

An assessment of dietary factors related to Ayurveda and diet in connection with nutrition science

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Abstract -Today, academics and healthcare professionals are more concerned with non-communicable diseases and metabolic disorders. Changes in lifestyle and eating habits are the main contributors to these health issues. Ayurveda has given cuisine, dietary practices, daily and seasonal routines, and a code of conduct for health and sickness much thought. According to a quotation from Acharya Charaka, both the human body and illness are products of nutrition. Diet and dietetics have a direct impact on health; poor dietary choices lead to sick states. If a person wishes to be free from various ailments, they should consume Hitakar Aahar (a suitable diet), in sufficient quantities at the proper times according to their digestive fire. Diet and dietetics are extensively described in Ayurveda under the overview of Virudha Aahar (incompatible diet), Pathya (suitable), and Apathya (unsuitable) diets, as well as Ashtha Aahar Vidhi Visheshayatana (eight specific factors related to a method of food preparation, processing, food combinations, and its consumption), and Dwadasha Pravicharana (twelve rules related to a method of consumption of food). The role of diet in maintaining health and treating ailments has been emphasized in all ancient writings from all civilizations, including Ayurveda. However, scholars of Ayurveda have not been acknowledged in the dietetics literature that is currently available. The therapy of lifestyle diseases and the maintenance of health may benefit greatly from the dietary principles presented in Ayurveda. To educate scholars in the fields of dietetics and medicine, this essay tries to reveal the hidden meaning of nutrition and dietetics.

Keywords -Nutrition, eating disorders, Ashtha Aahar for Vidhi Vishayatana, and Dwadasha Pravicharana

Introduction - An individual should never eat out of greed or when they are unsure of what they are eating, according to Ayurveda. He consumes food. Food consumption should be deliberate and informed. Since food is mostly what a living organism grows from, it is crucial to monitor what someone is eating. (1)the most crucial factors for good health are diet and nutrition, which are also crucial in the treatment of illnesses. Following the identification of the majority of nutrition diseases in the 18th and 19th centuries, researchers started to become interested in the idea of diet and nutrition. Dietetics is the branch of study that applies nutrition theory to the organization and preparation of meals as well as the control of diet about both maintaining health and treating diseases. (2) The Greek term "Diaita," which means "mode of life," is where the word "diet" originates. Until the last century, frequently taken to mean something far more than what it means.(3)

Ayurveda The expression "Aahar" has two meanings in India's mediaeval culture as follows: it can refer to both the act of eating and specific foods. Aahar is the name for anything that is consumed or eaten with the mouth. Life has traditionally been equated with food. As consequently, a healthy diet is important for all aspects of life (Annam vrittikaranam). (4)but also crucial to our health. Legitimate sizes of portions, conformity to all guidelines, and Regulations support life, revitalize all sense organs, mental organs, and halvah (tissues), improve memory, intelligence, strength, and oja, and give the body a healthy glow and lustre. (5)Given an awareness of the critical role of dietetics in sustaining optimum health and addressing conditions the phrase dietetics was noted. To achieve and maintain human health, dietetics is a profession that integrates and applies principles from the fields of food, nutrition, management, communication, biological, physiological, behavioral in nature and social sciences. This definition has been offered by the American Dietetic Association, one of the many associations of dietitians in the entire globe. (6) Dietitians oversee human nutrition, regulate diets, and modify patient diets based on their distinctive requirements and health issues. (7) Since the beginning of time, thousands of years ago, every Ayurvedic

compendium has discussed the special effects of nutrition on both health and sickness. As stated by Acharya Charak, diet and dietetics have a direct impact on one's state of health; poor dietary choices lead to disease.

Eat Hitakar Aahar (proper diet) in the right amounts at the right times if you wish to avoid contracting various ailments. Under the headings of Ashtha Aahar Vidhi Vishayatana (eight particular variables linked to the technique of food preparation, processing, food combinations, and its intake) and Dwadash, Ayurveda provides a detailed account of diet and dietetics.(8)(9)Pravicharana (religious meal consumption regulations). This article intends to investigate and assess the dietary considerations in Ayurvedic compendia in light of scholarly investigation and nutrition science, as well as to bring to the attention of experts in the fields of dietetics and medicine certain obscure issues related to diet and dietetics. (10)

Material and Methods - Research articles retrieved from different online journals of standard e-databases like PubMed, PubMed Central, Google Scholar, Medline, and Science Direct were searched to get relevant research papers related to the manuscript. A comprehensive literature search took place on the concepts of Ahara, Dietetics, and Ashtha Aahar Vidhi Visheshayatana from conventional textbooks of Ayurveda and Nutrition. In light of nutrition science and academic studies, the concepts of the field of dietetics and Ashtha Aahar Vidhi Visheshayatana have been investigated. Ashtha Aahar Vidhi Visheshayatana: Particular Ayurvedic Considerations for Diet and Nutrition - Ashtha Aahar Vidhi Visheshayatana, which reflects eight, according to Charaka, the great Ayurvedic physician Specific nutrition-related variables that affect the simultaneously beneficial as well as negative impacts of the consumed Aahar (diet) comprise the one that follows –

- 1. Prakriti (original food properties)**
- 2. Karana (the creation of particular traits through the preparation of eating and cooking)**
- 3. Samyoga (a food mixture)**
- 4. Rasi (the amount)**
- 5. Desh (the nation from which of food origin)**
- 6. Kala (temporal element)**
- 7. Upayoga Sanstha (intake rules)**
- 8. User Upayokta**

The importance of knowing the benefits and drawbacks of healthy and unhealthy eating habits has been emphasized by Charaka. It is important to resist the urge to consume unhealthy foods. To acquire the right nutritional benefits from food, he has also promoted adhering to the twelve directions (Dwadasha-Pravicharana). Warm, sumptuous food should be consumed; one should also avoid eating too quickly or slowly, talking or laughing while eating, and dining in an enjoyable environment without distractions. One should also give oneself due consideration before eating. The importance of knowing the benefits and drawbacks of healthy and unhealthy eating habits has been emphasized by Charaka. It is important to resist the urge to consume unhealthy foods. (11)In nutrition science, dietetics is characterized in a manner analogous to that of Ayurveda; nonetheless, Ayurveda has given an excellent overview of all aspects of diet and dietetics. Food science provides a concise scientific overview of food, food items, nutrition, nutrients, cooking methods, preservation, processing, and preparation of food, digestion, types of diets, menu planning, factors affecting meal planning, rules for eating, and flavor enhancer techniques, among other topics. In a bid to raise the bioavailability of micronutrients, methods of food processing and preparation have been utilized. Food quality and aroma are improved, microorganisms are eliminated, nutrients are concentrated, antioxidant value is increased, nutrients are now more easily obtainable, more food has been eaten, more diversity is offered, and digestion is made faster. The debate and summation of Charak's eight different requirements for judging the beneficial effects of food briefly with the notion of diet and dietetics in the context of nutrition science.

Ashtha Aahar Vidhi Visheshayatana (Ayurveda)

Food's quality features by Prakriti (Nature)

Karana (Sanskar)- Food preparation and processing techniques preparing food

Samyoga (Combination of two or more) – Blending

Food quantity in Rasi (Quantum).

Desh (Habitat) – Temperature

Time and seasonal variations in the disease condition Kala Meal timing and usual, therapeutic diet, or (stage of ailment or a person. age)

UpayogaSantha (Rules of Use/Eating) - Rules Lunchtime limits governing food intake

Upayokta (user)- Wholesomeness to the User, eating habits, and food a human consumes

Dietetics- (Nutrition) -

The nutritional value, content, and classification of foods.

Techniques for preparing and processing food preparation methods include natural, mechanical, ultra-processed, and culinary methods as well as technical ones.(12)

Methods for enhancing food's nutritional value, including food germination, fermentation, enrichment, substitution, supplementation, and fortification, among others(13)

the food pyramid, balanced diet, diversity of foods, and nutritional needs

dietary influences

Lunch schedules, therapeutic diets, or food therapy are based on a person's age or stage of illness.

Meal consumption guidelines

User, food consumption patterns, and food prepare

Creation is Prakriti.-

Prakriti frequently gets addressed by other names involving nature, swabhava, behaviors, and qualities. It is the total of the inherent qualities (Guru, Laghu, Sheeta, Ushna, and Ruksadi) found in substances used as medicines and foods. The distinctive characteristics of the food items, such as Guru and Laghu, determine the amount of food consumed and its combinations (Samyoga).

Guru Aahar and Laghu - The expression "Laghu Aahar" refers to food that is simple to digest and does so quickly. Guru Aahar is an Arabic term that means difficult to digest and takes extra time. Saline rice, green gramme (Vigna radiata), the meat of deer (Cervidae), common quail (Coturnix), and grey partridge

(Perdix perdix) are considered light foods. Guru foods include black gramme (Vigna mungo), the flesh of pig (Sus scrofa domesticus), and buffalos (Bubalus bublis).

Heavy and Light Food - Raw and Cooked Form According to Nutrition Science -

| Form | Light Food (Laghu Aahar) | Heavy Food (Guru Aahar) |
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| Raw Food | A lot of foods are light, crisp, fluid, and readily digestible with energy-giving nutrients (fat, carbohydrate, and protein) in the right or minimal amounts, The majority of food items are light, crisp, fluid, and readily digestible foods that include the energy-giving elements (fat, carbohydrate, and protein) in the right or less amount and thus exceed the daily calorie need for nutrition. Examples include fruits, green vegetables, cucumber, spinach, barley, pasta, onion, cabbage, tomato, pulses, peas, rice, green gramme, Ex: Fruits, green vegetables, barley, pasta, onion, cabbage, tomato, pulses, peas, rice, green gramme, common quail, antelope, and rabbit in the needed amounts. | All kinds of food that are high in energy-giving components (fat, carbohydrate, and protein) and have a texture that is typically thick, difficult to digest, and/or high in calories overall are considered energy-giving foods. Depending on the sickness and the amount of food ingested, it might also alter (become heavier or lighter). Examples include meat, potatoes, eggs, dry fruits, mangoes, bananas, sweet potatoes, sugarcane, milk-based goods, black gramme meat of the aquatic creatures, baked potatoes, cheesecake cake, lasagna, fettuccine alfredo, and coconut cream pies that are heavy in the proper amount. |
| Cooked Food | Without-fat chapatis, toned/skimmed milk, oats, boiled rice, buttermilk, cereals, jaggery, whole wheat, idlis, and dhoklas; spring salads with vinaigrette; rice cakes; angel hair pasta with vegetables in olive oil; brothy soups; and fruit salads without heavy syrups or dressings. | White bread in it, rice, beans, potatoes, egg yolk, honey, curd, black gramme, oily food, fast food (burger, pizza, cracks, packed food, kachori, pavbhaji), sweets, chocolates, cold/frozen food, ice cream, cold drink, a large quantity of food, curd non-vegetarian, junk food like-sugar starchy food, oily food. |

The fundamental features and metabolic structure of food items determine their nutritive value. The Recommended Dietary Allowances (RDA) for Indians have been created by the Indian Council of Medical Research (ICMR) based on the dietary pattern and composition of the country's population.(14)Along with or in addition to the six nutrients, food also contains other substances, such as fibres, phytochemicals, pigments, additives, alcohols, etc., some of which are good, some of which are neutral, and only a small number of which are bad. Numerous variables, like the soil's mineral composition, the diet an animal is fed, and the fertiliser applied to plants, can alter the qualities and nutrients in food. 3- Harvesting season; 4- Processing technique; 5- Length and storage technique; 6- Cooking technique; 7- Analytical technique; and 8- Analysis of the sample's moisture content.(15)

Processing Karana - Sanskar, a substitute for Karana, is a term used to describe the preparation and processing of food and the alteration of the qualities of food. Changes in a substance's qualities can be caused by contact between water and fire, cleaning, churning, infusing, steeping, and other processes. It also relies on the location, time, and type of instrument used during cooking or processing. In terms of nutrition science, processing food makes it softer, cleaner, more appropriate, durable, and digestible. Because processed foods are either nutritionally insufficient or include additional toxic chemicals, they are now frequently blamed for a variety of ailments. Generally speaking, food processing entails thermal processing, mechanical processing, industrial processing (ultra-processed food), and technological food processing, which includes techniques like soaking, fermentation, fortification, enrichment, substitution,

supplementation, and germination/malting that are nearly identical to the definition under karana or Sanskara.(16)(17)

| Ayurveda's approach to food preparation | Using nutrition science, prepare food |
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| <p>Jalsamyoga (Water interaction) - Supplying waters has a purification effect, and after soaking grains and cereals, they become Laghu (lighter in digestion).</p> <p>The concept of kala (time) in Ayurveda emphasises the importance of timing in obtaining and keeping culinary items. For instance</p> <p>The characteristics of honey vary depending on the season and how long it has been preserved. Ghee has medicinal benefits when it is about a year old and turns tikta (bitter). Jaggery, or Purana guide, also has therapeutic use.</p> <p>Uncooked food or raw rice is difficult to digest. Agnisamyoga (touch with fire). The dish is lighter and more palatable after cooking.</p> | <p>Decanting the water can help to limit the amount of soluble nutrients like phytate, Na, K, or Mg that are released after soaking. Cereals and most legume flours are processed by soaking in water, while whole grains and seeds are not. .(14),(18),(19)</p> <p>Some polyphenols, tannins (from legumes), and oxalates are inhibited by iron and calcium absorption, and may also be lost by soaking. .(14)</p> <p>Water soluble vitamins and minerals are extracted from rice's naturally heavy state when it comes into contact with water by decanting the water and heating it.makes rice soft. However, the vitamin B complex is typically destroyed.</p> <p>Food items' characteristics alter with the season and throughout time, including cereals, fruits, and vegetables. Comparing preserved or cold-stored fruits to fresh fruits reveal differences in their properties. As it gets lighter, older rice is better for your health than new rice.</p> <p>The enzyme inhibitors that are found in food, such as phytate and tannin, are destroyed when food comes into contact with fire, making it more palatable and soft. However, overcooking and extended cooking decreases the nutritional content of food.</p> <p>Micronutrients like thiamine and vitamin B6 can have their bioavailability increased through thermal processing, niacin, folate, iodine, and antioxidants and can lessen some detrimental nutrients (such as goitrogens, and thiaminases),</p> <p>Inadequate cooking is necessary to ensure food safety since raw meat poses considerable hazards for food-borne illnesses.</p> <p>noteworthy phytic acid losses (5–15%) are caused by boiling tubers and blanching green leaves(20)</p> <p>Use moist heat during pressure cooking, stewing, poaching, boiling, and simmering. Cooking methods using dry heat (air and fat as medium) include roasting, grilling/broiling, toasting, baking,</p> |

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| | <p>sautéing, and frying. Braising in combination.(21)</p> <p>Repeated heating: Repeated heating destroys the flavour of food, diminishes the amount of nutrients present, and makes it unpleasant to eat. For example, repeated heating of cereals destroys the amino acid lysine.</p> <p>Cooking with high flames: Cooking with high flames can obliterate some nutrients as well as flavour and colour in food.</p> <p>The production of carcinogenic chemicals during the cooking of meat can be reduced by utilizing low temperature andcooking techniques based on water</p> <p>Reheated oil: Reheated oil causes oxidation, which leads to oxidative stress, which generates else free radicals after consumption. Reheated</p> <p>A toxin dubbed 4-hydroxy-trans-2- nonenal (HNE) can be formed from oil (corn, soya bean, and sunflower). Consumption of HNE is linked to an increased risk of heart disease, stroke, Parkinson's disease, Alzheimer's disease, Huntington's disease, as well as several types of liver disorders and cancer. (20)</p> |
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| Cleanup; Shauch | The bacteria, chemicals, and pesticides that are used to preserve green vegetables and fruits are removed by thorough washing with water. |
| Food products' properties are determined by the soil in which they are cultivated, or the distinct characteristics of meat depend on the animal's habitat. | The physical properties of food items are influenced by the soil, solar warmth, sunlight, and other factors. The person should consume seasonal fruits, vegetables, and cereals. The nutritional content of milk, fruits, vegetables, grains, and pulses can vary by location and season. |

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| <p>Vashana (flavor): Natural Dravya is used to enhance flavor.</p> | <p>Natural essence is nice, but fake essence with varied flavors manufactured of synthetic chemicals utilized in the effects of the present is quite dangerous</p> |
| <p>Infusing meals with Kwatha and other bioactive substances that aren't nutrients increases the dish's nutritional value.</p> | <p>Adding nutrients to meals, food components, or supplements is a process known as fortification. Where nutrients are insufficiently present or naturally lacking. Under FDA control and directive, food is fortified. for instance(22)</p> <p>Since polished rice lacks thiamine, Beriberi's illness is brought on by thiamine insufficiency. As a result, the rice should include thiamine. safeguard against the Beriberi virus. Adding calcium to orange juice to make it more wholesome.</p> |
| <p>Kalaprakarsha (protracted period)</p> | <p>The proliferation of various microorganisms has impacted the nutritious quality of food as a result of the time factor. Nutrient content might change depending on the type of food product.</p> <p>Through germination, the majority of anti-nutritional and harmful elements are removed. It improves nutrition, particularly vitamin B1. carbohydrates and starches are also turned into sugar along with vitamins B2, B3, and C.(14)</p> <p>Fermentation of maize, soybeans, sorghum, cassava, cocoyam, cowpeas, and lima beans can occasionally remove 90% or more of the phytate, while the degree of reduction in higher inositol phosphate levels during fermentation varies.(14)</p> |

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| | <p>Phytate activity is suppressed in cereals with a high tannin content (such as bulrush millet and red sorghum), making fermentation a more difficult process.</p> <p>less effective Phytate reduction technique for these cereal types. Microorganisms' metabolic activity is increased by fermentation. Additionally, fermentation enhances flavour, protein quality, vitamin B and C content, microbiological safety, and maintaining quality. Idli paste, dosa paste, vinegar, alcohol, cheese, dhokla, fermented milk, etc. are a</p> |
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| <p>The term "bhajan" (utensil) refers to a change in a particular utensil's properties caused by the material used to make it, for example. Triphala Kalka (Paste) is more effective when stored in an iron kettle. One who consumes this paste with honey and ghritha lives for a hundred years?</p> | <p>few examples.</p> <p>A variety of positive and negative impacts on the body can be caused by the use of utensils or pots made of different materials for cooking or preserving food.</p> <p>Hemoglobin (Hb) content is higher in iron pots than in aluminum pots when cooking. A study conducted in a lab shown</p> <p>Except for beans, where there was no variation in the amount of available iron depending on the type of pot, meals cooked in iron pots had the highest levels of total and available iron.(23)</p> <p>Cooking under pressure is noted for being both time and energy efficient. Cereals should be cooked in a pressure cooker. Thiamine was destroyed by boiling cereal in open pans.</p> <p>Research studies have revealed that aluminum leaking from cooking equipment has negative impacts on human health. The</p> <p>The model predicts that in the pH range of the majority of food (pH 4-8). The main type of aluminum present is an organic aluminum complex, which is hazardous to human health.</p> <p>Aluminium products have gained a lot of popularity, including drinking vessels and stovetop moka pots. the storage of beverages in bottles and It's possible for the metal to migrate into coffee when it's made in a moka pot.(24)</p> <p>Escherichia coli, Streptococcus faecalis, and other bacteria are known to be rendered inactive by microwave cooking.</p> <p>Listeria Spp, Salmonella, Staphylococcus aureus, and Clostridium perfringens.</p> <p>Microwave radiation sensitivity has also been found for bacterial and mould spores, as well as the Lactobacillus casei-specific bacteriophage PL-1.</p> <p>When food is heated in the microwave, steamed, boiled, or sautéed, it loses more pro-vitamin A.</p> <p>The microwave is used to defrost, dry, and bake goods such as meat, chicken, frozen foods, potatoes, and corn-soy milk.(25)</p> <p>Teflon-coated pans: Rapeseed oil's thermal stability and antioxidant capacity as a result of the Specific Oil Surface (SOS) during pan frying</p> |
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| | <p>It evaluated capacity (AC). Rapeseed oil was heated on an electric frying pan covered in Teflon at 180°C until a chosen end point of 25% Total Polar Compounds (TPC) was attained. Rapeseed oil with varying Oil Layer Heights (OLH = 0.5, 1.0, 1.5, 2.0, and 2.5 cm) was used in the experiment.</p> <p>Utilizing the 2,2-diphenyl-1-picrylhydrazyl test, the 2,2-diphenyl-1-picrylhydrazyl assay was used to detect the changes in chemical parameters of oil samples, including peroxide value, p-anisidine value, Totox value, free fatty acids, TPC, and AC.(26)</p> <p>Plastic bottles and pots – Several studies on plastics have shown that water held in plastic bottles, boiled in plastic bottles, and industrial</p> <p>Food that is packaged in plastic, for instance, is toxic to the body and can lead to cancer and other ailments if ingested repeatedly.</p> |
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People are racing towards the green movement in the current environment of rapidly changing lifestyles and eating habits. They consume processed and ready-to-eat food preparations and are unaware of the negative consequences of food preparation techniques, food preservatives, vacuum-packed meals, food adulteration, and the use of injections to grow fruits and vegetables. After repeated use, all of these may cause harm to the body and increase the risk of illnesses like obesity, food poisoning, lathyrism, and other conditions.

Ultra Processed Food - UPF (Industrial Processing) Food classification based on the

The three categories of industrial processing—unprocessed/minimally processed food, processed components, and ultra-processed food products—are used to categorize its scope and objectives.(27)Fruits, vegetables, and fibres have lower levels of ultra-processed food but greater levels of sodium, saturated fat, and sugar. According to some data, UPF raises the risk of being overweight, obese, and exhibiting metabolic syndrome symptoms. Through increased production and consumption of foods and beverages that have undergone industrial processing, the current pandemic of obesity and accompanying chronic disorders continues to spread. (28)

Ayurvedic methods for preparing and processing traditional foods can be utilized to improve the micronutrient content of a diet high in plants. Traditional methods include mechanical processing, thermal processing, soaking, fermentation, and germination/malting. These techniques are intended to improve the physicochemical accessibility of micronutrients, reduce the content of antinutrients like phytate, or increase the content of compounds that improve bioavailability.(14)In poorer nations, maize is a staple food. As a zinc absorption inhibitor, phytate (myoinositol hexaphosphate) is also known. The White maize (*Zea mays*) that has been processed at home (via fermentation, germination, and soaking) has a lower phytate concentration and phytate/zinc molar ratio, which enhances zinc absorption. According to a research study, the classification of foods should be based on how they are prepared and processed rather than their source of origin, such as their botanical or animal origin. Nutrient density and food structure, or the "matrix effect," both of which can be impacted by how food is prepared and processed, determine the potential health benefits of foods. Cereal-based foods, for instance, can vary in their degree of refinement, fractionation, and are combined with additional salt, sugar, and fat, resulting in a variety of products with widely varying nutritional profiles. Technological processes (unprocessed and minimally processed foods, processed culinary components, processed foods, and Ultra-processed foods) employ the NOVA food classification system. (18), (13) Intake of canned foods, potato chips, and other items on a regular or frequent basis has been linked to Cancer and metabolic diseases are linked to processed and red meats, microwave popcorn, hydrogenated oils, and other foods. After consuming certain types of foods repeatedly, the body's natural defense system that protects against foreign particles may become less effective. (29)

Packaged food

Tomatoes contain a lot of acid. It may result in the leaking of biphenyl-A (BPA) from the tomatoes themselves into the can's interior. A substance called biphenyl-A (BPA), which has been found to genetically modify the brain cells of rats and may cause cancer in humans, is used to line the inside of most canned items, including canned tomatoes.

Fried potatoes

Most goods in poly bags have a crunchy flavor. They include a lot of calories and fat, which contribute to weight growth. Acrylamide, a cancer-causing substance also present in cigarettes, is present in higher concentrations in potatoes and French fries. (29)

Red meats and processed meats

Meat is divided into two categories by the World Health Organization (WHO); group 1. Both Group 2-red meat (all mammalian muscle meat, including beef, veal, hog, lamb, mutton, and goat) and Group 1-processed meat—hot dogs, sausages, bacon, and most lunch meats—are carcinogenic to humans (causes colorectal cancer).

Popcorn heated in the microwave

Perfluoro Oceanic Acid (PFOA), a chemical that can raise the risk of cancer (liver, bladder, kidney, and testicular cancer) in people, is used to line chemically-lined bags and microwave popcorn bags. (29) Additionally, research from the University of California connected this toxin to female infertility.

Fluidized oils

Trans fats, which are hydrogenated oils that have undergone an Oil undergo a chemical reaction with hydrogen to extend their shelf life, however, margarine has been related to cancer, immune system problems, and heart disease. Therefore, swapping out hydrogenated oils in the diet for olive, coconut, or grape seed oil is a terrific method to help you live a healthier, happier life. (29)

Incorporating Samyoga

A combination of culinary ingredients is referred to as samyoga. Whenever there are two or more AS compounds interact with one another, they may produce new or different features that are not present in the individual substances. Mixed-substance consumption can have either positive or negative effects on health. Viruddha is defined in detail by Ayurveda. The metabolism of the tissue may be interrupted, the process of tissue creation may be hampered, or the tissue may exhibit the opposite property as a result of an unsuitable diet, other diets, or combinations thereof. A single food item cannot contain all the elements that are needed, hence in a diet, multiple food products are combined to obtain all the nutrients needed. For the body to receive the right nutrition, Ayurveda suggests eating food that has the six Rasa: Madhura, Amla, Lavana, Katu, and Tikta. (23) Ayurveda has recommended certain meal pairings that should not be coupled since they may cause.

Negative effects.

Culinary standards, which include combinations of meals, specific menus, and which components go in which dishes, are founded on traditions and conventions and are accepted norms in a particular society. Serving the incorrect dishes or omitting the usual side dishes from a certain entrée can be perceived as ruining the entire meal. (30) The explanation above suggests that Samyoga is significant to Ayurveda primarily in terms of wholesome living. and unhealthy diet, as well as Virudha Aahar (an unsuitable diet). The development and feeding of tissues are hampered by an incompatible diet.

The following are the 18 categories that Chakrapani listed under "**Virudha Aahar**": Desha (location), Virudha (time), Kala (Digestion Power), Agni (Digestion Power), Matra (Amount), Satmya (Healthy), Virudha, and Dosh. When preparing a virus, consider its sanskar, veerya, kosta, and avastha (state of health). Virudha is composed of the following components: virudha, Kram (sequence), virudha, parihara, upachar (treatment), virudha, paak (cooking), samyoga (combination), virudha, hridya, sampad (richness of quality), virudha, and vidhi (rules for eating). (23)

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| A delicious assortment of meals. | unappealing meal combinations |
| of both honey and aloe vera | incense and ghee |

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| <p>Aloe Vera and honey varied depending on the kind of cancer in an analysis of 131 studies, preventing or reducing microsites. as well as care. In mouse tumours, aloe vera and honey were hepatoprotective, inhibited cell growth, and elevated apoptosis. (31)</p> <p>pulses and grains Protein derived from vegetables is not a complete protein. Therefore, the combination of grains and pulses is used because pulses provide the nutrients that cereals lack.</p> <p>citrus fruit and either greens, meat, or both Pineapple and other citrus fruits, which contain iron, can improve the absorption of iron from a chicken meal . Vitamin "C" is useful for the absorption of iron in the gut from foods that contain iron.</p> <p>Inhibit phytate with animal products and a plant-based diet</p> <p>The most effective approach is probably a mix of plant-based diets and a limited amount of animal-source foods. The content and bioavailability of micronutrients should be improved. Phytate can be almost eliminated by using such a mix of techniques. Because phytic acid can effectively block the absorption of iron even at low amounts, this is crucial information. (21)</p> | <p>Honey and ghee together in equal amounts have a poisonous effect. Individuals who consume honey and Ghee is good for their health because it's likely that milk and fish together can cause leprosy.(17)</p> <p>Black or green tea with milk (proteins and polyphenols) Green tea catechins and black tea catechins have positive benefits on health, particularly the heart. When the milk protein casein interacts with the heart-healthy catechins in tea, it lowers their concentration.(29)</p> <p>drinks and fruit</p> <p>It negatively affects the immune system, lactose-containing milk, as well as some fruits like bananas. They are also common allergen-containing and could make an asthma episode worse.</p> <p>both milk and whey</p> <p>Both can interact to cause milk to precipitate in the stomach, which might aggravate it and cause vomiting.(29)</p> |
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Rasi (amount)(10)

Rasi is interpreted in terms of diet amount, which is seen in two both Sarvagrha (total food consumption) and Parigrha (amount of each food item consumed). According to legend, Rashi emphasizes the significance of food consumption. Consuming Sarvagrha Aahar is beneficial to health, whereas consuming Parigrha Aahar (Heen or Ati quantities of a single food) can lead to problems including malnutrition and obesity. Except for breast milk, no meal can supply the body with all the nutrients it needs daily for an adult. Consumption of a single food item over time continues to be a contributor to sickness, obesity, under weightiness, and other conditions due to nutrient shortage or toxicity. Consuming only one kind of food does not also result in satiety. A healthy diet gives the right given that it includes all necessary nutrients. The best way to achieve a desirable balance without consuming too many macronutrients, micronutrients, or other advantageous food components is to use tools like the ICMR (Indian Council of Medical Research) or NIN (National Institute of Nutrition) Dietary Guidelines for Indians and ICMR or NIN the Food Guide Pyramid. The quantity of food depends on the health of the digestive fire, according to Ayurveda (Aharamatra tupunaragnibalapekshini). food quantity as well varies on the disease's nature and the period of treatment for conditions like diabetes, renal failure, liver disease, and heart disease, among others. A varied diet helps to prevent chronic diseases, improve health, and is linked to increased longevity. The importance of consuming a variety of meals has been emphasized by

numerous dietary recommendations. Dietary changes may be used to address conditions like diabetes, hypertension, hyperlipidemia, and iron deficiency anemia.(15)

Location: Desh(10)

Desh refers to the location of both the body that consumes food and the source of that food. Desh Satmyata refers to a location where individuals are found and are accustomed to the food and drugs sold there. Food items' qualities depend on several variables, including the environment, the amount of sunlight received, and the soil in which they were raised. The qualities of food items fluctuate depending on the season and location due to these regional variations in these components.

Kala, the time(10)

Kala is both conditional and ever-moving (Nityaga and Awasthika). One is conditional and connected to the illness stage, whereas the other is ever-moving and related to seasonal appropriateness. To maintain good health and balance the Dosha, the biological principle in charge of all physiological processes and regulations, Ayurveda recommends that people follow a seasonal food plan. One should select foods during a diseased state based on the nature and stage of the ailment. Numerous studies have demonstrated the positive impact that diet and exercise have on the body and the use of therapeutic diets or diet therapies in the treatment of disease. It is administered to patients as a form of disease treatment.

Dietary guidelines are known as up a yoga Sanstha(10)

The Upayoga Sanstha demonstrates meal consumption guidelines. It is dependent on signs that food has been digested. It is advisable to start a diet when the preceding meal has finished digesting. The Upayoga sanstha encompasses all descriptions of Aahar Vidhi. The safest path to health would have been discovered, according to Hippocrates, who lived from 460–377 BC: "If each individual could be given the proper amount of nourishment and exercise, not too little and not too much. Children pick up table manners through observation of others as well as through their own experiences.

(Ashan Vicara) Dietary regimen(11)

In addition, Acharya Sushruta outlined twelve different dietary types (qualities).such as sheeta (cold), usna (hot), Snigdha (unctuous fatty), rusks (dry, fatless), Drava (liquid), Ruska (dry, moisture less), eka kala (once a day), dvikala (twice a day), ausadhayukta (mixed with medicine), matra hina (less in quantity), dosaprasama mana (mitigating the dosas) and vrttyartha (protecting health) to sustain the health and for the diseased state.

Whenever devouring chilled food:-

When someone is dehydrated, hot, drunk, buzzed, burning, has a bleeding disorder, is poisoned, is fainting, or is malnourished Food should be served cold during copulation. Whether to eat heated food- Those with ailments caused by kapha and vata, those who have had purgations, those who must consume fats (as part of oleation therapy), and those who have no moisture in their bodies should all consume hot foods.

| eating guidelines | The consequences |
|--|--|
| swallowing hot food | The heated meal has a pleasant flavor, boosts Agni, digests rapidly, calms the Vatadosha, and lessens the excess Kapha. |
| Take fatty and extravagant foods | Food that is rich and filling speeds up digestion, calms the vata, nourishes the body, improves the sense organs, fosters strength, and brings out the best in people's complexion. For the body to smooth skin and absorb nutrients, oil is required. |
| A judicious amount of food should be ingested. | A well-rounded meal plan that is in the right amount does not exacerbate the Vata, Pitta, or Kapha doshas and quickly goes through the rectus muscles and does not hinder easy digestion of |

| | |
|--|---|
| <p>Eat shortly after your previous meal has been digested.</p> <p>Choose predictable food</p> <p>Eat where you want and with what you want.</p> <p>Don't swallow rapidly enough</p> <p>Eat quickly instead of slowly</p> | <p>heavy foods</p> <p>Half of the stomach should be consumed, with the remaining third of the stomach being used for light meals. According to Ayurveda, the stomach should have one part filled with solid food, one part with liquid, and one portion left empty to allow for the movement of the doshas Vata, Pitta, and Kapha to have favorable effects.</p> <p>If food goes down after the previous meal has been digested, it helps to maintain an appropriate desire for food, keep the eructation channels open, maintain normal heart function, and ensure adequate faecal evacuation. Urine and flatus encourage development and lifespan.</p> <p>It is best to avoid pairing foods with opposing strong attributes. Contradictory food can cause illnesses like skin conditions, Visarpa, Hridaroga, and more.</p> <p>It is important to be supplemented with all the necessary equipment so that one does not become affected by a condition that causes emotional strain.</p> <p>The most important factor affecting eating behaviours is the environment. People's views and the reasons they choose particular foods have been identified as major social and cultural factors that influence people's eating behaviours.(29)</p> <p>Food that is consumed very quickly may enter the body in the wrong place, impede one's ability to enjoy the taste of the meal and obscure the presence of any foreign bodies.</p> <p>When one eats slowly, he or she may not feel satisfied, consume more food than is necessary, and the food may spoil or be digested improperly. Only a few research have discovered that long-term children of school age who watch television have diets that are higher in calories and have lower nutritional quality for a major amount of the meals they eat. (32)</p> <p>This depletes the dosha.</p> |
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| | |
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| <p>Speaking or laughing while eating is not permitted</p> <p>following devoting careful thought to oneself, eat</p> | <p>Following consideration of one's suitability, one should eat in the recommended method. To stay healthy, it is crucial to understand the value of food and its suitability.</p> |
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When to consume luxuriant (Snigdha) food- Those with a Vata Prakriti (nervine constitution), who are dry in the body, should eat unctuous (Snigdha) cuisine. Copulation-weary individuals who engage in increased physical activity should be given rich, fatty foods to help them recover.

When to consume luxuriant (Snigdha) food- For individuals who have become unctuous, suffer from diabetes, and have a higher percentage of body fat, dry meals should be used to treat diabetic patients who have higher kapha levels in their bodies.

The best time to eat liquid (Drava) food- People who are debilitated, thirsty, and have a dry body should be treated with liquid foods.

If you should consume less liquid (Drava) food: -People with diabetes, wounds, and/or extra moisture in their bodies should be monitored closely. Treated by consuming less liquid and substantial food.

How often should you eat- To strengthen the weak digestive fire, food should be given once a day.

When to have two daily meals: -Food may be provided twice a day to those with a normal digestive fire.

When integrating an illegal substance with meals -Food should be paired with medication for individuals who dislike taking them.

When you should consume less food: -It is best for you to give less food to sick people and those with weak digestive systems.

When to eat to bring equilibrium to your dosha- Although the body's dosha fluctuates with the seasons and becomes vitiated, one must adhere to a diet recommended in a seasonal regimen to calm (dosha prashaman).

Typical an individual's diet- Every food that a healthy person eats is intended to support that person's life and health. For each typical person, the aforementioned circumstances apply. Ingesting food should be scheduled taking into account these twelve factors.

The user Upayokta-(10)

Anyone who consumes food is referred to as a user, or upayokta. The user is mostly accountable for the. The habitual consumption of something can determine whether something is healthy or unwholesome. Charaka has adamantly urged people not to ever eat out of greed or when they are oblivious to what they are ingesting. Never, ever give in to the temptation to consume unhealthy foods.

The majorities of individuals nowadays have bad eating habits and are unaware of dietetics, proper cooking, eating, and serving techniques. Most of the time, people only think about how great the food tastes and how to eat it. People don't think about the negative effects of preservatives in ready-to-eat foods or items packaged in plastic, and they merely eat to satisfy their hunger. The claim that Americans are unhealthy eaters has been made in a report titled "The way America eats is killing us." (33) They consume too much cheese, sugar, starch, and red meat while eating insufficient amounts of fruits and vegetables, according to the latest American Diet Report Card. Obesity, diabetes, and other conditions may be brought on by an additional 500 calories consumed each day. The majority of people and professionals tend to concur that the average population's eating habits are unhealthy and contain too many calories and too many high-calorie foods consumed globally. (34) Obesity, weight gain, and other problems and diseases linked to it are all caused by people consuming too much ready-to-eat food. Therefore, diseases can be avoided by including Ayurvedic dietary considerations in nutrition science and training the populace to follow the prescriptions provided by Ayurveda. Similar to how diet and everyday food practices can improve disorder management, they can also be modified. (35)

Conclusion-

According to the aforementioned discussion, Ayurvedic academics provided a very thorough explanation of the concept of diet and dietetics. They have provided excellent. Diet and dietetics have a crucial role in illness prevention, management, and the preservation of health. Also discussed are the negative impacts of improper food consumption. Food consumed in the right quantities and by all rules and regulations supports life, renews all sense and motor organs as well as the mind, nourishes all dhatavah (tissues), improves memory, intelligence, strength, and oja, and gives the body a healthy glow and lustre. Ashtha Aahar Vidhi Visheshayatana describes traditional methods of food processing and preparation. (Eight Specific Considerations for Diet and Dietary Consumption) can be used to improve the nutritional value of nutrients in the diet and to prevent the negative effects of diet brought on by improper food processing and poor food consumption techniques. Ayurvedic dietary recommendations can be used in the fields of nutrition science and medicine to benefit people. Ashtha Aahar Vidhi Visheshayatana (the eight specific dietary concerns) and DwadashPravicharana (the meal-intake regulations) are two topics that could be the subject of scientific study. The study of nutrition science and other disciplines may apply the dietary principles stated in Ayurveda pharmaceuticals for human health.

Reference-

1. Sharma P. Charaka Samhita of Agnivesha. In: Reprint ed. Varanasi: Chaukhambha Orientalia. 2008;225.
2. Mosby. Definition of Dietetics by Mosby's Medical Dictionary. In: 9th ed. Elsevier; 2009. 1–3.
3. Roggi, C., Centrale, O., Cena, H., Roggi, C., Lucchin, L. and Turconi, G. Health nutrition practice in Italy. *Nutr. Rev* 68(9). 2010;556–563.
4. Sharma PV. Charak Samhita of Agnivesha. In: Sutrasthana. Reprint ed. Varanasi: Chaukhambha Orientalia. 2008;32.
5. P T. Kasyapa Samhita. In: Khilasthanam. Reprint ed. Varanasi: Chaukhambha Visvabharati. 2013;483.
6. Koleilat, M., Hwalla N. Dietetic practice/: The past, present and future. *East Mediterr. Heal. J.* 2004;10(4).
7. Dietitian - Wikipedia. In 2017. 1–12. Available from: <https://en.wikipedia.org/wiki/Dietitian>.
8. Mishra YC. A Text Book of Ayurvediya Physiology. In: 1st ed. New Delhi: Chaukhambha. 2008;303.
9. Sharma PV. Charaka Samhita of Agnivesha. In: Vimanasthanam. Reprint ed. Varanasi: Chaukhambha Orientalia. 2008;305–309.
10. Murthy Srikantha KR. Susruta Samhita of Susruta. In: Uttarasthana. Reprint ed. Varanasi: Chaukhambha Orientalia. 2012;429–430.
11. Sharma PV. Chaukhambha Orientalia; 2012, 429–430. 12. Charak Samhita of Agnivesha. In: Vimanasthanam. Reprint ed. Varanasi: Chaukhambha Orientalia. 2008;301.
12. Statements E. A review of the evidence to address targeted questions to inform the revision of the Australian Dietary Guidelines Evidence Statements.
13. Hotz, C., Gibson RS. Traditional food-processing and preparation practices to enhance the bioavailability of micronutrients in plant-based diets. *J. Nutr.* 2007;1097–1100.
14. Draft, F. Nutrient Requirement and Recommended Dietary Allowances for Indians. 2009;
15. Rolfs, S.R., Pinna, K., Whitney E. Understanding Normal and Clinical Nutrition. In: 8th ed. Yolanda Cossio Appendix H. 2009;
16. Fardet, A., Rock, E., Bassama, J., Bohuon, P., Prabhakar, P., Monteiro C. Current food classifications in epidemiological studies do not enable solid nutritional recommendations for preventing diet-related chronic diseases/: the impact of food processing. *Adv. Nutr.* 2015;629–638.
17. Rauber, F., Campagnolo, P.D.B., Hoffman, D.J., Vitolo MR. Consumption of ultra-processed food products and its effects on children's lipid profiles/: A longitudinal study. *Nutr Metab Cardiovasc Dis* [Internet]. Available from: <http://dx.doi.org/10.1016/j.numecd.2014.08.001>. 25, 116–22.

- 2014;116–22.
18. Hotz, C., Gibson RS. Assessment of home-based processing methods to reduce the phytate content and phytate/zinc molar ratio of white maize (*Zea mays*). *J Agric Fd Chem*, 2001;692–698.
 19. Gibson RS. The role of diet- and host-related factors in nutrient bioavailability and thus in nutrient-based dietary requirement estimates. *Fd Nutr Bull*. 2007;77–100.
 20. M S. Sabnis M. Viruddha Ahara/ : A critical view. *Ayu*. 2012;33(3).
 21. Yeum, K.J., Russell RM. Carotenoid Bioavailability and Bioconversion. *Annu Rev Nutr* [Internet]. Yeum, K.J., Russell, R.M. Carotenoid Bioavailability and Bioconversion. *Annu Rev Nutr* [Internet]. Available from: <http://www.annualreviews.org/doi/10.1146/annurev.Nutr.22.010402.1028>. 2002;483–504.
 22. Dwyer, J.T., Wiemer, K.L., Dary, O., Keen, C.L., King, J.C., Miller KB. et al. Fortification and Health/: Challenges and Opportunities. *Adv Nutr* [Internet]. Available from: <http://advances.nutrition.org/cgi/content/long/6/1/124>. 2015;124–31.
 23. Adish, A.A., Esrey, S.A., Gyorkos, T.W., Jean-Baptiste, J. R. A. Effect of consumption of food cooked in iron pots on iron status and growth of young children: A randomised trial. *Lancet*, 353(9154),. 1999;712–716.
 24. Herzog, C., Wiegand, A. et al. Stahl, T., Falk, S., Rohrbeck, A., Georgii, S., Migration of aluminium from food contact materials to food – a health risk for consumers/ ? Part II of III/ : migration of aluminium from drinking bottles and moka pots made of aluminium to beverages. *Environ.* . 2017;1–7.
 25. Woo, I., Rhee, I. PH-D. Differential damage in bacterial cells by microwave radiation based on the cell wall structure. *Appl Environ Microbiol*. 2000;2243–2247.
 26. Kobylin, J.P., Krygier, K., Karlovits, G. S-C. A. Effect of specific oil surface area on the thermal stressing of rapeseed oil during heating in an electric frying pan. *J. Am. Oil Chem. Soc.*, 2016, 93. Kobylin, J.P., Krygier, K., Karlovits, G., Szydłowska-Czeraniak, A. Effect of specific oil surface . *J Am Oil Chem Soc*. 2016;237–242.
 27. Chak, M., Lam, L., Adams J. Association between home food preparation skills and behaviour and consumption of ultra-processed foods/: Cross-sectional analysis of the UK National Diet and nutrition survey 2017. *Int J Behav Nutr Phys Act.* :14.
 28. Monteiro, C.A., Levy, R.B., Claro, R.M., Castro R. De and Cannon G. A new classification of foods based on the extent and purpose of their processing. *Cad Saude Publica*. 2010;2039–2049.
 29. Delhi N. Top cancer-causing foods you might be consuming every day. :1–7.
 30. Fjellström C. Mealtime and meal patterns from a cultural perspective. *Scand J Nutr*. 2004;161–164.
 31. Hare-bruun, H., Nielsen, B.M., Kristensen, P.L., Møller, N.C., Heitmann BL. Television viewing, food preferences and food habits among children/: A prospective epidemiological study. www.biomedcentral.com/. A Prospect Epidemiol study. 2011;1471-2458/11/311.
 32. Hare-bruun, H., Nielsen, B.M., Kristensen, P.L., Møller, N.C., Heitmann BL. Hare-Bruun, H., Nielsen, B.M., Kristensen, P.L., Møller, N.C., Heitmann, B.L. Television viewing, food preferences and food habits among children/: A prospective epidemiological study. *BMC Public Health* [Internet]. 2011;11(1):311. Available from: <http://>. A Prospect Epidemiol study. 2011;1471-2458/11/311.
 33. Filipovic J. The way America eats is killing us. Something has to change. *Guard* [Internet]. Available from: http://www.theguardian.com/commentisfree/2013/sep/26/american-diet-report-card-unhealthy%5Cnhttp://cspinet.org/new/pdf/changing_american_diet_13.pdf. 2013;
 34. Sproesser, G., Kohlbrenner, V., Schupp, H., Renner B. I eat healthier than you: Differences in healthy and unhealthy food choices for oneself and others. *Nutrients*,7(6),. 2015;4638–4660.
 35. Canella, D.S., Levy, R.B., Paula, A., Martins, B., Claro, M., Moubarac J. et al. Ultra_processed food products and obesity in Brazilian households (2008 – 2009). *PLoS One*. 2014;1–6.