve anabolic reproductive and sexual behavioral activity [27].

5. CONCLUSION

Vājīkarana formulae mentioned in *Bhaisajya Rathnavali* were mainly used to promote the reproductive health of man. *Churna* (powder) was the most abundant form of preparation while cow's milk as *Anupana* (vehicles). Majority of drug materials were found as herbal drugs. *Madhura rasa* (sweet in taste), *Guru guna* (heavy in property), *Shita virya* (cold in potency) and

Madhura vipaka (sweet in post digestive action) were the pharmacodynamics properties of most herbal aphrodisiac drugs in the formulae. This allotment may useful in future management of sexual ailments through producing effective drug preparations.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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