Review on Rasayana (Rejuvenative) Plants of Various Nighantas
(Ayurvedic Materia Medica)

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Abstract
In the current era people are much more health conscious and make sincere efforts to retain and promote their health status and Ayurveda, the Indian science of life brings nature’s own reward for rejuvenation and revitalization. Rasayana is a distinctive branch of Ayurveda which mainly deals with the conservation and promotion of fitness and longevity by revitalizing the metabolism and enhancing resistance against diseases. Inclusion of Rasayana herbs in the management of certain lifestyle disorders such as cancer, diabetes, hypertension, osteo-arthritis and obesity can play a crucial role. The lot of plants with Rasayana (Rejuvenative) properties possess diversified actions like immuno-enhancement, anti-oxidant, free-radical scavenging, adaptogenic or anti-stress, nutritive effects etc. These Rasayana herbs are mentioned in classical texts of Ayurveda mainly in various Nighantas (Ayurvedic Materia Medica). This ancient wisdom needs to be seen in the light of present day scientific information for effective application but we are still deficient in having quantitative records of Rasayana (Rejuvenative) plants which will serve as a ready reckoner for researchers as well as physicians. Thus it is necessary to assemble the quantitative scientific data from various Nighants. This article aims to compile and quantify the Rejuvenative plants described in various Nighants.

Key words: Rasayana; Rejuvenative; Nighantu; Rasayana herbs

INTRODUCTION
We know that health is wealth. In this hectic, over-busy and contaminated world, our natural health, pleasure and internal sense of well-being are masked by the accumulation of impurities. These impurities or toxins causes worsening of normal body functioning and the quality of life as well as lifespan get affected. Rasayana is as an answer to solve this problem and achieve healthful longevity including mental development and resistance against diseases. Living the healthy life is the prime motto of this current era. Conservation of immunity, physical and psychological health is the way to attain the normal life span. Ayurveda, the ‘science of life’ deals with a preventive and curative measures for the well-being of creature.¹ Ayurveda describes Rasayana herbs that are believed to re-establish and detoxify the body and mind, prevent degeneration and delay aging or rather reverse the aging process. From the Rasayana treatment, one attains longevity, memory, intelligence, freedom from disorders, youthful age, excellence of lustre, complexion and voice, oratory, optimum strength of physique and sense organs, respectability and brilliance.²

The literally meaning of the word ‘Rasayana’ is the path that ‘Rasa’ takes (‘Rasa’: Fluid or plasma; Ayana: Path). According to Ayurveda the physical structure is composed of seven Dhatus starting from Rasa (Rasadi Dhatu) and Rasayana is the way to produce superior quality Dhatu (body tissues). The qualities of
the ‘Rasadhatu’ have an effect on the health of other successive Dhatus (tissues) of the body as these Dhatus develop sequentially and nourish further Dhatus. Hence the medicine that improves the quality of ‘Rasa’ should promote or strengthen the health of all tissues of the body. Rasayana herbs influence the fundamental aspect of the body viz. Dhatus, Agni and Srotasas and helps in the prevention of aging. Thus Rasayana is that process by which all the body tissues are nourished. The ideal quality that all Rasayana medicines have is the enrichment of Rasa (essence), leading in promotion of health and vigour of the tissues. As a result Rasayana helps in regeneration, revival and revitalization of Dhatus.

Traditional herbal drugs have a few or no side effects and are claimed to be safer ones.3 That’s why the researchers of the globe are keenly busy in screening of plants for bioactivities with therapeutic usefulness. Demand for crude drugs, herbal preparations and active bio-molecules are ever rising in developing and developed nations. India can become a global leader if accurate documentation, accreditation, validation and quantification of phyto-chemicals, secondary metabolites and active principles is accomplished with standard methods but even today we are short of quantitative data of Rasayana (Rejuvenating) plants. Numerous single Rasayana plants possess diversified actions like immuno-enhancement, free-radical scavenging, adaptogenic or anti-stress, cyto-protective, anti-oxidant, nutritive effects etc. These Rasayana herbs are described in Ayurveda literature mainly Nighantus (Ayurvedic material medica) for their utilization in health promotion and cure of diseases with improvement in the quality of life. Present article is an effort to highlight the quantitative data of these Rasayana plants.

The complete reference books for Indian medicines of herbal, mineral and animal sources are Nighantus (lexicons). Several Nighantus (Ayurvedic material medica) are available in Ayurveda however the most appreciated were selected based on their universal use among academicians and practitioners. These were Dhavanantari Nighantu (D.N. - 10th Century A.D.), Madanapala Nighantu (M.N. - 14th Century A.D.), Raja Nighantu (R.N. - 14th Century A.D.), Kaiyadeva Nighantu (K.N. - 1450 A.D.), Bhavaprakasha Nighantu (B.N. - 16th Century A.D.), and Shaligram Nighantu (S.N. -1896 A.D.). Each and every varga (chapter) of these Nighantu (lexicons) were screened for plants showing Rasayana property. All these plants were gathered. The assembled data was analyzed and presented in alphabetical order as given in the Table 1.

Table 1: Documentation of Rasayana plants in various Nighantus

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Sanskrit Name</th>
<th>Latin Name</th>
<th>D.N.</th>
<th>M.N.</th>
<th>R.N.</th>
<th>K.N.</th>
<th>B.N.</th>
<th>S.N.</th>
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<td>Aakashvalli128, 189</td>
<td>Cassytha filiformis Linn.</td>
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<td>72.</td>
<td>Shankhapushpi</td>
<td>Convolvulus pluricaulis Choisy</td>
<td>+ + + + +</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73.</td>
<td>Sharpunkha</td>
<td>Tephrosia purpurea Pers.</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>74.</td>
<td>Sharpunkha-Shwet</td>
<td>Tephrosia candida DC.</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75.</td>
<td>Shatavari</td>
<td>Asparagus racemosus Willd.</td>
<td>+ + + + +</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>76.</td>
<td>Shigru, Shobhanjan-Rakta</td>
<td>Morianga concanensis Nimmo</td>
<td>+ +</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>77.</td>
<td>Shimrudi</td>
<td>?</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>78.</td>
<td>Somlata, Somvalli</td>
<td>Sarcostemma brevistigma Wig. &amp; Arn.</td>
<td>+ + + +</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>79.</td>
<td>Sudhamooli</td>
<td>Polygonatum cirrhifolium Royle</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80.</td>
<td>Sunishannak, Shitavari</td>
<td>Marsilea minuta Linn.</td>
<td>+ +</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>81.</td>
<td>Tilak</td>
<td>Wendlandia exserta DC.</td>
<td>+ + + +</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>82.</td>
<td>Vandak</td>
<td>Loranthus longiflorus Desr.</td>
<td>+ +</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>83.</td>
<td>Vandhyakarkotaki</td>
<td>Momordica dioica Roxb. Will.</td>
<td>+ +</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>84.</td>
<td>Varahita</td>
<td>Dioscorea bulbifera Linn.</td>
<td>+ + + + +</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>85.</td>
<td>Vasuk-Shwet</td>
<td>Triandema portulacastrum Linn.</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>86.</td>
<td>Vidari</td>
<td>Pueraria tuberosa DC.</td>
<td>+ + + +</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>87.</td>
<td>Vuadhadaru</td>
<td>Argyreia speciosa Sweet.</td>
<td>+ + +</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>88.</td>
<td>Yavtikta</td>
<td>Euphorbia dracunculoides Lamk?</td>
<td>+ +</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**TOTAL – 88**

```
| 1  | 2  | 3  | 5  | 8  | 4  | 72 |
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W.H.O. mentions that health is a state of complete physical, mental and social well being of a person and not merely absence of disease. Rasayana is a multi-angled approach taking care of the body, mind and spirit, thus responsible for total health of a person. Rasayana is a unique stream of medication for immune-promotive, anti-degenerative and rejuvenative health care and is recognized for preventing the effects of ageing or retarding ageing and getting better quality of life of healthy as well as diseased individuals.

Ayurveda mentions that a person is healthy when Doshas are in equilibrium and a disease occurs when this equilibrium gets disturbed. Thus homeostasis is maintained by Doshas, those regulate all the metabolic processes in the human body. Vata Dosha is accountable for the catabolic activity (tissue wear and tear) i.e. Karshana, Pitta Dosha deals with the process of nutrients assimilation into tissues i.e. Pachana and Kapha Dosha governs synthesis of newer tissues i.e. Brihana. The action of these three Doshas takes place through body tissues (Dhatus). The destruction (decay created by the interaction of Agnis) and regeneration of body tissues (through proper diet (Aahar), physical work (Vihar) or medicine (Aooshadha) is a constant process that occurs in the body. The continuous replenishment of tissues is required for maintaining Dhatusamyata (homeostasis). In a diseased condition, there is disturbance in the equilibrium in the element level hence replenishment of the deficient elemental factor through appropriate herbs is necessary to get rid of the disease. Agni plays an important role in bio-transformation and Saptadhatwagni are responsible for tissue metabolism. The toxic waste of metabolism is called Aam. When Agni gets hampered, Aam doesn’t resolve through Agni because of its hypo-functioning leading to obstruction of the Srotasas (channels of micro-circulation). There is a need of clear Srotasas for tissue perfusion. The clear channels help in Dhatu Poshana (Tissue Nutrition) by nourishing Dhatus which finally results in production of excellence of tissues and boosts Ojas (immunity). Thus according to Ayurveda behind healthy regeneration of tissues; Nutrition, unimpaired tissue perfusion and Ojas are significant factors. Rasayana means the way for attaining excellence in all body tissues through some special measures and medicines. Shushrut defines Rasayana Tantra as the measure which delays the ageing process, increases intellect and strength, prolongs life and cures the disorders. Rasayana acts at the level of Rasa, Agni and the Srotas, thus enabling the organism to procure the most excellent qualities of different Dhatus. Sharandhara mentions that Rasayana is the means by which old age and diseases are averted. Rasayana plants act through three basic mechanisms-

1. Rasa enhancers (enriches the nutritional value of the circulating plasma) - e.g. Shatavari, Vidari etc. The action of the herbs depends on Rasapanchaka (Pharmacodynamics of the plant). As these herbs possess Madhura Rasa, Sheeeta Veerya, Guru, Snigdha & Sheeta Gunas, these herbs act at level of Rasa by promoting the nutritional value of the Rasa which in turn facilitate the synthesis and nourishment of the best quality of successives Dhatus.

2. Agni enhancers (improves digestion and metabolism) - e.g. Chitrak, Pippali etc. These Rasayana drugs have predominant Katu Rasa, Ushna Veerya, Laghu and Ruksha Gunas and act at level of Agni. They encourage the organic metabolism by Agnideepan and Dhatwagnideepan action resulting in improved structural & functional form of Dhatus and obtaining the Rasayana effects.

3. Srotas- channels clearing agents (cleans and activates microcirculation and improves tissue perfusion) e.g. Haritaki, Guggulu, Lavshun etc. These Rasayana drugs with probably Katu, Tikta, Kashaya Rasa; Vishada, Ruksha, Laghu Gunas; Ushna Veerya and Katu Vipaka perform the function of Aampachan and srotas-shodhana i.e. these herbs clean the channels by detoxifying the metabolic waste and support the nourishment of Dhatus. But instead of Katu Vipaka Haritaki has Madhur Vipaka alongwith Ushna Veerya which conducts Anuloman Karma i.e. it digests, breaks the adhesions and removes wastes through lower route.
After proper digestion and assimilation of food or drug, the respective Dhatu (tissue) get enriched with the nutrition (essence) and carry out their respective functions in optimum power. Thus Rasayana plants help to attain better nutritional status and the creation and development of viable cells and tissues that help to prolong aging.

Some Rasayana plants are general acting while others are tissue or organ specific. These tissue or organ specific herbs have affinity for specific tissue or organ and possess specific intention of action. This action of Rasayana herbs helps to choose the proper Rasayana herb for a particular patient.

**Dhatus or Tissues Specific Rasayana Herbs are as following**

1. **Rasa:** Gambhari etc.
2. **Rakta:** Aamalaki etc.
3. **Mansa:** Ashwagandha etc.
4. **Meda:** Haritaki, Guduchi etc.
5. **Asthi:** Guggulu etc.
6. **Majja:** Shankhpushpi etc.
7. **Shukra:** Mushali, Pippali, Nagbala etc.

**Organs Specific Rasayana Herbs are as following**

1. **Medhya Rasayana** for brain like Shankhpushpi, Brahmi etc.
2. **Chakshusya Rasayana** for the eyes like Shatavari etc.
3. **Keshya Rasayana** for the hair like Bhringaraj etc.
4. **Hridya Rasayana** for the heart like Guggulu etc.

**Kamya Rasayana** herbs are used to fulfil a wish or desire or to serve a special purpose (Kama means desire). These are helpful in healthy persons for promotion of health. These are of three types

i) **Prana Kamya Rasayana** herbs - Prana means life energy. These promote age-stabilization, longevity and vitality like Guduchi etc.

ii) **Shri Kamya Rasayana** herbs- These promote complexion like Kumari etc.

iii) **Medhya Kamya Rasayana** herbs- These promote mental competence like Shankhpushpi etc.

**Naimittika Rasayana** herbs are utilized for specific curative function. These speed up the recovery from diseases of the patients.

**Disease Specific Rasayana herbs are as following**

Eye diseases – Haritaki etc.
Heart diseases - Shaliparni etc.
Skin diseases - Bakuchi etc.
Granthi (Tumors) - Chitrak etc.
Prameha (Diabetes) - Aamalaki, Haridra etc.
Stholya (Obesity) - Guggulu, Haritaki etc.

The factors like Vaya, Prakriti, Kala and Desha need to be taken into consideration while using the Rasayana herbs.

**Vaya (Age):**

According to Ayurveda there are three parts of the lifespan of an individual known as Vaya. These are Balavastha (childhood), which lasts up to the age of 16 years and is governed by Kapha dosha responsible for growth and development; Madhyavastha (young and middle age), which lasts from the age of 16 years to
60–70 years and *Pitta* is the predominant *dosha* during this period which is responsible for the vigour and vitality of youth.; and *Vridhadhavastha* or *Jirnavastha* (old age), which is the period after 60 or 70 years and during this stage *Vata* is the predominant *Dosha* and which is responsible for most of the manifestations of aging. 

While assessing the path toward optimal health, the particular stage of life is one of many factors need to consider. Rasayana herbs like *Pippali*, *Lashun* etc. are useful in *balavastha*, *Aamalaki*, *Guduchi* etc. are useful in *Madhyavastha* and in *Vridhadhavastha*, *Nagbala*, *Ashwagandha* etc. are helpful. Different drugs had different action property in different age groups. Rasayana herbs are given below in the following table no 2.

**Table No. 2: Age Specific Rasayana Herbs**

<table>
<thead>
<tr>
<th>Decade of life</th>
<th>Loss of impact</th>
<th>Useful Rasayana Herbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Balya- Corpulance</td>
<td>Vacha</td>
</tr>
<tr>
<td>2nd</td>
<td>Vriddhi- Growth</td>
<td>Ashwagandha</td>
</tr>
<tr>
<td>3rd</td>
<td>Chhavi- Lusture</td>
<td>Aamalaki</td>
</tr>
<tr>
<td>4th</td>
<td>Medha- Intellect</td>
<td>Shankhapushpi</td>
</tr>
<tr>
<td>5th</td>
<td>Twak- Skin glow</td>
<td>Bhringraj</td>
</tr>
<tr>
<td>6th</td>
<td>Drishti-Vision</td>
<td>Haritaki</td>
</tr>
<tr>
<td>7th</td>
<td>Shukra-Virility</td>
<td>Ashwagandha</td>
</tr>
<tr>
<td>8th</td>
<td>Vikrama- Strength</td>
<td>Aamalaki</td>
</tr>
<tr>
<td>9th</td>
<td>Buddhi- Mentia</td>
<td>Brahmi</td>
</tr>
<tr>
<td>10th</td>
<td>Karmendriya- Locomotion</td>
<td>Bala</td>
</tr>
</tbody>
</table>

**Prakriti (Constitution):**
Likewise consideration of Vaya factor, Rasayana drugs are administered to individuals considering their constitution or Prakriti. On the basis of pharmacodynamics of Rasayana herbs, they are used in the relevant Prakriti. Some examples are as following-

- **Vataj Prakriti**: Nagbala, Ashwagandha (*Vata*-alleviating)
- **Pittaj Prakriti**: Aamalaki, Shatavari (*Pitta*-alleviating)
- **Kaphaja Prakriti**: Chitrak, Pippali, Vacha, Guggulu (*Kapha*-alleviating)
- **Manas Prakriti**: Ashwagandha, Shankhapushpi, Bramhi (Mental health promoters)

**Kala (Seasons):**
Rasayana herbs may be *Kala* or season specific means person may need different Rasayana herbs in different *Ritu* or seasons. Here again the Pharmacodynamic properties of different Rasayana herbs have to be taken into the consideration. The suitable Rasayana herbs to be used in different *Ritu* or seasons are as following

- **Aadan Kala** (February to July) - *Sheeta Veerya* herbs like Aamalaki
- **Visarga Kala** (August to January) - *Ushna Veerya* herbs like Lashun

**Desha (Place):**
According to the Pharmacodynamic of Rasayana herbs, these suitable herbs are used in appropriate Desha or places. Desha Specific Rasayana herbs are as following
Jangal Desha- Herbs of Snigdha and Ushna Guna
Aanup Desha- Herbs of Ruksha and Ushna Guna
Sadharana Desha - Sadharana herbs

Thus Vaya, Prakriti, Kala and Desha are important factors and require consideration when wishing to achieve all valuable health benefits of Rasayana herbs. Bhavaparakash defines Rasayana as a measure which may delay aging and prevent diseases. Longevity and improvement in mental faculties have been claimed as the classical Rasayana effects. Rasayana nourishes the tissue elements more, replenishes them, increases the anabolic activity and boosts immune system, restores spirit, vitality, delays the ageing process and improves the quality of life thereupon. Rasayana potential of Guduchi, Kakmachi, and Shatavari has been stated by all six Nighantu selected for study. The maximum number of Rasayana herbs (72) is mentioned by Shaligram Nighantu. Some Rasayana herbs like Chitrak, Guduchi, Ashwagandha, Brahmi, Gokshur, Haritaki, Pippali, Bhringraj, Shankhapushpi etc. have been thoroughly investigated to screen them for various therapeutic Rasayana benefits.

The life expectancy has been improved by successful application of modern technology but the number of people suffering with aging and degenerative disorders is rising merely because they are living longer. Regeneration of tissues after the diseased conditions like Osteoarthritis, Age Related Macular Degeneration (ARMD), Alzheimer's, Heart attack, Stroke, accident, injuries or trauma, aging remains a challenge to modern medicine. Ayurveda concentrates on the preventive aspect to arrest the degenerative processes. Acharya Charaka states that a single drug may have many applications owing to its diverse actions just as a man is able to perform various actions. Hence, the Rasayana herbs have many targets and activities. These drugs are useful in management of diseases viz. degenerative, autoimmune and metabolic diseases and mainly aging. These antiaging attributes will also comprise being Adaptogen, Antioxidant, Anti cancer, Cyto-protective and Immuno-modulator.

In experimental study some Rasayana plants have revealed biological activities like Anti-oxidant (Guduchi 233, Shaliparni 234, Punarnava 235 etc.), Immuno-modulatory (Guduchi 236, Aamalaki 237, Shatavari 238 etc.), Immuno-stimulatory (Guduchi 239 etc.), Cyto-protective (Haritaki 240, Aamalaki 241 etc.), Prevents DNA break (Haritaki 242 etc.), Anti-mutagenic (Haritaki 243 etc.), Free radical scavenger (Aamalaki 244 etc.), Adaptogenic (Aamalaki 244, Shatavari 245 etc.), Anti-microbial (Aamalaki 246, Gokshur 247 etc.), Cardio-protective(Shaliparni 248, Ashwagandha 249 etc.), Hepato-protective(Aamalaki 250, Haritaki 251 etc.), Nephro-protective (Aamalaki 250, Haritaki 251 etc.), Anti-stress (Ashwagandha 249, Punarnava 252 etc.), Anti-inflammatory (Kumari 253, Guggulu 254 etc.), Anti-tumor (Kumari 253 etc.), Anti-carcinogenic (Ashwagandha 249, Chitrak 253 etc.), Memory-enhancer (Aamalaki 250 etc.) and Aphrodisiac- activity (Gokshur 247 etc.).

The neuro-nutrient impact of Ayurvedic Rasayana therapy in brain aging validates Rasayana as micronutrients and being tissue and organ specific. Rasayana drugs are rich in antioxidants and are good hepatoprotective, nephro-protective, and immune-modulating agents. The drugs intended for Rasayana purpose are currently explored under the various pharmacological contexts such as anti-ageing, antioxidant, cognitive enhancers and nootropic, adaptogenic, immune-modulators, etc. Several recent researches revealed that Rasayana drugs have adaptogenic, antioxidant, and anti-inflammatory potentials. Rasayanas are among its most commonly prescribed medicines, now recognized for their ability to stimulate the immune system in a series of experiments. It has also been reported that Rasayanas have immunomodulatory and anti-tumor functions. Ayurvedic Rasayana drugs are also reported to act as adjuvant and shown significant effects in reducing the adverse effects of radiotherapy and chemotherapy. Rasayana drugs induce immune-stimulation & improves defense mechanisms against free radical damage. Healthy state of mind and body can be obtained by Rasayana or Rejuvenating herbs which possess adaptogenic effect. The adaptogens, coined by Lazarev in 1947 are defined as substances meant to put the
organism into a state of non specific heightened resistance in order to resist stresses and adapt to extraordinary challenges. The adaptogens encompass relative actions like immuno-stimulants (which heighten the resistance), nootropics (which improve higher integrative brain functions like memory, learning, thinking and understanding), anabolics (which activate the growth), tonics (which mitigate the weakness) and geriatrics (which prevent the old age diseases). Rasayana drugs have been proved effective against biological, physical, and chemical stressors as judged by using markers of stress responses and objective parameters for stress.\textsuperscript{244} Drugs in various ‘Rasayana’ forms, which act by modulating the neuro-endocrino-immune systems, have found to be a rich source of antioxidants.\textsuperscript{244,266}

The emerging data suggest that the possible mechanisms of Rasayana drugs may be immune-stimulation, quenching free radicals, enhancing cellular detoxification mechanisms; repair damaged non-proliferating cells, inducing cell proliferation and self-renewal of damaged proliferating tissues, and replenishing them by eliminating damaged or mutated cells with fresh cells.\textsuperscript{267}

Today, with the use of radiotracers and nuclear imaging techniques, it proposes to break new grounds in understanding the action of Ayurvedic drugs at the molecular level, particularly the Rasayana drugs and Medhya Rasayana (memory enhancing drugs).\textsuperscript{268} The research has just begun in the immuno-modulation and memory aspects but the detail study is required.

For biology of regeneration, Rasayana herbs offer research opportunities. Tissue-specific Rasayanas can be tried for differentiation of stem cells and regenerate specific tissue of choice.\textsuperscript{269} Systems approach needs to be followed by stem cell biologists and Ayurveda experts to know complex molecular pathways through which Rasayanas act and contribute to steering cellular differentiation pathways in a predictable mode.\textsuperscript{269}

The research is focusing only one or couple of aspects of Rasayana herbs’ therapeutic benefits. The extensive research on all salutary benefits of single Rasayana plant will be more definite validation of submissions made in Ayurvedic classics and then these Rasayana herbs will surely provide a ray of hope for prevention and cure of the degenerative, autoimmune and metabolic diseases on the highest level of therapeutic efficacy. The research work on controversial Rasayana plants like Shimrudi, Krishna-Jayanti, Neel-punarnava, Suvarna-ketaki etc. is necessary to confirm their botanical identity.

**CONCLUSION**

It is an attempt on the part of this review paper to draw attention towards the documented herbs in Nighantus which have Rasayana properties. The present study revealed 88 plants with Rasayana activity are compiled according to their alphabetical order. These Rasayana plants need to be explored further intensely for finding solutions to degenerative and aging disorders in the current society. This quantitative screening will be very valuable for future research, product development by pharmaceutical industries and the treatment of particularly life style diseases and degenerative disorders.

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