A Review on Ayurvedic Nutraceutics

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Abstract- Nutraceutic is applied to products that are isolated from herbal products, dietary supplements, specific diets, processed food that, other than nutrition are also used as medicines. Considering the burgeoning diseases due to the fast-paced lifestyles, the huge health care costs and the unavoidable side effects associated with modern medicine, the world is gradually shifting towards a preventive and holistic approach. In Ayurveda, the health and immunity of the healthy individual is to be preserved through diet, lifestyle, drugs while the ones suffering from ailments are treated holistically with Rasayan chikitsa as the final leg of therapy. Myriad nutraceutical references are available in the classical Ayurvedic texts like balya, shramahar, bruhan, medhya, rasayan which needs to be grouped and analyzed as per the indications. An elucidated analysis of the Nutraceutics is discussed in the paper below.

Index Terms- Nutraceutic, Balya, Rasayan, Medhya, Bruhan.

I. INTRODUCTION

Nutraceutical is a product isolated, derived or processed from natural sources and sold in the medicinal form (powder, tablet, capsules, etc.) The term is applied to products that are isolated from herbal products, dietary supplements, specific diets, processed food that other than nutrition are also used as medicines. Nutraceuticals are be used to improve health and immunity, delay the aging process, prevent chronic diseases, increase the life expectancy, support the structure and function of the body. The types mainly consist of –

1. Nutrients: Substances which have nutritional foods e.g. Vitamins, Minerals, Amino acids, Fatty acids.
2. Herball/ phytochemicals: Derived from herbal, botanical sources.
3. Dietary Supplements: e.g. Probiotics, Pre-biotics, Anti-oxidants , Enzymes.

II. AIMS AND OBJECTIVES

To review the nutraceutical references in Ayurveda. To comment on the applications of nutraceuticals as a potential palliative and preventive treatment.

III. METHODOLOGY

All the literature associated with Ayurvedic nutraceuticals were procured, reviewed and classified according to the guna and karma.

A wide variety of nutraceutical references are found in Ayurveda like Balya, bruhan, jeevaniya, Medhya, ojovardhak, Rasayan which fits into the mould concept of holistic nutrition.

1. Balya

The drugs specified in this group are Aindri, Kapikacchu, Shatavari, Ksheervidari, Maashparni, Ashwangandha, Shaaliparni, Katrohini, Bala, Atribala.[11]

Sushrut in Sutrashthan has mentioned Gokshur, Bruhati, Kantkari, Vidaarigandha as balya

Rasa-tikta, Madhur Vipaka – Madhur Veerya- sheet, ushna Guna- guru, snigdha, sthir

The concept of balya in Ayurved is not merely as strength promoter. Bala is a function of Prakrut kapha[3].

Decreased bala is related to the aggravation of vaat[3] and pitta and since vitiation of Agni is the root cause of all disorders, bala is the function of agni,[4] shukra dhaatu[5]. Maamsa, meda dhatu, purisha. Balya drugs due to tikta , laghu guna cause dhaatwagni deepan , srotoshodhan which results in optimal formation of rasa and other dhaatus progressively due to proper dhatuposhan. In utipravrutti of purisha (diarrhoea), especially in diseases like raajyakshma, tikta, ushna guna causes a grha effect protecting the bala, prana of the patient[6]. Staniya is an upadhata of Rasa. These drugs with Madhur ras, vipaka, Sheet potency lead to dhatu poshan and rasa vridhhi thereby acting as galactagogues.

2. Bruhan

The drugs under this group are ksheervidari,dugdhika, ashwagandha, kakoli, ksheerekkoli,Shweta bala, peet bala,vidarikanda, vruddhdaara, vankarpaas[7]

Vidarigandhaadi, Kakolyaadi Gana- Bruhan[8]

Vidaryaaadi – Bruhan Gana[9]


The bruhan drug should have the following properties[10]

Guru, sheet, mridu, snigdha, bahal, shtool, picchil, manda, shhira, slakshna. The above mentioned guna helps to pacify vaat pitta [11] and increase kapha. The two dhaatus responsible for ‘ Bulk promotion’ are Maamsa and Meda. Maamsa is responsible for shiripushtri[12] (sustenance of the body) and Meda dhatu begets pushhti as well as dridhtva[13] ( sustenance, sturdiness of
body). The drugs specified under bruhan with their aforementioned gunas are analogous with the gunas of Maamsa and Meda.

APPLICATION

Bruhan is a recommended therapy in all types of vaatvyaadhi, hikka, shwaas[14] since these arise mainly due to the aggravated vaat dosh. It is also indicated in grishma ritu, in individual debility post any infection or disease like raajyakshma, in the postpartum period[15]. In cases of prolonged usage of bruhan drugs, care must be taken since these arise mainly due to the drugs decrease the level of catecholamines in the body and thes drugs possess anti-stress, anti-anxiety, and adaptogenic effect. In broader sense, the drug distribution can be done as follows-

<table>
<thead>
<tr>
<th>Guna</th>
<th>Vipaka</th>
<th>Rasa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guru/ laghu</td>
<td>Snigdha</td>
<td>Picchil</td>
</tr>
</tbody>
</table>

3. Shramhar (Anti-fatigue)

The drugs under this group are Draaksha, daadim, kharjur, priyaal, mushali, parushak, ikshu, yava, shastika.[16] Parushakhaadi Gana[17]

Rasa-Madhur, Amla, Kashay Vipaka-Madhur
Veerya- Sheet Guna- Snigdha, guru/laghu, mridu, sara.

Shrama or Fatigue is a symptom associated to diminution of rasa[18], shukra and asthi dhaatu[19]. It is one of the prodromal symptom of Pandu rog and commonly seen due to intense or over-exercising i.e ativyayam[20]. The drugs specified under this group by the virtue of sara guna causes doshanuloman, vaatuloman, curbs vitiated vaat in koshtha. Madhur, sheet, snigdha guna causes pittashaman and a specific action of tarpan of all rasaadi dhaatus.

APPLICATION

This mode of action can further be applied clinically in some conditions of jwar[21] or post-febrile conditions like trushna (excessive thirst), daaah (burning sensation), aruchi (anorexia), daurbalya (weakness), shossh (emaciation), which indicates that the drugs can be utilized either for a quick rejuvenation of dhaatus or through a prolonged usage called as ‘abhayas tarpan’[22]. The table below is denoted for specific action of the drug on dosha dhaatu.

<table>
<thead>
<tr>
<th>Dosa</th>
<th>Dhaatu</th>
<th>Drug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaat</td>
<td>Rasa</td>
<td>Draaksha</td>
</tr>
<tr>
<td>Vaat</td>
<td>Rakta</td>
<td>Daadim</td>
</tr>
<tr>
<td>Vaat</td>
<td>Maamsa</td>
<td>Kharjur</td>
</tr>
<tr>
<td>Vaat</td>
<td>Asthi-Majja</td>
<td>Priyaal</td>
</tr>
<tr>
<td>Vaat</td>
<td>Shukra</td>
<td>Mushali</td>
</tr>
<tr>
<td>Pitta</td>
<td>Rasa</td>
<td>Parushak</td>
</tr>
<tr>
<td>Pitta</td>
<td>Rakta</td>
<td>Ikshu</td>
</tr>
<tr>
<td>Tridosh(vaat, pitta, kapha)</td>
<td>Balya</td>
<td>Shairiyakrut</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yava</td>
</tr>
</tbody>
</table>

4. Medhya (Neuro-nutrient/Brain tonic)

Juice of Mandukparni, Yastimadhu choorna with milk, Shankhapushpi kalka are some of the examples[23]

Rasa-Tikta pradhaan, kashay, Madhur.
Vipaka-Madhur Veerya- Sheet / Ushna
Guna- Guru/ laghu, Snigdha, Picchil

Medhya rasayan as described above by charak are a group of drugs which act on intellect, memory, and other faculties of brain function by action of Prabhava. Medha consists of 1. Dhi (intellect) 2. Dhruti (power, retention) 3. Smriti (Memory). Medhya drugs decrease the level of catecholamines in the body and these drugs possess anti-stress, anti-anxiety, and adaptogenic effect. In broader sense, the drug distribution can be done as follows-

<table>
<thead>
<tr>
<th>Drug (Intellelct)</th>
<th>Smriti (Memory)</th>
<th>Medha (Brain tonic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jyotishmati</td>
<td>Shankhapushpi</td>
<td>Haritaki</td>
</tr>
<tr>
<td>Brahmi</td>
<td>Mandukparni</td>
<td>Bhallatat</td>
</tr>
<tr>
<td>Haritaki</td>
<td>Ghrita</td>
<td>Kashmari</td>
</tr>
</tbody>
</table>

| Jeerak | Jatamaansi |
| Shatavari | Vrudhhdaru |

APPLICATION

They are used for the treatment of psychological and psychosomatic disorders like unmada (delirium), apasmaar (epilepsy), buddhibhramsha (impaired intellect), visham buddhi (anxiety/distress) etc. Brahmi acts as a Nootropic. Mandukparni as a psychotropic, Shankaspshphi as a memory booster, antidepressant, anti-convulsant.

The function of Udaan Vayu is related to dhi, dhruti, smruti, bodhan. Prana Vayu is also functionally important for Buddhi, Chittadhak[24] while Saadhak Pitta plays a role in Buddhi, Medha[25] aspect. Mandukparni, Yashimadhu, Jatamsani, Jyotishmati, Guduchi are useful in udaan vayu vitiation. Vacha, Karpur, Jeerak, Daadim, Haritaki, Shatavari can be used in Prana Vayu vitiation while Shatavari, Aparaajita, Yashimadhu, Kushmaand can be used in Saadhak pitta vitiation.

5. Rasayan

Rasayan usage in appropriate condition with specific dosage and regimen gives results which is the base of Apunarbhav chititsa (eliminating a disease without recurrence). Rasayan includes an appropriated, optimum nourishment leading to improved biological functions. This can be compared with anti-oxidant, regenerative, immune-modulatory, adaptogenic actions.

Rasayan drugs essentially fulfill two functions- deepan and bruhan. Deepan of Jatharagni, dhatwagni ensures proper digestion and metabolism of the Poshak Rasa which promotes the formation of prastha dhaatus.

(quality tissues). They also act on Srotas, cleansing the channels which causes better microcirculation of nutrients. Rasayan drugs improve the longevity, memory, health, complexion, lustre, strength, youthfulness[26]. The prescription of Rasayan therapy includes diets e.g habit of consuming milk and ghirita is called an excellent rasayan[27] by Acharya Charak; herbal drugs and formulations and mineral compounds. This diversified concept of rasayan is to be applied according to an individual, their age, gender, disease, organ-specific, desired effect as well as prakriti as mentioned below.

<table>
<thead>
<tr>
<th>Daatu</th>
<th>Drug of choice</th>
<th>Rasayan formulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rasa</td>
<td>Guduchi, Vidaari</td>
<td>Kushmenda Rasayan</td>
</tr>
<tr>
<td>Rakta</td>
<td>Pippali, Guduchi</td>
<td>Chyawapraash Avaleha</td>
</tr>
<tr>
<td>Maansa</td>
<td>Shatavari, Bala, Naagbala</td>
<td>Naagbala Rasayan, Amrutpraash Ghrita</td>
</tr>
</tbody>
</table>
This is a type of formulation in which the herbal drug is boiled with milk and water in the ratio of 1:8.32 until the water part gets completely evaporated\[29\]. This medicated milk is easy assimilated by the body. Milk in itself acts as jeevaniya, preenam, balya, bruhan, medhya,deepaniya due to Madhur, snigdha guna.

**APPLICATION**

*Ksheerpaka kalpana* are prescribed according to different conditions e.g *Bhallatak Ksheer* for delayed ageing\[30\], *Rason Ksheer*\[31\] for cardio protection, sciatic pain ;Gokshur Ksheer\[32\] for constipation, dysuria.

It is suitable for all patient types and age groups.

Better palatability due to Madhur rasa leads to better patient compliance with the drug dose regimen. The *Tikshna, ushna* guna of the drug used gets reduced

(e.g. *pippali, lashun*) A larger dose can be given for desired effect since it is boiled with milk and water. With gradual increase in temperature, solubility increases which improves the extraction of relevant active constituents.

**IV. DISCUSSION**

Ayurvedic nutraceutics have a three way focus on prevention, cure, post-illness care inclusive of dietetics, therapeutics, and immunity enhancers. The concept of Rasayan given in an appropriate manner specific to the disease forms the base of avoidance of its recurrence. Ayurvedic nutraceutics provides a unique and better drug delivery system through formulations which ensure maximum absorption of active principles. Concept of *Ritu Rasayan* helps to maintain the physiological equilibrium due to seasonal variation thus keeping illness and infections at bay.

A holistic, individualistic protocol of nutraceutics according to the age, disease condition or post convalescent period is available. A fixed dosage for a specific time period with a specific vehicle (anupaan) curbs any unwarranted ill effects like in case of bulk promoters freely available in market which have a high content of saturated fatty acids proving detrimental in the long run.

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