

REVIEW OF COMPARISON OF BASIC PRINCIPLES ABOUT AHARA FROM CHARAK SAMHITA AND MODERN NUTRITION.

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ABSTRACT –

Ahara is one of the “Trayopasthambha”. Food is basic biotic entity for every living organism. It is responsible for both healthy and unhealthy conditions. In today’s era most of life style disorders are related food. As we are now in era in which every field is explored and at its top due to extensive research, nutrition is also developed. With nutrition, there are tremendous changes in agriculture due to genetics. Industrialization had also great impact on food. Modern nutrition is changing continuously as per new researches. While after thousands of years basic principles about ahara laid down by ancient compendia remain same. There is no need to change a single word. So in this study basic principles of nutrition from ayurved and modern are compared.

KEY WORDS- Basic principles, ahara, Charak samhita, modern nutrition.

INTRODUCTION-

Ayurved is not only a science of medicine but also a science of healthy and long life. Charak samhita is ancient and important compendia of ayurved. It emphasizes on maintenance of health rather than treating diseases. This principle makes it different from modern science. So its philosophy starts from genesis of purusha. According to ayurved genesis of purusha, its growth, its health as well as its diseases depend upon ahara. So prime importance is given

to ahara. Trayopasthambha of healthy life are mentioned as ahara, nidra and bramhacharya. So ahara is described in detail in reference to various factors such as – dinacharya, rutucharya, matra, nitya sevaneeya, pathyapathya etc. As per Charak samhita most common cause of all diseases is agnimandya which is result of improper food. So study of ahara is essential for prevention as well as treatment of diseases. Main lacuna is explanation of terminologies as vocabulary changes from time to time. Also dravya

explained in it are not known today and dravya which we use at present are not mentioned in compendia. So its detail study is necessary.

Modern nutrition is also very well developed. It is more precise in terms of basic principles and their percentage. In absence of dietary supplement, modern nutrition gives alternative source as well as alternative route of administration. A main lacuna of modern nutrition is it is not incorporated in medical curriculum. So physician is not much aware of nutrition as well as he is not concerning nutrition as part of treatment except deficiency disorders. One has to depend upon dietician for nutritional advice who may not be well versed with pathology. New life styles like zero figures are also hazardous effects on health. So there is need of comparison of both sciences, putting beneficial principles together and gave it to the society for better healthy future.

AIM AND OBJECTIVE-

To study and compare basic principles about ahara from ayurved as well as modern nutrition.

MATERIALS AND METHODS-

Materials-

- Charak samhita with commentaries of Chakrapani Datta and Gangadhar Roy
- Books from modern nutrition.
- Journals.

Methodology-

- Basic principles of ahara from Charak samhita were studied in detail.
- Similarly study from modern nutrition was done.
- As it is very vast subject comparison was done on following points-

1. Definition
2. Matra (quantity)
3. Proper time of taking food.
4. Guna – karma (qualities)
5. Classification
6. Processing (sanskara)
7. Agni

Review of literature-

Review of ahara is taken from charak samhita as well as modern nutrition-

Definition of ahara-

आन्हियते इति आहारः । वाचस्पत्यम् ।

आहार्यते गलादधो इत्याहारः ।

आहारत्वमाहारस्यैकविधम् । च.सू. २५ / ३६

Whatever is eaten with mouth or ingested is called 'Ahara'. This word denotes food item, which is swallowed, fluid or solid.

Whatever is swallowed is called 'Ahara'. Charak-Samhita states that there is a variety of food items human eats. Yet due to necessity of 'swallowing act' whatever is undergone process of deglutition is 'Ahara'.¹

Nutrition may be defined as the science of food and its relationship to health. It is concerned primarily with the part played by nutrients in body growth, development and maintenance.²

Importance of ahara-

Ahara is basic biotic entity and genesis, growth, health all depends upon it. So in Charak samhita as well as in other compendia also prime importance is given to ahara as follows-

- It is essential for genesis of purusha as explained in Rugveda, Taittiriya Upanishad as well as Charak samhita
- It is essential for stability of life as well as to nourishment and recovery of daily wear and tear process.³

Matra-

Matra is most important factor about ahara. First important rule about ahara is it should be taken in proper quantity.⁴ It depends upon agni. So it varies from person to person and even in one person it varies according to rutu etc. Agni is

mentioned as mula of sharir and its status depends upon ahara especially matra. So detail description about matra is seen in Charak samhita-

- Definition of samyak matra- One should eat food always in proper matra, as it increases power of digestion. Amount of food gets digested as well as metabolized in proper time is to be regarded as the Matra.⁵
- Factors affecting matra- Matra is not fixed entity. It depends upon number of factors- prakruti, kala, vaya, agni etc. Gurutva and laghutva of dravya plays measure role in determination of matra Heavy food should be taken up to the half of the stomach capacity. Even light articles of food should not be taken in excessive quantity.⁶
- Effects of ahara taken in hina matra- It will produce following symptoms :
 - i) Impairment of the strength, plumpness and ojas.
 - ii) Causation of all types of Vatik diseases.⁷
- Effects of ahara taken in excess quantity- It aggravates all the three dosha. Eating excessive food like an animal causes indigestion which is the root cause of all diseases. The major

problem about diet is that the average adult normally eats far more than necessary for health. In fact, the excess food that is eaten probably does harm.⁸

- As per modern nutrition, matra depends upon requirement of energy.
- Energy can be measured in either joules (J) or calories (cal). One calorie is equivalent to 4.184 joules or one kilocalorie (kcal) is equal to 4.184 kilojoules (KJ).
- Energy balance occurs when the total intake of food and drinks; equals energy expenditure. An individual in energy balance maintains his weight as it reflects for a long time. Increase in food intake and decrease in energy expenditure leads to weight gain and vice a versa.
- Energy expenditure is primarily determined by body size, body composition and physical activity.
- The actual amount of energy needed will vary from person to person and depends on their basal metabolic rate (BMR) and their level of activity.
- Energy requirements increase by approximately 800 KJ/day in the last trimester of pregnancy, and by about 2100 KJ/day during full lactation.

- Energy released by different sources are mentioned in it.¹⁰
- Daily requirement of different micro and macro nutrients is given.
- WHO has recommended quantity of daily food in Healthy individuals¹¹

3. Proper time of taking food -

Hunger is the impelling urge to eat. It is advised that second meal, should not be eaten on the same day in the event of the appetite having become dulled by a previous meal. Thus the proper time of taking food varies according to the, capacity of digesting food. Even though a guide line has been prescribed for a healthy person. Intermediate time between two meals should be at least one Prahara (the eighth part of a whole day). It creates an excession of chyle, if one eats during one Prahara. One feels debility, If the meal is eaten after two praharas.¹² Panjika kara, a commentator of the Sushrut Samhita notes that those who are in the habit of eating two meals a day should eat a light half meal at one and quarter Prahara in the morning (at about 10 a.m.) and another between the third and the fourth Prahara in the afternoon (at about 4-p.m.) Jejjata, another commentator of the Sushrut Samhita mentions that the meals should be between the third and the fourth Prahara in

the day and night. Charak does not mention any specific time, but advises that one should take food only when previous meal is digested. The Ayurveda emphasizes upon moderation in food. It is also advised from very early times. It is said that if a person took his food only twice a day, he would be so wise and intelligent that his sayings would never fail. One is expected to take only as much food as is necessary to satisfy hunger. It is considered improper to take any food between two principal meals

Whereas according to modern nutrition, it's healthier to eat at least five meals per day. All experts unanimously agree that people should eat at least five times per day.

This includes the traditional breakfast, lunch, and dinner, plus two snacks between meals. This is complemented by another idea that is rather deep-rooted tradition in the medical field. They say that the time between one meal and the next should never be greater than three hours.

Classification of ahara-

In Charak samhita sutrasthana 25 th chapter ahara is classified on the basis of panchabhaut combination, rasa, veerya, vipaka, gurvadi guna etc.¹³

Food or nutrients are classified in different groups based on source, chemical property, function, essentiality, concentration and nutritive values.¹⁴

Qualities of ahara (guna karma)-

In ayurved, along with general qualities of group like shuka, shimbi etc., qualities of species which are predominantly used are also discussed.¹³

In modern nutrition, qualities are measured on basic active ingredient and calories. Qualities, structure and effects on the body are mentioned as per basic groups such as carbohydrates, proteins and fats. All food stuffs are discussed as per these groups. Nutritive values are discussed.¹⁴

Sanskara (processing)-

According to nutritional science, food processing is the transformation of cooked ingredients by physical or chemical means into food or of food into other forms. Food processing combines raw food ingredients to produce marketable food products that can be easily prepared and served by consumer. Food processing typically involves activities such as mincing and macerating, liquefaction, emulsification and cooking (such as boiling, broiling, frying, grilling),

pickling, pasteurization and many kinds of preservation.

Benefits of processing –

- It helps in toxin removal, preservation, easy marketing and increase in food consistency.
- It makes yearly availability of many foods.
- It makes the food- safe to eat by deactivating spoilage and pathogenic microorganisms. It reduces incidence of food borne diseases.
- It improves taste most of times.
- It helps in extra nutrient supply as nutrients can be added.

Drawbacks of processing-

- It decreases nutrition density.
- Due to food additives like sugar, sodium etc. there is increasing health risk.
- It is typical mechanical process, so chances of contamination are more.
- Risk of extra trans-fat.¹⁵

Sanskara as per ayurved-

Ayurved thinks differently on sanskara. It is process of transformation in qualities of food. Different processes have different effects. Chakrapani has explained that swabhavik guna cannot be changed with the help of sanskara. Sanskara

increases taste, colour, odor, palatability as well as shelf life of food. Some qualities become more intense, some disappears and some new qualities may arise. Thus sanskara has great influence on food.¹⁶ Rice made by process mentioned in compendia is laghu while rice made by using excess water in pressure cooker is guru. Rice prepared by using milk or mansa rasa is also guru.

DISCUSSION-

1. Definition-

Definition of ahara from Charak samhita is actually related to process. Substance taken by process is termed as ahara. While in modern science it is defined as science of principle content as well as function. Definition by modern nutrition is more elaborative.

2. Matra (quantity)-

In ayurved matra is very important. It is subjective. It depends upon many factors such as – agni, prakruti, kala, desha etc. Definitions of samyak matra, symptoms of improper food are described in detail. Sarvagraha and parigraha matra are described.

According to modern science need of food is for energy in human. So quantity of food

depends upon energy requirement. Even quantity is measured as per percentage of total energy requirement. Though quantity of that group is mentioned, quantity for each ingredient of each group is not mentioned.

According to modern science need of food is for energy in human. Quantity depends on energy requirement of the body. Energy released by different sources are mentioned in it. Daily requirement of different micro and macro nutrients is given. WHO has recommended quantity of daily food in Healthy individuals

3. Proper time of taking food –

In ayurved proper time for food is mentioned. In Charak samhita simple rule is mentioned that food should be taken when food taken earlier has been metabolized. Only two times food is preferred in ayurved.

Whereas according to modern nutrition, it's healthier to eat at least five meals per day. All experts unanimously agree that people should eat at least five times per day.

This includes the traditional breakfast, lunch, and dinner, plus two snacks between meals. This is complemented by another idea that is rather deep-rooted

tradition in the medical field. They say that the time between one meal and the next should never be greater than three hours. On the other hand, it's very likely that going past this time will cause problems like being overweight or not being able to lose extra weight. The reason for this is because when you go past this time, your body will notice it. Then, it will think that you're not getting enough energy supplies and start to store some.

4. Guna – karma (qualities) of raw food –

In modern nutrition, qualities are measured on basic active ingredient and calories. Qualities, structure and effects on the body are mentioned as per basic groups such as carbohydrates, proteins and fats. All food stuffs are discussed as per these groups. Nutritive values are discussed. But advantages and disadvantages of individual grain are not mentioned.

In ayurved, along with general qualities of group like shuka, shimbi etc., qualities of species which are predominantly used are also discussed.¹⁷It is not based on nutritive value. It is based on its effect on basic body components-dosha, dhatu and mala. Gurutva and laghutva of dravya as well as pathyatama and apathyatam dravya are also

mentioned.¹⁸ Shreshtha and kanishtha dravya in each class are mentioned. Though as per nutritive values there is negligible difference in contents of the same class, they are decided as per their effect on dosha, dhatu and mala and also adverse effects produced by that class. Thus ayurved emphasizes on maintenance of health rather than nutritive values.

Due to this philosophy, after thousands of years, principles laid by ayurved are still applicable.

5. Classification of ahara-

According to ayurved food is classified on the basis of panchamahabhuta, yoni, rasa veerya, vipaka, gurvadi guna etc. According to modern nutrition food or nutrients are classified in different groups based on source, chemical property, function, essentiality, concentration and nutritive values. Basic principles are same as – source, composition and composition.

6. Sanskara (processing)-

According to nutritional science, food processing is the transformation of cooked ingredients by physical or chemical means into food or of food into other forms. Food processing combines raw food ingredients to produce marketable food products that can be easily prepared and served by consumer.

Food processing typically involves activities such as mincing and macerating, liquefaction, emulsification and cooking (such as boiling, broiling, frying, grilling), pickling, pasteurization and many kinds of preservation. It is mainly related to industrialization. Importance is not given to effects of processing on food in daily food regimen.

Ayurved thinks differently on sanskara. It is process of transformation in qualities of food. Different processes have different effects. More importance has given to change in qualities of food. They are suggested for different individuals.

7. Agni-

Ahara matra is different for every person. Even in same person it changes from time to time. It is because of agni. In Ayurved it is mentioned that samyak matra is a quantity which can be easily digested by his agni. Bio transformation of ahara depends upon agni. So ayurved has given more importance to agni and bio availability of food to the body. So examination of agni is needed for not only digestion of ahara but also that of medicine. So detailed examination of agni is mentioned in ayurved.

This unique concept is missing in today's nutrition. So after supplement also there are cases of malnutrition. This is the major difference between two philosophies. However different formulae for assessing body requirement are mentioned as follows- Harris Benedict equation, Mifflin St Jeor formula, and Penn State formula and calorie / kilogram method.

CONCLUSION-

Ayurved and modern nutrition has basic difference in their philosophy. While doing study on annapana chatushka, it was observed that basic principles about ahara mentioned in compendium are applicable in present era also. From thousands of years, there is no need to change a single word. On the other hand modern nutrition has changed time to time as per research. There are limitations for both sciences. So they should be studied together and important facts should be followed from both. Some important principles are as follows-

1. Some important principles about using dhanya (shuka and shimbi) –There are basic differences. Modern nutrition talks in terms of principle element and nutritive value. It does not think upon laghutva, gurutva, abhishyand. Also

functions of species are not mentioned. Change in qualities after sanskara, need of sanskara, role of sanskara in making food palatable and easy to digest, its role in making more bio availability is not discussed in modern nutrition. Subjective criteria for their use are also missing.

2. Mansa varga- Throughout the world non vegetarian diet occupies the first place among the dietary ingredients. In all compendia mixed diet is suggested. Charak emphasized the role of meat in the diet for improving body weight. Mansa varga is divided into 8 subtypes in Charak Samhita. General qualities of each subtype as well as qualities of meat of some individual animals are mentioned. As we don't know each of these types nowadays, we have to consider the qualities of meat as per class they belong and desha from where they are. In modern nutrition, specific functions of each species or subtypes are not given. General consideration of class in terms of nutritive values is seen.

3. Jala varga- Modern nutrition has mentioned required quantity of water per day while ayurved it is mentioned that it should be taken as per need. Though qualities of water from

different sources and methods of drinking as well as collection are described, at present there are various issues emerging due to our life style which are not discussed. They are – excess chlorination, packaged water, demineralization of water, impurities etc. They should be studied from modern nutrition.

4. Dugdha varga-Unless whey is discarded the products of milk retains all the nutrients present in the milk. In dugdha varga dadhi, takra, piyusha, morat etc. are described. As per modern science nutritive value of all milk products is same as milk. But ayurved has given specific conditions for each of them. In modern science dadhi is suggested in most digestive problems as it contents lactobacillus. Though modern science says that milk and curd are nutritionally same, in ayurved it is contraindicated for daily consumption and night consumption. Also it is mentioned that it should be taken by mixing sugar, mudga yusha or amalaki etc. So we can't judge benefits of substance only on the basis of nutritive values. Though nutritive values are similar, their structure may be different. Even its metabolism,

absorption and hence bio availability changes.

5. Taila varga- Qualities of different oils are mentioned. Also it is mentioned that qualities of other oils should be guessed as per qualities of respective seeds. It can be concluded that oil should be used as per dosha.

Modern nutrition speaks in terms of saturated and mono saturated oils as well as omega 3 and omega 6. They do not think on other qualities. Their research is still in process and so principles stated by them are not permanent. Eg- Kusumbha taila was stated as cardio protective in early days and now it is proven as harmful. On other hand in ayurved it is mentioned as vidahi and tridosha prakopaka. Some nutritional facts one must know about different oils –

- In coconut oil percentage of mono-unsaturated fats is more. So it becomes solid.
- In soyabean seeds estrogen is present so it should be avoided in menopausal age.
- In cotton seed oil gossypol is present which acts as male contraceptive. Its continuous use for six months may cause azospermia.

- In refining process too much alkali are added to oils and there is total loss of nutrients and fiber.
- In fortification vitamin A and D are added.
- In recycled oils –PVC (Polyvinyl chloride) is present. It increases risk of increase in cholesterol and atherosclerosis. Smoke point in these oils has been already achieved. So ideally not useful for food processing.
- Mixing of oils which is suggested by dieticians is not good for health. It may be harmful due to combination.
- Due to figure consciousness no fat diet is also in practice. But it can cause phrenoderma and also deficiency of fat soluble vitamins due to less absorption.
- Oil containers like plastic bags, aluminum tins are also harmful. Study of interaction of both content and storage material is necessary.
- Some news brands / types of oils are used nowadays. But qualities are unknown. E.g –rice bran oil. As its fat – content is too much less, how it is available on large scale is doubtful.

Thus study of both sciences is essential for a healthy life style.

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