

Aahaar Kranti

UTTAM AAHAAR, UTTAM VICHAAR



MAHATMA GANDHI
**The First
AAHAAR
GURU of
Modern
India**



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EDITORIAL

Mahatma and Food

Nakul Parashar



Aaahaar Kranti, launched on 13 April, has stepped into its sixth month. Thanks to its readers and those associated with it. Intending to reach every Indian, Aahaar Kranti has applied all possible media available in the present-day world. Yet, there's a long way to go.

Posters, newsletters, discussions through webinars and much more continue as we speak and write. Modules to prepare teachers at the grass-root level to take this message to youngsters at their schools are on. Efforts to Train-the-Trainers through these modules are being designed, and through online media, these modules are being taken to the end-users. I am glad to share with you that a reasonably significant portion of our society has been benefitted from it in a short period.

Come October, and we all remember the Mahatma. Mahatma Gandhi and food is a topic that has been widely discussed and deliberated upon. In fact, Mahatma Gandhi, through his book *The Story of my Experiments with Truth*, showed all of us a path of how important it is to preach about anything unless one has experienced it. About food, too, his views have been exemplary and are based on his experiments about it. Thus, he could foresee the importance of proper food, the right amount, and the right time of its consumption.

In the present day world, we notice that we are concerned about our weight. A sedentary lifestyle is to be blamed for it. So, what do we do? Aerobics, hitting the gym, doing a plank, etc. then become the 'way of life'. We start aping the west – start eating exotic imported food like avocados and quinoa. It was our Mahatma who had foreseen the importance of balanced diets decades ago.

About the quantity of diet, Mahatma always focused on a minimalistic approach. He said that food was energy and even medicine that is required to keep our body healthy and fit for work and, hence, one should take only what is needed in minimum quantity and should refrain from eating to appease taste buds. Eat sparingly now and then fast; eat on the lower side rather than overeating. His words reproduced as is in this context included — The body was never meant to be treated as a refuse bin, holding all the foods that the palate demands. In fact, he believed that our body from a food standpoint should be treated as a temple. This expression is found in his paper published in *Young India* on 8 August 1929. The updates on nutritional researches propagate that polishing or refining of grains can result in loss of nutrition. The Mahatma too discouraged polishing or refining of rice and wheat.

In a nutshell, Mahatma's sayings and words of wisdom about food and nutrition still hold good even after many, many years of his departure. It would be our true homage if we imbibe most of his sayings about food and nutritional practices and apply them in our daily lives. ■

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The First Aahaar Guru of Modern India

Mahatma Gandhi

Ajai Chawla

Mahatma Gandhi, the Father of our Nation, was an inspiring leader, a politician, a social activist, a lawyer, a freedom fighter – many roles rolled into one, with a multifaceted personality that was admired by all. However, most of us do not know that he considered himself a scientist more than a politician even though he neither had an image nor the qualifications to be called one. What he did have was a scientific attitude and temper, spirit of curiosity, experimentation and observation and of inferring from them for practice. These in fact are elements essential for any scientist.

Gandhiji's image was however that of being anti-science and technology, especially in contrast to other contemporary world and national leaders. This image was created due to his perceived opposition to technology. His writings and speeches however tell otherwise. His writings convey that he was well aware of the fact that one cannot live without science and he was not against the spirit of research of the modern scientists but rather his contention

was with the direction that the spirit was taking. His brand of science visualized encompassing in its scope a firm commitment towards the cause of the poor and the marginalized rather than merely towards resources. According to him a scientist's concern should not be the fact alone but rather creation of value in all activities from the perspective of not only human but also non-human.

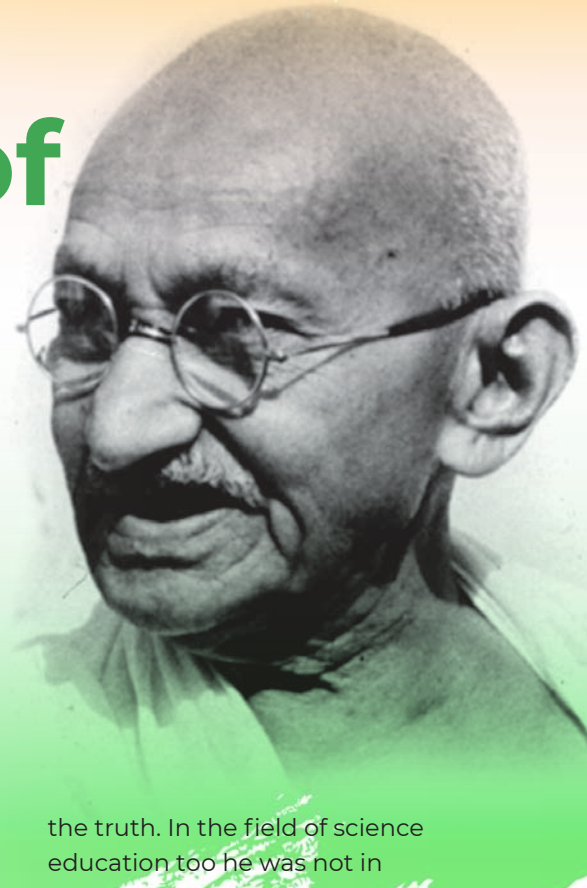
Mahatma Gandhi viewed science as a way of life. An evidence of his research is visible in everything that he did. For him, it was a quest for discovering

Gandhiji's dietary philosophy also came to function in terms of his understanding of Samkhya principles, as interpreted primarily from the Bhagavad-Gita.

the truth. In the field of science education too he was not in favour of theory alone, "Unless our hands go hand in hand with our heads, we would be able to do nothing." He applied his scientific temper to almost all aspects of daily life, but 'Aahaar' or nutrition and the resulting effect on one's health was a subject that was perhaps the closest to his heart.

Gandhiji was a strict vegetarian initially due to religious custom and a vow that he had taken due to family pressure but later by choice, and once he was convinced of its advantages he actively advocated the same to people he came in touch with. His journey as a vegetarian by

choice started in the 1880s when he first went to England to study law. There were hardly any vegetarian restaurants there and he had to walk several miles each day before he could



find one. In one of his searches, he came across a restaurant that was also displaying a book 'Plea for Vegetarianism' by Henry Salt. He read this book cover to cover and the learnings changed his life forever! Salt's book also whetted his interest in dietetic studies and he read all books on vegetarianism that he could lay his hands on. He followed it up with reading Howard Williams 'The Ethics of Diet' (a, more or less, biographical dictionary of prominent vegetarians); Anna Kingsford's 'The Perfect Way in Diet' (which presented a review of the food habits of various nations, including India), and the writings of Dr T.R. Allison who fit vegetarianism into a broader programme of the "Simple Life". These books formed the basis for his future experimentation on food. The key takeaway for him after reading these books was, "Man was not born a carnivorous animal, but born to live on fruits and herbs that the earth grows."

The prime consideration

for his experiments was health to begin with, but later religion became the primary motive for his research. His experiments are well documented in his books on diet, on health and his autobiography.

Now that he had his path for his aahaar crystal clear, he set upon experimenting with food. Gandhiji believed in the overarching philosophy of minimalism and anyone who may have gone through his works like 'Diet and Diet Reform' or 'Key to Health' would understand that he believed in a minimalistic approach to diet as well. He neither recommended eating in large quantities nor eating for the sake of appeasing the taste buds. He drew from the

Gandhiji firmly believed that fasting can be a means to rest the digestive system and rejuvenate the body and serve as a potent method to stay healthy.

contemporary science of those days that stated that excessive eating, too frequent meals, and overindulgence of concentrated starches and sugars resulted in diseases. He treated food as a combination of energy provider and as medicine. His argument for his philosophy on food was "There are people in the world so hungry, that God cannot appear to them except in the form of bread", implying that if we eat frugally, we can save food for the needy.



Taking minimalistic eating to another level, fasting was as much an essential part of Gandhiji's diet plan as the intake of food. He firmly believed that fasting can be a means to rest the digestive system and rejuvenate the body and serve as a potent method to stay healthy. Apart from health reasons, Gandhiji fasted on 18 occasions for political reasons during the freedom struggle, the longest being for 21 days. The only thing he allowed himself to consume during his fasts was water and a little lime juice.

Gandhiji initially favoured a pure vegetarian diet that excluded even milk and milk products including curd, paneer, ghee or butter. But a specific experience forced him to change his mind. In the year 1917, he was





laid down with severe dysentery. He became very weak and was reduced to a skeleton, but he stubbornly refused to take any medicine and with equal stubbornness refused to take milk or buttermilk. Gandhiji had taken a vow of not taking milk. A friend who was a doctor pointed out that at the time of taking a vow, he may have had in my mind only the milk of cow and buffalo; but the vow will not prevent him from taking goat's milk. Kasturba also supported this view and as a result Gandhiji had to yield to their demand. All types of animal milk have practically the same composition, and on drinking it, it gave him a new life. Due to this and similar such experiences, Gandhiji also added milk to his strict vegetarian diet.

Many Indians cannot resist

sweet temptations. Gandhiji was no exception to this, but then he made it a point to stop eating sweets and condiments. There is an interesting story on how he left eating sugar. One day a woman came to him with her young child and requested him to instruct the child to give up sweets as they were not good for health. Gandhiji kept mum for a while and then asked the lady to return after a few days. On her next visit, he advised the boy to give up sweets as consuming it was not

Gandhiji experimented with various diets throughout his life before narrowing down his preferences.

good for health. The woman was curious to know why he didn't say this to the boy during their first visit itself. Gandhiji replied that at that time he too was addicted to sugar and as such did not have the moral authority to advise someone against something till he himself had given that up. Apart from sugar he also gave up tea and coffee and substituted with cocoa. He advocated Gur or jaggery as an alternative to sugar. "Gur consisting of cane-sugar and fruit-sugar in the proportion of 2 to 1, would be assimilated more rapidly than cane-sugar alone taken in the same quantity. Therefore, the nutritive value of gur is at least 33 per cent superior to that of refined sugar," wrote Gandhiji in Harijan. His scientific bent of mind doubted the claim by Ayurvedic physicians that



honey should not be taken with hot water because whenever he asked for a reason, they failed to give a satisfying answer.

The experimental journey that he undertook with food covered a vast range of non-vegetarian, consumption of egg, vegetarian, vegan and raw foods. One such experiment was with raw foods. He got the inspiration from Gopal Rao who had a Nature Cure establishment in Rajahmundry. His dietary experiments reached a point wherein he stopped eating all spices and only consumed boiled or raw food. His family too was expected to follow these food restrictions, which they did, though sometimes grudgingly.

Gandhiji also introduced the concept of national integration through food. He was a strong

contender for interchange of food between provinces, urging people to try food other than their own, from different provinces. At that point of time the cultural exchange between different parts of India was not as much as it is now. Foods from different states were not easily available in places outside the state. As such he was aware that such an exchange was indeed a herculean task. His idea of interchange involved a wider cultural exchange such that people from one province become aware of food habits, tastes and healthy dishes prepared in another province. This implied a careful study of the foods taken by different provinces, castes and denominations and the methods

Gur consisting of cane-sugar and fruit-sugar in the proportion of 2 to 1, would be assimilated more rapidly than cane-sugar alone taken in the same quantity.

of preparing them and discover common, simple and cheap dishes which all can take without upsetting the digestive apparatus.

Gandhiji's journey of dietary experimentation traversed many shifts that were directly related to cultural and ideological forces and they affected him throughout his life, and generally with regards to his geographic location. In particular, after his return to India, Gandhiji's dietary philosophy also came to function in terms of his understanding of Samkhya principles, as interpreted primarily from the Bhagavad-Gita, in order to construct a pure, clean, 'sattvic' body.

Mahatma Gandhi had a healthy appetite and he always preferred consuming a nutritious diet. He experimented with various diets throughout his life before narrowing down his preferences. Over the course of decades of experimenting with food he was able to map a detailed nutrition plan including what food to take and when and the resulting health benefit. Perhaps, it will only be fitting to call Gandhiji as modern India's first nutritionist or aahaar guru. ■

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with saliva and helps in proper digestion. Pulses are great to fulfil the requirements of proteins. Peas (Matar) and black-eyed peas (Lobiya) are considered heavy and on the other hand green gram (Moong daal) is light for stomach and easy to digest. Vegetables containing low amount of starch must be eaten in abundance. Seasonal fruits must be included in the diet. According to Gandhiji milk and fruits are good for health if taken in morning. Banana is also beneficial for health. Oil and ghee are also necessary. For this, coconut, ground nut, sesame and kachi ghani oil are said to be salubrious. Deep fried foods are harmful and must be avoided. Excess of sugar in the body may cause many disorders. Presently

there are around 72.96 million people who are suffering from diabetes in India. Gandhiji advised avoiding sugar and said that we can easily get the necessary sugar from our daily food and fruits. On 1 February 1935, in 'Harijan' he wrote an article in which he emphasized that if you want to eat sweets, naturally prepared jaggery is better than refined sugar. Jaggery is easily available everywhere and good for our health.

Vegetables containing low amount of starch must be eaten in abundance. Seasonal fruits must be included in the diet.

Gandhiji said fruits are gifts of nature and should be taken in appropriate amount. These days we see several hybrid fruits available in the markets during all seasons but those can never be an alternative to seasonal fruits. Eating whole fruits is better than consuming fruit juice. It also helps in digestion and provides better nutrition.

He often gave detailed explanation about all components of a food. In order to spread awareness about foods in general public he quite often spoke about them on his speeches and articles. In an article published in 'Harijan' on 25 January 1935, he wrote on the importance of unpolished rice. He wrote that unpolished rice is sweet in taste and beneficial for our health. It is prepared in a simple process. Though people buy polished rice because of its outer shine and even pay more for it, it is not good for health.

Spices

Gandhiji considered salt to be the king of spices. Our body needs acid as well as salt. Although salt is naturally available in foods that we consume daily, it is often lost during cooking. This loss is



DIET CHART

According to Gandhiji, we should consume following items in this amount in a day:

- Cow milk - 0.907 kg
- Grains - 170.097 g
- Leafy vegetables - 85.0486 g, other vegetables - 141.748 g
- Raw vegetables - 28.3495 g
- Oil/ghee - 30 g
- Sugar - (sweet) 30 g
- Fruits - as desired



supplemented by adding salt. He called salt as 'sabras'. We know that spices play a great role in strengthening our digestion system. Asafoetida, green and red chilli, coriander, turmeric, black pepper, cinnamon etc. not only make the food delicious, they also help in digestion. But, they are good when taken in moderation and are harmful if consumed in abundance.

Tea and Coffee

Beverages like tea, coffee and cocoa are not good for health if not taken in moderation. Tea contains a chemical named tannin which slows down digestion. Gandhiji never approved of consuming tea. He preferred drinking water with honey and lemon. Instead of tea, coffee or cocoa we can have water with some spices and herbs.

Gandhiji strongly opposed consumption of liquor or alcoholic drinks. He emphasized that liquor put negative impact on a person's brain. And when

Asafoetida, green and red chilli, coriander, turmeric, black pepper, cinnamon etc. not only make the food delicious, they also help in digestion.

our mind is not in our control, the body would automatically be unrestrained.

Gandhiji's Life as a Vision

Gandhiji always believed in leading a simple life with self-reliance and he inspired people towards it. If you ever visit the Sewagram Ashram in Wardha you can see how his principles are followed in its day-to-day operations. The ashramites wear hand-made cotton khadi clothes. The grains, fruits and vegetables consumed are produced there using organic manure, and the food is cooked by the ashramites. The visitors also can enjoy this plain and righteous food. All

components of the food are used in moderate amount. Salt, chilli, spices and fat are used appropriately.

The Advantages of Vegetarian Food

Professor Manoj Kumar of Mahatma Gandhi International Hindi University, Wardha, says that Gandhiji talked about his various experiments with food and its relationship to health. When we read Gandhian literature, we see mention of 34 such topics in various places. He wrote these when he was in South Africa. When Gandhiji was to visit London, his mother asked him to keep three vows. One of them was to consume vegetarian food. During his studies in London, he wrote an article on Indian food in a magazine 'Vegetarian'. He was also a member of the vegetarian society there. ■

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Translation: Kshama Gautam

Miraculous Microgreens

Bunch of Wondrous Superfoods

Shubhada Kapil

Microgreens, also known as “vegetable confetti”, are small, delicate greens that add colour, texture and flavour to a variety of foods as a garnish or ingredient. Microgreens are rich in nutrition and flavour. They include a variety of edible immature greens, harvested less than a month after germination, when the plants are up to 2 inches tall. The stem, cotyledons (or seed leaves), and first set of true leaves are all edible.

Microgreens have delicate textures, distinctive flavours, and various nutrients that contain greater amounts of nutrients and

health-promoting micronutrients than their mature counterparts. A smaller amount of microgreens may provide similar nutritional effects compared to larger quantities of mature vegetables.

History of Microgreens

Microgreens have been produced in the United States since the mid-1990s beginning in Southern California, then San Francisco and

Microgreens have delicate textures, distinctive flavours, and various nutrients than their mature counterparts.

spreading eastward. Initially, there were very few varieties offered that included Arugula, Basil, Beet, Kale, Cilantro and a mixture called “Rainbow Mix”. They are now being grown in most areas of the world with an increasing number of varieties being produced.

Growing Conditions

Microgreens can grow either in soil or hydroponically, but they need sunlight. They are harvested after 1–3 weeks, depending on the type. Microgreens can be grown from any herb or vegetable. Though they are expensive to purchase, they can be grown cost-effectively at home, in a tiny space and with simple supplies. If you have a space that receives good amount of sunlight, you may grow them in a shallow container with the help of some potting mix and suitable seeds. This is a good option for urban gardeners.

Salad greens, leafy vegetables, herbs and even edible flowers can be grown as microgreens. Beginners can start by growing one type of seed, such as broccoli, cauliflower, cabbage, mustard, chia, sunflower or buckwheat, in a single container.

There are seeds available for salad mixes and specially selected microgreen mixes that combine greens with similar growth rates, compatible flavours and beautiful colouring including reds, purples and greens. If the climate is suitable, microgreens can be grown outdoors in the garden, under shade, as well. Like all fragile seedlings, you'll need to protect them from weather extremes and drying winds.

Microgreens' rapid maturity of a few weeks and affinity for indoor farming means they use very little water and can be harvested quickly. It makes



them a model of sustainability. They can be grown indoors, in greenhouses, warehouses, and in vertical farms.

Scientists see microgreens as a functional food, which means that they can provide key nutrients in a practical way. Some people call them a superfood.

Nutritional Benefits

Microgreens are packed with nutrients. While their nutrient contents vary slightly, most varieties tend to be rich in potassium, iron, zinc, magnesium and copper. They are also a great source of antioxidants. Their nutrient content is high, which means that they often contain higher vitamin, mineral and antioxidant than the same quantity of mature greens.

Health-conscious individuals have been including microgreens in their diet because of its potential to fill in the nutrition gap, and its disease risk-reduction ability. Because of the pandemic, more people are opening up to these little miracles of nature.

According to a study published in *Journal of Food Composition and Analysis* (Volume 37, February 2015, Pages 38-43), researchers comparing microgreens to more mature greens report that nutrient levels in microgreens can be up to nine times higher than those found in mature greens. Some Research also show that they contain a wider variety of polyphenols and other antioxidants than their mature counterparts.

One study measured vitamin and antioxidant concentrations in 25 commercially available microgreens. These levels were then compared to levels recorded in the USDA National Nutrient Database for mature



leaves. According to the experts microgreens have higher concentrations of phytochemicals and nutrients like beta-carotene (which can be converted to Vitamin A) than mature plants. Microgreens may become a key food source for preventing nutrient deficiencies and promoting global health and environmental sustainability.

Seedlings of spinach, lettuce, red cabbage and other veggies are usually 1-3 inches in height and harvested within 14 days of germination. They enhance the colour, texture and flavour of salads, soups, sandwiches and other foods.

Researchers have also found wide variations in nutrient levels

among the plants tested in the study. Red cabbage microgreens, for instance, had the highest concentration of vitamin C; while green daikon radish microgreens had the most vitamin E.

Concentrations of vitamins and carotenoids in popcorn shoots and golden pea tendrils were low compared to other microgreens, but were still as high as some common mature vegetables. Therefore, nutrient levels in microgreens vary based on the species at hand.

Microgreens versus Sprouts

Microgreens are sometimes confused with sprouts, the germinated seeds that are eaten root, seed and shoot. Sprouts are newly germinated seeds that people harvest just as the seed begins to grow and before their leaves develop. On the other hand, microgreens grow from sprouts, and they have leaves. Microgreens are not the same as sprouts. There are several important differences.

Sprouts are produced entirely in water. The seed is not actually planted. A high density of seed is placed inside the sprouting equipment or enclosed containers. The seed germinates rapidly due to the high moisture

HEALTH BENEFITS OF MICROGREENS

- They help reduce risk of heart disease.
- They might help fight cancer.
- They help boost immune system.
- They help improve eyesight.
- They reduce constipation.
- They help ward off digestive ailments.
- They might help lower cholesterol.



and humidity levels maintained in the enclosures. Seeds can also be sprouted in cloth bags that are repeatedly soaked in water. The sprouting process occurs in dark or very low light conditions. Microgreens however are not processed in water. Microgreen seeds are planted and grown in soil or a soil substitute such as peat moss or other fibrous materials. They are ideally grown in bright natural sunshine, with low humidity and natural fresh air.

If the stem is cut leaving the root behind, and it is not produced in water, it is a Microgreen, not a sprout. Microgreens that are grown in sunlight with plenty of space and good natural air circulation have increased vigour resulting in more colour and flavour with better shelf-life, compared to those grown under unnatural artificial lights. Microgreens have much stronger, more developed flavours than sprouts making them an ideal flavour component with a broad range of leaf shapes, textures and colours.

Never cook microgreens, always eat them raw. They're delicate in nature and the moment you expose them to heat, they start losing their vitality and nutrition, too.

Storage of Microgreens

Microgreens are difficult to store due to their high surface area to volume ratio, high respiration rate, and delicate leaves.

One major limitation to the growth of the microgreen industry is rapid quality deterioration post-harvest. Some growers sell microgreens as a "living product" so that the customer harvests and washes them as they are needed to serve the freshest quality. Hydroponic pads and soil-less substrates tend to be favoured for this practice for ease of transport and cleanliness. However, these microgreens still need to be used quickly to maintain peak quality.

Some experts have raised concerns about the risk of contamination of microgreens, for example, with *Escherichia coli*. The risk increases with the storage time, and it will depend partly on the type and composition of

the microgreen. Some are more susceptible than others.

The shelf life of microgreens varies from 10-14 days after harvesting. People who buy microgreens from the grocery store should check the date. You should keep them refrigerated at a maximum of 5°C and eat them within 10 days. People who grow microgreens at home will be better able to manage these risks. Tips for producing microgreens safely at home includes using clean soil or hydroponic materials, irrigating with clean water, harvesting and consuming microgreens as soon as possible when they are ready.

A Better Way for Taking Nutrients

According to the Academy of Nutrition and Dietetics, a well-planned vegetarian or vegan diet can be healthful for people at all stages of life. Plant-based diets may help reduce the risk of heart disease, cancer, type 2 diabetes, obesity, and other conditions also they are more environmentally sustainable than animal-based foods.

Remember that going veggie will not make a person healthy overnight. To see improvements in health, it is essential to plan well, include a variety of ingredients, and make the diet part of an overall healthful lifestyle.

Thus, microgreens can be a better way to add fresh, nutritious produce to meals. They can be a tasty addition to sweet and savoury dishes. In terms of cost and sustainability, growing microgreens can be a practical and economical way of putting fresh food on the table. ■

DIFFERENT TYPES OF MICROGREENS

Microgreens can be grown from different types of seeds. The most popular varieties are produced using seeds from the following plant families:

- **Brassicaceae family:** Cauliflower, broccoli, cabbage, watercress, radish and arugula
- **Asteraceae family:** Lettuce, endive, chicory and radicchio
- **Apiaceae family:** Dill, carrot, fennel and celery
- **Amaryllidaceae family:** Garlic, onion, leek
- **Amaranthaceae family:** Amaranth, quinoa swiss chard, beet and spinach
- **Cucurbitaceae family:** Melon, cucumber and squash

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Lifestyle and Nutrition in Adults

Sujata Gokhale

In the ancient ashram system four stages (Brahmacharya, Grihastha, Vanaprastha and Sanyasa) had specific and significant connotations. The Grihastha phase approximately lasted for a period of 24 years starting from 24 years to 48 years. In ancient times it was defined as the time for starting a family, working towards livelihood, gainful labour and carrying out other familial and social responsibilities.

The Working Age population of any country is defined as adults between 15 and 64 years. Adults in the age range between 35 and 45 years are a significant subset of this working age population group and sometimes referred as the productive age group. In the race to achieve the goals and responsibilities as defined by the “Grihastashram” phase, an individual of this age group often tends to neglect factors such as good nutrition, lifestyle, habits and exercise which ultimately cause irreversible damage to their health.

Stress and Dietary Choices

Stress is defined as the human body’s physiological, biological or psychological response to a stressor (that causes stress) which could be induced by various

factors. Stress influences an individual’s mood, their sense of wellbeing, behaviour and health. Stressors can be acute (short lasting) or chronic (continual and long lasting). Our body reacts to acute stress by a response such as temporary increase in pumping of heart or blood pressure that may subside as the stress goes away. However, chronic stress affects

- Could undergo conditions like anxiety, depression, insomnia. These could lead to over consumption of caffeinated drinks or high calorie snacks and
- May get addicted to alcohol and smoking.

Stress and Its Impact on Gut Health

“We are what we eat” supports the fact that diet influences our gut microbiome composition. Our gut microbiome are in turn connected to our neuro-responses and therefore our mind.

Increase in stress is known to alter the gut microbiota and also our food metabolism.

The altered gut microbiota influence food cravings, food choices and quantities of food consumed. It is often observed that people with depression, anxiety issues tend to overeat and make high calorie food choices which are low in nutrition. These choices in turn disturb the gut microbiome diversity and nutrient absorption leading to obesity, nutritional deficiencies, mood, behavioural and habit changes.

The Vicious Cycle Between Stress and Nutrition

Research and evidence suggest that the relationship between stress, diet and the gut



the body differently. It is surprising to know that chronic stress can impact our dietary choices.

An Individual Under Constant Stress

- May crave for processed food that are high in fat, sugars, calories and low in nutrients;
- Is likely to be less motivated to cook nutritious meals or may skip meals;

microbiota is bidirectional and depending on whether it forms a vicious or a virtuous cycle it will determine the health of an individual undergoing stress.

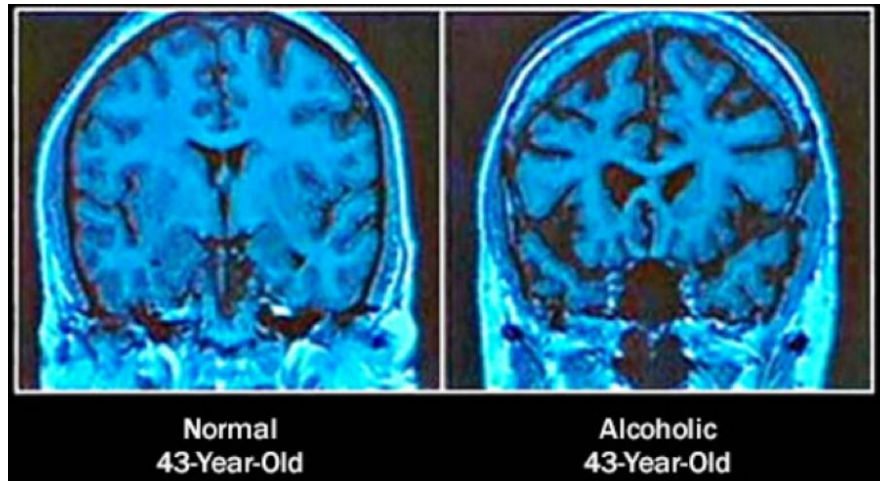
Chronic Stress Can

- Aggravate headaches, leading to depression, anxiety disorders, insomnia;
- Lead to increase of cardiovascular diseases and ultimately increasing the risk of heart attack;
- Weaken the immune system making one vulnerable to infections;
- Affect the digestive system leading to ulcers and other gut-related problems;
- Be a cause for increasing the risk of diabetes; and
- Cause Obesity.

Stress, Alcoholism and Smoking

Stress and Smoking

We have often observed adult smokers increase their frequency of smoking in stressful conditions at work or home. It is therefore evident that there is a relationship between increase in stress and an increase in smoking in adults. Smoking is known to cause



Brain images of a normal person versus brain of an alcoholic person

cardiovascular and respiratory diseases, cancer, weight loss, liver damage, etc. There is also a correlation between smoking and reduction in gut flora and fauna. This disturbance in the gut microbes leads to development of irritable bowel syndrome, ulcerative colitis, colorectal cancer, decrease in immunity, and impacting nutrition absorption of the individual.

Stress and Alcoholism

Alcohol is often perceived to alleviate stress and hence consumed by many. However, studies have shown that alcoholism can itself be a stressor.

Another interesting fact is the co-relation between alcoholism, liver disease and the gut microbiota.

Studies have shown that alcoholism can contribute to an altered gut microbiota with a reduction in anti-inflammatory microbes making the liver susceptible to liver damage/ cirrhosis.

Alcohol is also known to inhibit

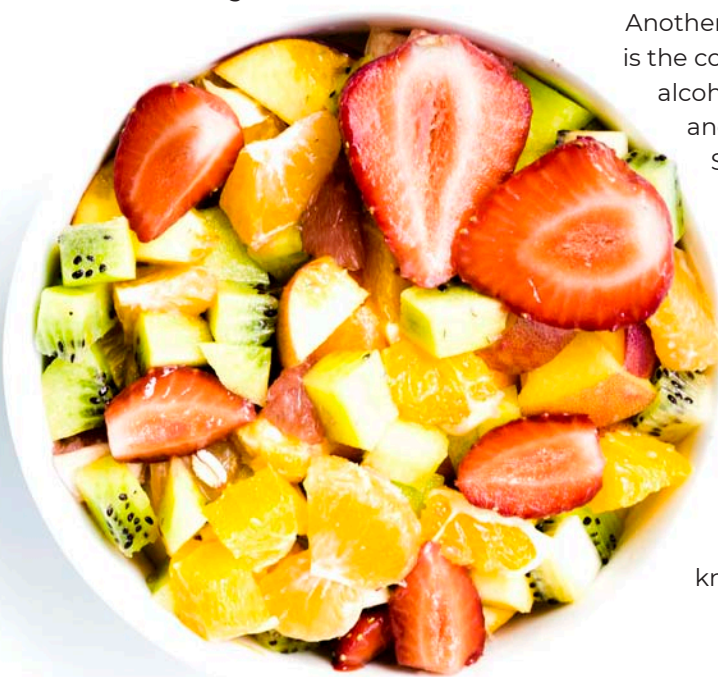


nutrition absorption leading to malnutrition.

Nutrition and Family

When we think about nutrition in adults we need to remember that nutrition and health of the family is impacted by nutritional choices and habits of the adults. For example, bad dietary choices can impact the nutritional profile of the family. A child's food preferences are influenced by parental modelling and therefore

- Bad dietary choices may influence the child's eating habit leading



to the his or her nutritional deficiencies and diseases.

- Alcoholism can cause foetal brain and neurological disorders, slow growth or developmental delay, fatality, low birth weight, and malformations of organ systems. It could lead to neglect of nutrition requirements of the child and other members of the family.

Smoking and Its Impact on the Family

- Causes lung and respiratory diseases in passive smoker;
- Paediatric invasive bacterial disease such as meningitis, allergies, and asthma;
- Cancers;
- Impaired absorption of the nutrients due to passive smoker's ill health and weakened immune system.

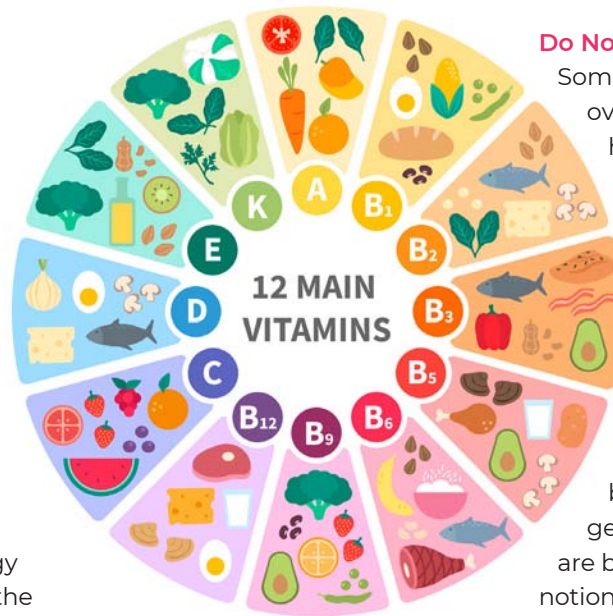
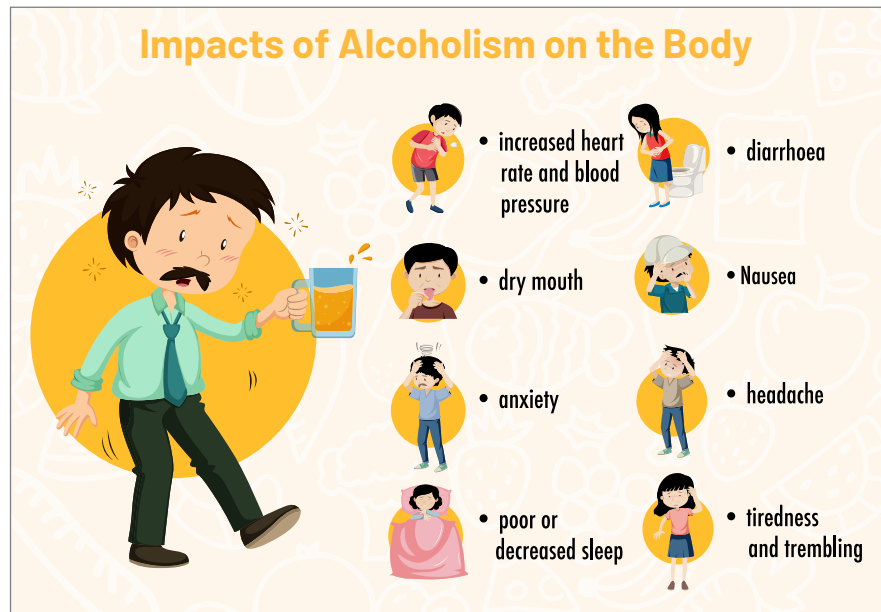
Nutrition for Adults

Healthy Eating

A well-balanced diet can help create a healthy body and a healthy mind. A nutritionally balanced diet with required amounts of macronutrients and micronutrients help build a strong immune system, repair cells and provide required energy to overcome the challenges on the body by stressors. This nutritionally balanced diet would include good carbohydrates, fibre, proteins, and healthy fats as the macronutrients. Eating a rainbow that includes different coloured fruits and vegetables would help balance the micronutrient requirement of the body while keeping the gut microbiota healthy. Also try and include local and seasonal fruits and vegetables to your meals.

Mindful Eating

Being aware of the nutrition facts, calorific value about the food we



Do Not Skip Meals

Sometimes one may be overwhelmed by work that he may skip meals. In such case, one may keep a fruit or a healthy option handy.

Say No to Alcohol and Smoking

Both alcohol and smoking not only contribute to the various diseases of the individual but also impact the future generation even before they are born. Though the conceived notion is that alcohol and smoking help in dealing with stress it has proven otherwise and lethal.

Practicing Meditation and Yoga

Stress is known to cause various mental upheavals and increased breathing rate. Practicing yoga and meditation helps one calm the mind and lower the heart rate therefore reducing erratic thoughts of the mind and helping overcome stress. ■

eat and making dietary choices which are nutrient dense and low in unwanted calories would not only help in keeping the adult healthy but also help create an ideal for the future generation's eating habits.

Staying Active

Exercising is known to be a stress inhibitor. It also can help prevent obesity and therefore put a stop to the vicious cycle of stress, depression and poor dietary choices.

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Train the Trainers

Teachers Module 1

Avoid Processed, Packaged & Fast Foods



Freshly Prepared/Natural Foods

- Foods with little or no pre-processing, including fruits & vegetables.
- They are nutrient-dense, rich in vitamins, minerals, fibers & healthy fats.
- No unnecessary sugar or salt.
- Washing, cutting, freezing, or cooking can be helpful & healthy.



Processed/Packaged/Fast Foods

- Highly processed foods far from their natural state, including junk/fast food.
- They are calorie-dense, nutrient-poor, low in vitamins, minerals, and fiber.
- Contain added sugar, salt, unhealthy fats such as trans-fat, and other preservatives, often artificial.

Source: CRESS, Foods Journal, Kaiser Permanente Journal (12), Nutrient Science Solutions, South China Agricultural University, University of Konstanz, University of Navarra

Avoid Foods with Synthetic Preservatives

- Chemical/synthetic preservatives are frequently added to packaged and other foods:
 - For increasing shelf life by preventing bacterial contamination.
 - To make food distribution more convenient.
 - To make the food-colour appealing.
- Preservatives as additives may alter gut bacteria, potentially leading to chronic diseases.
- Not all preservatives are bad for health.
 - Good preservatives include salt, sugar, spices, oils and other natural preservatives.
- Always check food labels of packaged foods to ensure there are no synthetic preservatives.



Source: National Research Council (US) Committee on Diet, Nutrition, and Cancer, New York University, Frontiers in Immunology, University of Alberta, University of Rome Tor Vergata, University of Surrey