



REVIEW ARTICLE

A CONCEPTUAL REVIEW OF *YAVAGUKALPANA* AS A FUNCTIONAL NUTRACEUTICAL

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ABSTRACT:

Ayurveda being a traditional Indian life science has primary objectives of maintenance of health and cure of disease. To meet this objective *Ayurveda* has elaborately discussed *Aahar* (diet), *Vihara* (lifestyle practices) and *aushadh* (medicines) in detailed. Many do's that is *pathya* and don't that is *apathya* are explained regarding these three. Specifically regarding diet a lot of emphasis is given and separate chapters are written in ancient texts about classification of diet, qualities, functions, and actions of diet, rules for consuming diet, incompatible diet substances and so on. Diet is considered as cause of health as well as for disease. Medicine and diet go hand in hand in treatment of any disease. *Ayurveda* considers *aahar* (diet) as *aushadh* (medicine). These *pathya aahar preparations* provide essential nutrients at the same time they act as medicine. Wholesome food items and recipes in combination with some medicines are explained in *pathyakara aahara* for many diseases. In classification of diet *Charaka* has mentioned 13 groups of food substances with their characteristic qualities and action on *doshas* on body. Out of 13 groups, 1 group is *kritanna varga* in which recipes like *peya*, *vilepi*, *manda*, *yavagu* are described. Recently the concept of food as medicine is gaining popularity. This concept is discussed as nutraceuticals which are food or part of food that provides medical or health benefits including the prevention and/or treatment of a disease. Present review is an attempt to evaluate the *Yavagukalpana* described in various diseases as functional nutraceutical.

Key words: *Yavagu*, Ahara, Pathya, Dietary supplement, Nutraceutical

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INTRODUCTION

Ayurveda is considered as Traditional Indian life science and practiced in this country from time immemorial and passed the test of time. Modern science of nutrition, historically speaking started as an offshoot of the disorders of vitamin deficiency. On the other side the concept of diet and diet regimen are been thoroughly discussed in *Ayurveda* and they are closely linked with *tridosha* theory and constitutional types of patients.

Basically in *Ayurveda* promotion of health and prevention of diseases is given more importance. At the same time curative aspect is also discussed in detailed. All this is dependent on three factors i.e. *aahara* (diet), *vihara* (lifestyle practices) and *aushadha* (medicines). If not followed as per the rules diet can cause disease and if taken properly can prevent and cure disease. Hence when the diet and its regimen if followed as per rules it is considered as *pathya* and in otherwise called as *apathya*. Concept of *pathyapathya* is uniqueness of *Ayurveda*. *Pathyakalpanas* (diet recipes) are discussed in management of various diseases which are prepared as combinations of dietary substances along with medicines. Since ages, Indian people in every part of country are using spices in their cuisines for enhancing the test of food which subsequently helps in the digestion.

Recently a newer term “Nutraceuticals” came in existence. Nutraceutical word is combination of Nutrition and pharmaceuticals. In short it’s a combination of diet and medicine. By definition nutraceutical is the food substance or nutrients which act as a medicinal management and health maintenance at the same time. Many researchers in modern life sciences as well as Experts in Ayurveda have discussed this concept in the perspective of Ayurveda. Present review article is an attempt to explore a different angle of *yavagu pathyakalpana* as nutraceutical.

Different Ayurvedic classical texts, manuscripts, journals and Wikipedia have been used to review concept of *yavagu kalpana* as nutraceuticals.

Prime aim and Objective of this review is as follows:

1. *Pathyapathya* concept in *Ayurveda*
2. Study of the concept of Nutraceuticals.
3. Study of various *yavagu* preparations as a nutraceutical in various disease conditions.

Pathyapathya* concept in *Ayurveda

“*Tat cha nityam prayunjeet svasthyam yen anuvartate. Ajaatanam vikaranam anuttpattikaram cha yat*”^[1].

The diet which besides providing the basic nutrition to the body, helps to maintain the healthy state of the body and prevents the

occurrence of diseases should be consumed. In Ayurveda, the importance of particular diet in prevention and treatment of diseases was well known even in 1000 BC. For ages, people in India, because of their cultural beliefs and experiences have taken herbs and herbal formulations as part of their daily food supplements.

An interesting verse regarding the importance of wholesome diet goes as: “*Pathye sati gadaartasya kim aushadh nishevane. Pathye asati gadaartasya kim aushadh nishevane*”^[2].

If wholesome diet is given in a planned way, then there is no need to administer medicines and if wholesome diet is not being used then too there is no need to give medicine, as this is not going to cure the disease in the absence of wholesome diet.

The diseases can be cured without any medicine by just following wholesome regimen whereas even hundreds of medicines cannot cure a disease in absence of wholesome regimen.

Ayurveda explains *apathya ahar* as cause of diseases. And in the management of disease it is advised to avoid the causative factors that is the *apathya* and take *pathya ahar* to facilitate the healing process.

As per *Ayurvedic* classics *dravyas* are of 2 types. *Aushadha* (Medicinal preparations) like *swarasa* (expressed juices), *kwatha* (decoction), *snehakalpanas* (Oils and Ghees),

himas (cold decoctions), *Avalehas* (Medicinal jams).

Ahara (dietetic preparations) like *yavagu* (gruels – using rice as main ingredient), *yushas* (soups , pulses as main ingredient), *mamsa rasas* (meat juice or soup). The dietetic preparations are further classified as (i) *krittanna kalpana* which are used for health promotion and (ii) *pathyakalpanas* which are used in disease management.

Both the groups have basic preparations like *yavagu*; *manda*, *peya*, *vilepi* and *mamsa rasa*. However in *pathyakalpanas* decoction of medicinal herbs are taken as a medium for preparation. Commonly *yavagu* preparations adopts the pharmacological properties of the drug decoction used for specific diseases^[3].

It is quite clear that *yavagu* is not a complete treatment of disease but partially play a very effective role to treat the diseases

In *Ayurvedic* literature three types of *yavagu* are described. 1. *kalkasiddha yavagu* (prepared from paste of medicines) 2. *kwathasiddha yavagu* (prepared from decoction of medicine). 3. *mamsasiddha yavagu* (prepared in meat soup)^[4].

Hence in *Ayurveda* food is considered as supreme medicine (*Mahabhaishajya*)^[5].

Study of the concept of Nutraceuticals .

In recent times “Nutraceutical” a new term is in discussion. The medicine which is in the form of food is defined as nutraceutical.

This is commonly used synonymously for designer foods, health foods, fortified foods, medi foods, vita foods, functional foods and dietary supplements. A foodstuff such as a fortified food or dietary supplement that provides health benefits in addition to its basic nutritional value is considered in this category. Broadly nutritional supplements and functional foods are the categories of nutraceuticals [6].

Nutritional supplement:

A nutritional supplement is a product taken by mouth that contains a "dietary ingredient" intended to supplement the diet.

The "dietary ingredients" in these products may include: vitamins, minerals, herbs or other botanicals, amino acids, and substances such as enzymes, organ tissues, glandular, and metabolites.

Dietary supplements can also be extracts or concentrates, and may be found in many forms such as tablets, capsules, softgels, gelcaps, liquids, or powders.

Functional foods:

Functional foods are fortified or enriched during processing and then marketed as providing some benefit to consumers. Sometimes, additional complementary nutrients are added, such as vitamin D to milk.

Functional foods can be defined as "ordinary food that has components or ingredients added to give it a specific medical

or physiological benefit, other than a purely nutritional effect [7].

Study of various yavagu preparations as a nutraceutical in various disease conditions:

In *charaksamhita* three types of medicines are explained. Out of which *yuktivyapashraya chikitsa* in which diet and medicines are used by proper reasoning. *Antahaparimarjan* is a type of *yuktivyapashraya* management which is the internal administration of medicines. (*Charak Sutrasthana* 11) [8].

Yavagus(gruels) are nothing but the simple recipes prepared by adding medicinal herbs to the basic rice recipes. *Yavagus* are primarily described under the heading of *samsarjana krama* as part of diet regimen after *shodhana*. They are administered to kindle the digestive fire. (*charak siddhi sthana*) . Three types of preparations (*Manda, Peya and Vilepi*) are also called as *yavagu*. Only difference between these preparations is the quantity of water used [9]. Many *yavagu* preparations are also mentioned in treatment of various diseases.

Method of preparation of basic *yavagu*: 1 part of rice is taken, and 6 parts of water is added to, boiled till the rice is cooked. (*Chakrapani Tika*) [10].

Boiling of rice while preparing *yavagus* increases digestibility; also adding herbs medicine to it enhances the secretions of enzymes in the body responsible for digestion and metabolism which are reduced in disease

conditions. Rice in *yavagu* provides energy; it also contains lower amounts of protein. But the nutritive value of rice is high. Also, resistant starch has a low glycemic index because of slow release of glucose. *Yavagu* act as a mediator to give medicines to patients. It is easy to prepare as well easy to digest. ^[11].

The major content of rice is carbohydrate and starch which is 72 to 75 % starch molecules which are the source of calories in diet prepared from rice. When rice is boiled in

water it swells and ruptures; thus, released the enzyme like amylases, resistant starch acts like soluble fiber in the gastrointestinal tract thus provides health benefits ^[12].

For various diseases specific medicinal herbs / buttermilk or meat broth is added to prepare the *yavagu* ^[13].

Following are some examples of *yavagus* mentioned in various diseases as a medicinal.

Management:

Table no.1: Disease wise *yavagu* list as per various *ayurved* texts

Sr. no	Name of <i>yavagu</i>	Ingredients	Uses
1	<i>Pachani peya(kapithadi yavag u)</i> ^[14]	<i>Kapitha, bilwa, buttermilkchangeri, dadima juice</i>	<i>Digestive, vataj atisar, aampachana (Nighantu ratnakar part 2)</i>
2	<i>Grahini</i> ^[15]	<i>Panchamula kwath</i>	<i>Constipative</i>
3.	<i>Atisarighni</i> ^[16]	<i>Shaliparni, bilwa,prishniparni, sour dadima</i>	<i>antidiarrhoel</i>
4.	<i>Raktatisaraghni</i> ^[17]	<i>Wala, nilkamal, musta,prishniparni,goat milk</i>	<i>Useful in Diarrhoa with blood</i>
5.	<i>Amatisaraghni</i> ^[18]	<i>Ativisha , sunthi</i>	<i>Diarrhea due to indigestion</i>
6.	<i>Mutrakrichaghni</i> ^[19]	<i>Gokshur, kantakari</i>	<i>Micturation</i>
7.	<i>Krimighni</i> ^[20]	<i>Vidang, pimpalmula, shigru,marich,takrasiddhu</i>	<i>Useful in worms</i>
8.	<i>Pipasahar</i> ^[21]	<i>Mridwika, anatmula, laja, musta, madhu</i>	<i>Useful in excessive thirst</i>
9.	<i>Vishhar</i> ^[22]	<i>bakuchi</i>	<i>Usefule to treat visha</i>
10.	<i>Brihani</i> ^[23]	<i>Yavagu prepared by adding Pork meat juice</i>	<i>Useful in malnourishment</i>
11.	<i>Karshani</i> ^[24]	<i>Yavagu prepared from</i>	<i>Obesity</i>

		<i>gavedhuk</i>	
12.	<i>Snehani</i> ^[25]	<i>Til and rice</i>	<i>Useful for oleation</i>
13.	<i>Rukshani</i> ^[26]	<i>Kushmula, aamalak, jowar</i>	<i>Useful to create dryness</i>
14	<i>Laja yavagu</i> ^[27]	<i>Laja , honey</i>	<i>Vomiting</i>
15.	<i>Yavakoladi yavagu</i> ^[28]	<i>Yava, bor, kulith, mulak, dadhi, ghritha, oil</i>	<i>Apatanak (sushruta chikitsasthana 5/18-mahavatavyadhi)</i>
16	<i>Dashmuladi</i> ^[29]	<i>Dashmula, sunthi kwatha</i>	<i>Kasa</i>
17	<i>Vidaryadi yavagu</i> ^[30]	<i>Vidarayadi gana kwath siddha</i>	<i>Agnidipak, pachak, vatashamak, Brimhana (useful after delivery) Ashtanga hridaya 1/97.98 garbhavakranti.</i>

After reviewing all the data available on internet, eight articles published by various researchers on *yavagu* were analysed. After viewing all the literature a comprehensive and thorough analysis of all important literature of both Modern and *ayurveda* was done and online sources are searched to establish probable co relation of *yavagu* and functional nutraceutical in *ayurveda* perspective.

In a study carried out by Patil YR and others conducted a clinical study of *karshaniya yavagu* in obese persons. In this study, 60 patients were divided in 2 groups, study group was given *Karshaniya yavagu* and control group was given placebo (starch capsules) for 90 days. Study shows significant difference in symptoms related to obesity^[31].

In another study taken by Sangita More and others *agnidipan* effect of *panchkola siddha yavagu* which comprises *pippli* (Piper longum); *pipplimula* (root of piper longum); *chavya* (piper chalba hunter); *chitraka* (plumbago zeylanica) and *nagara* (zingiber officinalis) is used in randomized open clinical trial and 2nd group was given simple *yavagu*. This study showed highly significant effect of *panchakola yavagu* in agnimandhya^[32].

In yet another clinical study carried out by Muhammad Safer and others evaluation of *aamapachana* effect of *panchakoladi yavagu* as *pathyaahara* in the management of *Amvata* was done. In this open clinical trial 20 participants were administered *panchakola yavagu* for 10 days in *aamavata* patients. Study shows significant *amapachaka* effect of

panchakoladi yavagu pathyaahara in *amvata*^[33].

In other review carried out by Sunitha G and others use of *Koshatakyadi yavagu* in *vishachikitsa* indicated in *visha vegartana* condition is discussed^[34].

In a review done by Shital Rasane and others various *yavagus* described in various Ayurved texts used in *sutika paricharya* are discussed.
[35]

Prakash Mangalesseri and others have reviewed and discussed dietary management especially of non-refine and fiber rich food articles. The authors have elaborately discussed the effect of *Dashmoola* medicated gruel in various stages of Diabetes mellitus. Also discussed the probable action of *Dashamoola yavagu* to remove *kleda*, one of the main pathological elements of *prameha* with reference to Diabetes mellitus and the role of diet advised in *ayurveda* with special emphasis to case series reports of *Dashamoola* medicated gruel in various stages of DM^[36].

In yet another review done by Jyoyti Kumbhar and others has taken overall review of preparations and action of *yavagu* critically.

Discussion:

As discussed above many dietary specialized recipes are explained in various diseases as *pathyakalpna* for that particular disorders.

Various *yavagu* preparations as *pathyakalpna* are mentioned in various diseases in texts.

Conceptual, literary and clinical studies are done by various researchers. Till date no review of *yavagu kalapana* in perspective of nutraceutical is done as per the literature available.

As the definition of nutraceutical says that it is the medicine and diet together called as nutraceutical all the preparations listed above are fit in this definition. These can be categorized as dilatory supplements.

Secondly all these *pathyakalpna* contains dietary substances along with Ayurved medicines also fulfills the functional aspect of nutraceutical.

Only thing is some of these Ayurvedic preparations have to be prepared fresh and consumed.

As discussed above clinical studies of efficacy of *yavagu* as a medicinal diet preparation in various diseases is done by the researchers. In accordance with the definition of functional nutraceutical these *yavagus* are used as adjuvant treatment comprising nutrition as well as medicines.

Hence considering all the available study references author suggest that different *pathyakalpanas* mentioned in texts are to be studied from the nutraceutical point of view.

CONCLUSION:

Yavagu is the *Pathya Kalpana* which is easy to digest, can use it in a patient who have low digestive power ie. *Agnimandya*. *Yavagu* is easy to prepare and easy to digest, so it is more convenient than any other food. *Yavagu* acts as a mediator to give medicines to patient who cannot digest food properly. Along with nutrition, *pathya yavagus* act as a adjuvant medicine in many of the diseases. Taking account of the nutraceutical concept and its definition as a medicine which is administered through food, if we evaluate *yavagu kalpana* one can definitely conclude it can be a preventive as well as a curative medicinal nutritional supplement

As it is critically appraised many *yavagu* preparations are described in the management of various diseases as medicine. Rice is basic ingredient of these *yavagu*. And many medicinal decoctions, butter milk , meat soups , oils are used to prepare these recipes. In a nutshell it can be said that *yavagu* fulfills the criteria of functional food of nutraceuticals and hence can be grouped as functional nutraceuticals.

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