

FOOD AND HEALTH : PAST, PRESENT AND FUTURE: A REVIEW

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Abstract: *Food is one of the basic necessities of life. Food contains nutrients—substances essential for the growth, repair, and maintenance of body tissues and for the regulation of vital processes. Nutrients provide the energy our bodies need to function. The energy in food is measured in units called calories. In this review sources of food, its preservation for future use and various food practices were reviewed.*

Keyword: Food, Diet, Health

INTRODUCTION

Food is one of the basic necessities for all living organisms. Food contains many substances essential for the growth of individual nutrients, the repair and maintenance of body tissues, and the regulation of vital processes. Nutrients provide our body with the energy it needs to function. A healthy diet or foods are those that maintain or improve overall health. A healthy diet provides the body with essential nutrients: fluids, macronutrients (such as protein), micronutrients (such as vitamins), and enough fiber and food energy [1]. A healthy diet can include fruits, vegetables and whole grains. The requirements of a healthy diet can be met from a variety of plant and/

or animal foods, we must add essential ingredients of animal origin, such as vitamin B12, which is necessary for people on a diet vegan [2].

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Dedication: I am associated with Dr. P.D. Gupta for more than two decades.. I am dedicating this article to Dr. PD Gupta on his 85th birthday. I am having many mentors in my life, but Dr. P. D. Gupta is my lifetime mentor. I always take pride to myself to call his student.

grains . The requirements of a healthy diet can be met from a variety of plant and/or animal food s, we must add essential ingredients of animal origin, such as vitamin B12, which is necessary for people on a diet vegan. (2)

Plant-based foods: Plant-based eating means most of the foods which we eat are from plant sources, such as fruits such as berries, apples, grapes, oranges, peaches, figs, bananas, and kiwi, vegetables such as kale, spinach, tomatoes, broccoli, cauliflower, carrots, asparagus, peppers, etc, Starchy vegetables such as potatoes, sweet potatoes, butternut squash, etc. whole grains brown rice, rolled oats, farro, quinoa, brown rice pasta, barley, etc, seeds, nuts, legumes, such as chickpeas, beans, and lentils. beans and oils. Hemp, flax, and chia seeds. Tofu and other minimally processed meat substitutes...

Plants also have vital or micro nutrients that we can't get from a other sources. The nutrients and minerals, phytochemicals, and antioxidants located in plant help preserve cellular health and dietary stability within the frame so the immune system can function optimally. A healthy immune system is crucial to reduce the risk of infectious illnesses. Important plant vitamins deal with inflammation in the body. The phytochemicals and antioxidants raise immunity and can, neutralize pollution from pollutants, processed ingredients, bacteria, viruses, and more. The antioxidants present in plants neutralize all those so-called free radicals that throw out of the system. Fiber is determined in all unprocessed plant meals. Eating a plant-based diet improves the health of the human gut, so it can better able to absorb the nutrients from the food that support the immune system and reduce inflammation. Fiber can lower cholesterol and stabilize blood sugar and it's great for good bowel movement.

Animal-based foods: Foods from Animal assets include fish, meat, milk, eggs and honey. Cooking or smoking red meat at a excessive temperature can adds its harmful results by way of producing heterocyclic amines, which are quite carcinogenic and increase the hazard of colorectal, pancreatic, bladder, and kidney cancers. Animal-based totally foods lack a wide variety of vitamins, minerals, phytochemicals, and plant sterols which might be effective antioxidants but they supplement' certain objects which might be missing in ingredients from plant sources

Microbial based food: There are numerous mushroom species, which can be safe to eat and are cultured in many parts of the sector. Mushrooms are classified as veggies, which provide several crucial nutrients and now have outstanding health benefits as they're low in calories, and are an awesome supply of fiber and vitamin – B.(5). Algae also are used as a true food source. Microalgae and macroalgae (seaweed) are wealthy in proteins, soluble fibbers and polysaccharides, lipids and polyunsaturated fatty acids, pigments, nutrients and minerals.

By-products of microbes' Nature uses microbes for fermentation techniques, and over the years humans have used yeasts, moulds and microbes to produce fermented fish, meat and vegetables, as well as foods such as bread, beer, wine, vinegar, yogurt and cheese. Fermentation is one of the oldest transformation and preservation technique used by mankind for food. This biological technique lets in no longer best the preservation of meals but additionally improves its dietary and organoleptic qualities (regarding the senses ; flavor, sight, smell, touch). Fermentation helps mankind by preventing spoilage and adding flavor and texture to the food.

Ancient food practices: Given the range in soil, climate, tradition, ethnic organizations, and occupations, those cuisines range extensively and use regionally available spices, herbs, fruits and greeny vegetables. Eating habits of ancient were mainly dependent on seasonal eating. Eating in banana leaves is healthy. It is rich in polyphenols, which are natural antioxidants also found in green tea. These polyphenols kill all free radicals in the body and prevent diseases. Banana leaves are also high in polyphenol oxidase, an enzyme that treats Parkinson's disease. Banana leaves also contain special antibacterial properties that kill bacteria in food and aid digestion. Banana leaves also contain wax, which makes the surface smooth and adds flavor to the hot dish [6]. As there has been no fridge they have been getting ready clean food before ingesting. Long back, all of us sat on ground even as having food and only a few suffered from life-style illnesses. In step with Yoga, sitting at the floor cross legged at the same time as having food as practiced in India is generally a yogic posture referred to as Sukhasana that's stated to rubdown the belly muscle tissue, enhance blood movement in lower part of the body and increase flexibility.

Sensible cooking; Our ancestors were using mud pots and cooper pots for cooking and storing food items. These traditional cookware consumes around 15 percent lesser fuel as they retain heat, cook evenly and faster, that's mean we can conserve our nature and Secondly, most of the traditional cookware retain over 98 percent of minerals of what is being cooked in it. Thirdly, they consume lesser oil. And lastly, well-tested traditional cookware does not have harmful chemical coatings giving an authentic taste and aroma to the food cooked in them. Clay pots are also alkaline in nature so they mix well with acidic food and balance its pH level. Most important, deadly diseases like cancer do not develop in an alkaline atmosphere.(ref)

According to Ayurveda when we put food in our mouth through our hand, the five fingers together form a mudra (a yogic position) which activates the sensory organs that keep prana in balance. It also improves digestion because when the hand touches the food, the brain sends signals to the body releasing digestive juices. This is probably the reason why food tastes better when eaten with hands. Food preservation Preserving food became one of the art of human to survive in needy time. So he used many methods. Ancient humans had to take advantage of nature to survive. In cold weather, it freezes the seal meat on ice. In hot weather, it dries food in the sun. The staple food begins to deteriorate from the moment it is harvested.

Food preservation: Preserving food all owed ancient peoples to take root, live together and form communities. Instead of eating its prey or harvesting it right away, it can save some for later. All cultures use the same food preservation methods to preserve local foods (4). Fermentation is a great way to preserve food. Not only does it preserve food, it produces more nutritious food and is used to create tastier food with fewer ingredients. The bacteria responsible for fermentation can produce vitamins when fermented. This leads to more health benefits than raw materials. Pickling is preserving food with vinegar. Vinegar is produced by fermenting starch or sugar into alcohol, which is then oxidized by bacteria to acetic acid. Wine, beer, and cider are often turned into vinegar. Pickling is sometimes made by putting it in wine or beer to preserve food, as both have a low pH. Sometimes the wine or beer is very sour and the food in it is very tasty. The container

should be made of earth or glass, as the vinegar will melt the metal in the pot. Our ancestors used salt to dry food. Choosing raw salt from different sources (rock salt, sea salt, sea salt, etc.) is great for pickling and even cooking. Preservation with the use of honey or sugar was well known to the earliest cultures. Fruits kept in honey were commonplace. Present food practices Over the last century, our eating habits have changed dramatically, with our diets becoming almost unrecognisable to those of our grandparents and great-grandparents. Now we all addicted to table served food, where there will be an issue with eating posture. One should consume meal within four hours of preparing it, to get the maximum benefits. In ancient times when there were no ready to eat and frozen foods, there were fewer lifestyle diseases. Food starts losing its nourishment as soon as it is prepared. So it is advisable to eat it fresh. While in most busy households today the concept of preparing meals three times a day has given way to bulk preparation once, it is an unhealthy practice that should be given up.

Present Food Practices: In present scenario using of plastics, aluminium utensils making food as toxins. Using of canned, processed and stored food creating many diseases. Using of more artificial and synthetic food colours and tasting powders are making a huge storage in human body system leads to cancer.

Designer food for Future: Just a pill; as a meal Pills are common names given to medicines. They can be capsules, tablets, and other forms of medications given to a patient. Food pills, on the other hand, are dosage forms that deliver the basic requirements of a person's daily diet. It means that food will become a dosage form and can be consumed in a calculated way. A food tablet is thus a calculated formula designed in the form of a tablet. Depending on the formula, it can also be a capsule. The capsule or tablet will deliver a particular amount of food an individual needs on a daily basis. It can be consumed multiple times a day considering the number of nutrients required. Powder mix Food powders represent a large proportion of the total processed food in the world. There are several reasons for this, such as low bulk weight; storage, transport and usage conveniences; diverse applications; relatively high stability; and the possibility of a high production rate. Most food powders have low moisture content, thus, reducing the rate of quality degradation. Hence, food

powders can be stored for a longer time than other forms of food products. However, quality degradation in food powders may occur with or without changing physical appearance depending on their chemical composition and physical states. Quality degradation of food powders mostly involves both chemical and physical deteriorations and, at times, both of these changes are linked.

Importance of gut microbiota in relation to food:

Gut microbiota, the consortium of the microorganisms like bacteria, archaea, fungi, and viruses, including that live in the digestive tracts of animals [6].

The gut microbiota has broad impacts, including effects on colonization, resistance to pathogens, maintaining the intestinal epithelium, metabolizing dietary and pharmaceutical compounds, controlling immune function, and even behaviour through the gut–brain axis. The gut microbiota assists in a range of bodily functions includes,

- harvesting energy from digested food
- protecting against pathogens
- regulating immune function
- strengthening biochemical barriers of the gut and intestine

As well as absorbing energy from food, gut microbes are essential to helping humans absorb nutrients. Gut bacteria help the body to break down complex molecules in meats and vegetables, for example. Without the aid of gut bacteria, the body cannot digest plant cellulose. Gut microbes may also use their metabolic activities to influence food cravings and feelings of being full. The diversity of a person's diet affects the diversity of their gut.

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