ROLE OF RASAYANA HERBS AS IMMUNOMODULATOR

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ABSTRACT
Primary objective of health care is prevention of disease & promotion of health. Mainly there are two type of disease Sharirak and Mansik which can be better cured by the holistic approach. Thus preventive medicines are needed more as comparable to curative. In todays scenario life style has became very hectic which leads to exertion and as a result body is not able to cope up the essential nutrients. Life style related disease such as HTN, Diabetes, mental illness, addictions have emerged as challenge. To maintain health Rasayana as described by Acharya Sharangdar should be administered. Rasayana plants having immunomodulatory effect are described as specific anti-aging, improving quality of life with enhanced intelligence and memory, hence increase resistance towards various diseases. Rasayana plants possess immunomodulatory and immunostimulatory activities and there are abundant examples of such plants. To maintain a disease free state, modulation of immune response by either its stimulation or suppression, can be a helpful therapy.

Keywords: Rasayana, Immuno –modulator herbs, Ayurveda.

INTRODUCTION
Ayurvedic system of medicine describes the concept called Rasayana which is composed of two words Rasa & Aayan. Rasa is the Dhatu and Aayan means the path through which one can get the delaying ageing process, maintenance of youth, improvement of mental health and also removal of diseased conditions caused due to infectious organisms and also mental or physical stress. The precise meaning of Rasayana is the therapeutics which promotes Dhatus –tissues of body and increase strength and immunity against disease. Ayurvedic herbs have medicinal quality providing rational means for treating disease and leads to healthy, peaceful and disease free life. The medicinal plants mentioned under Rasayana promote the quality of body tissues through Poshak rasa, Agni & Strotas. In many
of the diseased conditions, immune response is impaired. Immunity is the state of being immune from or insusceptible to a disease. Hence to maintain a disease free state, modulation of immune response either by its stimulation or suppression, can be a helpful therapy. The non–specific immune stimulation or immunopotentiation can be caused with the use of some medicinal herbs. Ayurvedic concepts of preventive health care have shown certain links with non–specific immunostimulation by such medicinal plants. Shtavari, milk, ghee cause the enrichment of nutritional quality of nutrient plasma i.e. Poshaka rasa. Plants like Bhallataka and Pippali promote the nutrition by improving the digestive processes and metabolic activities i.e. Agni. Increasing the efficiency of micro-circulatory channels is caused by Strotas. They cause better availability of nutrient to the tissues. Guggulu is a typical example of such a drug which acts on Strotas.

NEED OF THESE DRUGS:
Life style in today scenario is very hectic. Every person is suffering from over exertion which can be either physical, mental or both. People are not taking appropriate diet which leads to poor nutrition of body. Tendency of lethargy is increasing day by day. All these factors as a result lead to depression, insomnia, recurrent illness etc. Proper Rasayana drugs according each decade as mentioned by Acharya Sharangdhar should be taken. So there will be better quality of life and improvement of all the body tissues and their nourishment.

MATERIAL AND METHOD
Different Ayurvedic classical books, research papers and journals were referred. Various concepts of Rasayana and role of herbal immunomodulator drugs in prevention and treatment of various diseases have been described.

WHAT IS RASAYANA?
It is composed of two words: RASA + AYAAN
RASA = Rasa, Raktaadi Dhatu
AYAAN = Means to achieve the excellent Rasa, Raktaadi Dhatu
Hence Rasayana means to achieve the excellent Rasa, Raktaadi Dhatu

• The science of Rasayana deals with anti-aging, cognitive strength, longevity and gaining the strength to get rid of diseases (1)
• Rasayana is that which results in proper nourishment of all the tissues (2).

RASAYANA HERBS:
Rasayana herbs are described as specific anti-aging, improving life quality by enhancing intelligence and memory (3), hence increases resistance towards various diseases suggesting that plant possessing the properties of immunomodulation and immunostimulation. Numerous single and compound Rasayana medicines possess diversified action. Rasayana drugs induce immune-stimulation and improve defense mechanisms against free radical damage (4)
**Table 1: Rasayana Drugs with Immunomodulator Activity**

<table>
<thead>
<tr>
<th>Rasayana Drug</th>
<th>Immunomodulator Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andographis paniculata</td>
<td>Mangifera indica</td>
</tr>
<tr>
<td>Allium sativum</td>
<td>Picrorrhiza kurroa</td>
</tr>
<tr>
<td>Curcuma longa</td>
<td>Piper longum</td>
</tr>
<tr>
<td>Gmelina arborea</td>
<td>Randia dumatorum</td>
</tr>
<tr>
<td>Glycyrrhiza glabra</td>
<td>Silajatu</td>
</tr>
<tr>
<td>Hemidesmus indicus</td>
<td>Sphaeranthus indicus</td>
</tr>
<tr>
<td>Withania somnifera</td>
<td>Tinospora cordifolia</td>
</tr>
</tbody>
</table>

**Table 2: Rasayana Drugs With Anti-Oxidant Activity**

<table>
<thead>
<tr>
<th>Rasayana Drug</th>
<th>Anti-Oxidant Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asparagus racemosus</td>
<td>Piper longum</td>
</tr>
<tr>
<td>Bacopa monniera</td>
<td>Tinospora cordifolia</td>
</tr>
<tr>
<td>Boerrhavia diffusa</td>
<td>Picrorrhiza kurroa</td>
</tr>
<tr>
<td>Centella asiatica</td>
<td>Curcuma longa</td>
</tr>
<tr>
<td>Convolvulus pluricaulis</td>
<td>Shilajit</td>
</tr>
<tr>
<td>Withania somnifera</td>
<td>Emblica officinalis</td>
</tr>
</tbody>
</table>

**HERBAL PLANTS AS IMMUNOMODULATOR:**

Herbal drugs exert their effect by modulating both humoral and cellular immune functions. They also have the capacity to control the production of proinflammatory mediators, thereby managing many inflammatory processes \(^5\). Herbal immunomodulator is substances which stimulate or suppress the components of immune system including both innate and adaptive response. Various medicinal plants and various “Rasayana” have been claimed to possess immune-modulatory activity e.g. Ashvagandha, Arjuna, Kutki, Guduchi etc.

**IMMUNOMODULATOR**

Immuno modulator are the substances which weaken or modulate the activity of the immune system \(^6\). Immunomodulation is a process which can alter the immune system of an organism by interfering with its functions and results in an enhancement of immune reactions that in turn decrease the inflammatory response. Natural immunomodulator act to strength the weak immune system. Sterols and Sterolins are natural immunomodulator found in raw plants. They can either function as;

1. **Immunosuppressants**
2. **Immunostimulants**

**MODE OF ACTION OF RASAYANA DRUGS \(^7\)**

1. **At the level of Rasa (Poshak Rasa)**
   They improve the nutrition as a result improving the nutrional value of Plasma

2. **At the level of Agni**
   They improve digestion and metabolism thus improved nutrition is provided to the tissue.

3. **Strotas improvement**
   By improving micro circulation thus cleaning the strotas.

4. **Dravya Prabhava**
   Drugs produce specific type of Rasayana action by virtue of their specific potency.
So by all the means there is

**IMPROVED TISSUE NOURISHMENT**

**IMPROVED QUALITY OF LIFE**

### Table 3: Rasayana Herbs for Specific Purposes (8)

<table>
<thead>
<tr>
<th>System</th>
<th>Herbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory System</td>
<td>Sirisha, Agastya, Haridra, Haritaki</td>
</tr>
<tr>
<td>Circulatory System</td>
<td>Salaparni, Arjuna, Guggulu, Pushkaramula</td>
</tr>
<tr>
<td>Arthritis</td>
<td>Rasona, Guggulu, Aswagandha</td>
</tr>
<tr>
<td>Neuropathies</td>
<td>Rasona, Guggulu, Aswagandha</td>
</tr>
<tr>
<td>Eye</td>
<td>Jyotishmati, Triphala, Satavari, Amalaki, Yashtimadhu</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Silajitu, Amalaki, Haritaki, Tejpata, Methika</td>
</tr>
<tr>
<td>Lipid Disorders</td>
<td>Guggulu, Haritaki, Pushkaramoola, Vaca</td>
</tr>
<tr>
<td>Memory Disorders</td>
<td>Brahmi, Mandookparni, Jyotishmati, Kapikachu, Tagara</td>
</tr>
<tr>
<td>Skin Diseases</td>
<td>Bhallataka, Vidanga, Bakuchi</td>
</tr>
<tr>
<td>Hypertension</td>
<td>Rasona, Sarpaganda, Aswaganda, Jatamansi</td>
</tr>
</tbody>
</table>

- **Bala, Kashmari & Varahi** act as dietary adjuvants & are good for increasing the strength of tissues and organs.
- **Pippali** acts as “Respiratory Rasayana “.
- **Lahsun** increases the tissue enzymes.
- **Haritaki** act as “Digestive Rasayana “by eliminating the waste products from the tissue, particularly from GIT.
- **Brahmi, Vach, Shankhuspi, Mandukaparni** helps to increase intellect and memory.
- **Guggul** helps further digestion of waste products.
- **Amlaki** and **Guduchi** decrease the catabolic process and thus postponed ageing. Therefore, they are “Vayasthapak Rasayana” (Adaptogenic tonic).
- **Bhallataka** has a powerful immune promoting substance which overcomes many conditions like RA & some sages of malignancy.
- **Punarnava** promotes the kidney functions and improves the regenerating capacity of nephrons.

- **Shtavari** is best known as a female rejuvenative.

### RASAYANA AS IMMUNOMODULATOR

One of the major uses of Rasayana drug is modulation of the immune response. Chronic stress has an immunosuppressive action which adversely affects the defence mechanism of the body. Rasayana drugs have wide spread clinical use, including diseases postulated to be induced by Oxidative Free Radicals. It is possible that, at least part of their therapeutic effects, are due to reduction of oxidative stress. Likewise, their anti-aging may be due to a similar mechanism. Rasayana are reported to have anti-oxidant action.

Mode of action of Rasayana as immunomodulator: One of the major uses of rasayana drugs is the modulation of the immune response, since chronic stress has an immunosuppressive action which adversely affects the defence mechanism of the body.
DISCUSSION

*Rasayana* drugs have *Madhur Vipak* mostly and retard the process of ageing probably by acting as free radical scavenger. These are rich in Vitamin C, Vitamin E, Beta carotene, riboflavin. So these substances are capable of counteracting the damaging effect of oxidation. So they work as anti-oxidants. In *Amalaki* main constituents are Vitamin C, carotene, riboflavin. So it has role in cellular oxidation reduction. Withanolide in *Ashwagandha* increase levels of three natural anti-oxidants like super oxide, dismutase, Catalase, Glutathione peroxidase & helps to prevent damage of cells. So work to prevent aging process. Experimental studies have proved *Rasayanas* to be anti-toxic and anti-infective drugs. *Ashwagandha* (withania Somnifera), *Vacha* (*Acorus Calamus*), *Brahmi* (*Centella asiatica*) improves antioxidant levels & reduced oxidative damage of nervous system (9-12) *Amalaki* (*Embelica Officinalis*), *Shatavari* (Asparagus racemosa), all improves GIT functions & have very good hepatotoxic acivity (13-16). *Rasayana* as immunomodulator herbs are perhaps the only ‘wonder’ drugs that can be taken safely for long stretches of time, even in a healthy state, without any specific contradictions. Several plants find mention in *Ayurveda* which are used in *Rasayana* therapy and found to have significant stress –attenuating effects. *Charaka* has described *Cyavanprasa* which rejuvenated *Cyavana Risi* whereas *Susruta* described many *Rasayana* formulations that increase the life span and refers to them as *Ayuskara*.

CONCLUSION

The term *Rasayana* does not only refer to a drug or a therapy but to a comprehensive discipline which may of course include a therapy. It is a multi-angled approach taking care of the body, mind and spirit, thus affecting total wellbeing of an individual. A *Rasayana* herb nourishes body, boosts immunity, strength, resistance, quality and quantity of *Ojas*, which is the *Saar* of all *Dhatus* restore spirit, vitality and thereby attain the longevity. *Rasayana* as immunomodulator are now considered as one of the most potent tools in the management of health and disease as objective of immune enhancement is achieved through the use of *Rasyana* drugs.

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