

## **Necessity of nutritional shift towards vegetarianism**

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### **INTRODUCTION**

Nutrition deals with the various food components of our diet which are digested, absorbed and metabolized to carry out various activities of the body. Nutrition should help to promote emotional, energetic and spiritual quality resulting in holistic health. Balanced diet is the right amount of variety of food that can meet all recommendations for nutrients like carbohydrates, fats, proteins, vitamins and minerals. It is not always necessary to have non-vegetarian diet to fulfill the nutrient requirement. A complete vegetarian diet can be balanced diet rather than non-vegetarian diet. In India 30%- 40% part of population prefers vegetarian diet. Vegetarian diet offers protection from 15 leading inflammatory diseases such as cancer. Currently there is huge confusion amongst consumers regarding balanced diet whether to choose vegetarian diet or non-vegetarian diet. Integration between us and the food is more important than just mechanical absorption of food. Our intention is to awake meat eaters about how their diet patterns are influencing physical, psychological, spiritual and environmental aspects which are deeply connected to welfare of mankind and all living creatures. Hence, vegetarian diet is affordable and can be implemented alone for preventing diseases and as conventional remedies when disease is previously present.

### **PHYSICAL HEALTH**

Longevity of people is being affected due to tendency of modern generation towards non-vegetarian food. Vegetarian diet helps to promote health by improving mood, reduce blood cholesterol levels and risk of developing cataracts and kidney stones. It also suppresses the risk of developing cancer and cardiovascular diseases.

According to IARC (International Agency for Research on Cancer) processed meat is considered as carcinogenic in nature. Extent of consumption of processed and red meat is directly proportional to risk of developing gastric cancer, pancreatic cancer, cervical cancer and endometrial cancer, etc. It has seen that processed meat is greatly associated with cardiovascular diseases and T2DM (Type 2 Diabetes Mellitus) and certain types of cancers. Consumption of meat may lead to cardiovascular diseases, diabetes, hyperlipidemia and depression. Cardiovascular diseases are directly related to saturated animal fat, total animal fat and dietary cholesterol. American Institute for Cancer research found that the convincing dietary factor related to increased risk of colon cancer is due to meat consumption. Red meat consumption causes prostate cancer and pancreatic cancer and processed meat consumption cause stomach cancer. Meat eaters had twice the risk of emerging appendectomy and iodine deficiency than non-meat eaters. According to the Oxford Vegetarian Study incidence of ischemic heart disease might be 24% lower in lifelong vegetarians than non-vegetarians.

## **PSYCHOLOGICAL HEALTH**

Lower presence of arachidonic acid in vegetarian diet compared to non-vegetarian diet tends to mood improvement. Satvic food gives one alertness energy and create a keener consciousness. Rise in tamasic thoughts such as sexual thought, greed, anger, etc. are due to increase in tama component obtained from non-vegetarian diet. Occurrence of stress hormones in animal based food is higher than that of plant based food. The main reason for the higher content of stress hormone in meat is due to various reasons such as rearing in congested areas, conflicts between them, transportation injuries, starvation, stunning pain and fear of death. Animal stress hormones are cortisol, catecholamine (adrenaline and noradrenaline). Plant stress hormone is abscisic acid.

When plain is killed it has been observed that plants also experienced pain when cut off or its parts are severed. The extent of pain waves released is less than animals. There is no pain to the plant when the fruit or vegetable is naturally fallen from a tree due to ripening.

**Role of canine teeth in human beings:** Carnivores have canine teeth's for tearing food whereas humans have both canine and molar teeth's. But, it doesn't means that human should eat non vegetarian food because man is three degrees above animals namely mind, matter and life.

## **SPIRITUAL HEALTH**

Integrated development of spirit, mind, body and energy refers to food consciousness. As mentioned earlier cosmic energy stored in the food are liberated due to holistic digestion. Teleosis is an inner urge for perfection resulting in a sense of completeness, wholeness, maturity and happiness (Vithoulkar, 1996). According to Indian philosophy, depending upon the properties or characteristics exhibited by the food it is classified as satvic food, rajasic food and tamasic food.

All

foods show influence on psychological nature of man that's why they are classified depending upon gunas,

### 1) Satvic food :

Satvic foods consists of all fresh foods which aids one to be peaceful, clear and harmonious. Satvic food do not cause feeling of heaviness and neither pull's energy from one's body. It has been observed that rajasic or processed food has higher Thermogenic Effect of Food (TEF) as compared to Satvic food.

### 2) Rajasic foods:

The foods which improves speed of metabolism and give stimulating effect to the nervous system is called as rajasic foods. These foods have high energy and tend to give stimulating effect and sensual pleasure. Habit forming substances like tobacco, tea, coffee and spices are characterized as rajasic foods. Rajasic foods can be considered appropriate for military forces, ruler's, corporate executives and politicians etc. One question may arise that on which basis above statements are confirmed? Reading taken by Electroencephalography (EEG) have proved this fact in a study held about thermogenic effect of food and its impact

on psychological and physiological changes in human body were examined. It concludes that satvic food emitted alpha readings which indicate a vibratory state relating to mental peace and calm. On the other hand, negative impact on the brain is caused by waves induced from rajasic food resulting in emission of beta waves which leads to restlessness and anxiety in mind. Therefore according to Sreelakshmi, R. & N. Shakuntala Manay, 2006 the consumption of satvic food helps to reduce body weight but in case of rajasic food weight gain is recorded. Satvic foods show high density of micronutrients and low fat content whereas tamasic food is low in density of micronutrients and has high fat content (Vaishali V. Agte & Shashi A. Chiplonkar, 2007).

### 3) Tamasic foods:

Decayed, stale, boiled, decomposed, processed, cooked and recooked foods are considered as tamasic. Consistent consumption of tamasic foods shows gain in body weight and becomes responsible for degenerative disorders. Examples of tamasic foods are drugs, alcohols and fast foods. Such foods create lethargy, heaviness and irritability. Hence satvic diet will help people to be balanced and calm, live healthy life, cure diseases and remain free from fear.

Satvic food is characterized for purity and knowledge.

Rajasic food is characterized for over stimulating action and passion.

Tamasic food is characterized for dullness, ignorance and inertia.

As compared to plants thoughts of revenge and anger are far more pronounced in animals as they have immature mind and intellect. The activity of eating non-vegetarian food is tamasic as tama is dominantly present in meat.

## **ENVIRONMENTAL HEALTH**

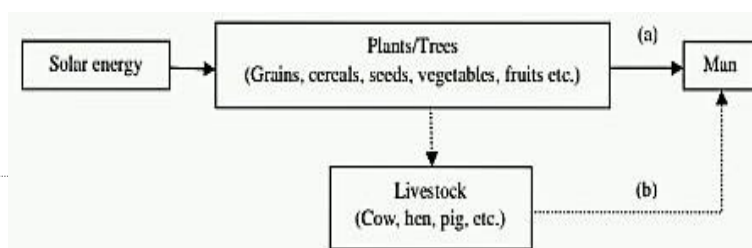
Collective animal genocide results into devastating natural calamities like earthquake. Plant based food has considerably lower carbon footprint than meat. Carbon footprint is the result of emission of methane from intestinal fermentation occurring in ruminants. Greenhouse gases emission and nitrogen will lower only when production of livestock and manure will decrease.

Slaughtering of animals leads to emission of Einstein Pain Waves (EPW) or nociception waves. These pain waves are released when living creature is killed. Waves coming out from them while killing are of slow speed. When number of waves comes together its intensity multiplies and after collaboration it vibrates the earth. Animal genocide in large quantity will invite unavoidable natural and metaphysical calamities. Genetic issues are correlated to Einstein pain waves. It is not necessary that earthquake will come at that place only where slaughtering takes place. Due to effect of pain waves earthquake can occur in any part of the globe. Few researchers proved Einstein Pain Waves phenomenon and mechanism of earthquake in terms of BIS (Breakdown of Integrated System). Einstein pain waves are contradictory of compassion waves. Einstein pain waves are harsh, destructing and dangerous and have been contributed to several earthquakes. Dying animals generate acoustic anisotropy which disturbs the arrangement of tectonic plates. Dr. Bajaj discovered EPW phenomenon on the basis of following observations: 1) Seeing the earthquake light. 2) Increase of radiations in the under earth water. 3) The increase of anisotropy of sound and pressure on the rocks. 4) Creation of poisonous gases like falgene.

Deliberate killing of living creature causes emission of nociceptone particles. These nociceptone particles when aggregate create huge turbulence in oceans and seas and create pressure hence causes tornadoes, hurricanes, storms, typhoons and cyclones. World's largest tropical forest which is none other than Amazon rainforest is being deforested for cattle rearing.

Adopting vegetarianism will help to minimize environmental issues such as global warming and climate change. Meat animal rearing is directly associated with high carbon footprint which accelerates the global climate change. Environmental issues such as deforestation, pollution, solid waste decomposition, ozone layer depletion, biodiversity loss, acid rain, global warming, etc. are caused due to animal rearing and slaughtering. Meat production emits greenhouse gases like carbon dioxide, methane and nitrous oxide. Livestock farming affects the environment in two ways that is direct and indirect. Direct impact is by means of intestinal fermentation caused by animal's metabolism, manure and urinary excretion. Whereas, impact due to cutting crops for animal feeding, carbon dioxide emission from manures fertilizers as well as emissions from transportation of refrigerated meat products and processing. Vegetarian diet gives half carbon footprint that of a non-vegetarian diet. 1 gallon of gasoline emits 2.4 kilogram carbon dioxide approximately whereas, 1 kilogram of beef has same environmental impact as 6.2 gallons of gasoline. Scarborough et al., reported greenhouse gas emission in kilogram of carbon dioxide per day as: 7.19 for high meat eaters, 5.63 for medium meat eaters, 4.67 for low meat eaters.

As per the researchers non-vegetarian diet has more contribution than vegetarian diet on ecological imbalance, global food insecurity, natural disasters, economic issues, social issues and biodiversity loss etc. Rearing and feeding of meat animals gives an extra trophic level in the food chain. These extra trophic levels lead to loss of matter and energy and reduces the production efficiency. In an ecosystem plants absorb and utilize sunlight for photosynthesis and transform this energy throughout the ecosystem. But it is to be noted that when energy conversion occurs a less organized and useful form of energy is obtained. But during each energy conversion stage some extent of energy is lost in the form of heat energy. Therefore, if more convergence occur between capture of energy by plants and the feeding level the less energy will be available to that level to meet the increasing demand for animal products. A considerable part of crops, cereals, water, food grains, land and energy are mandatorily required for the growth and reproduction of livestock which further results into greenhouse gases emission and such additional emitted greenhouse gases notably increase risk of climate change and global warming.



**Figure 1:** Trophic level(s) in vegetarian's ('a') and non-vegetarian's ('b') diet.

Compared to vegetarian food meat products require up to 10 fold the amount of resources like land, energy and water. This results in to increased water pollution, soil erosion, wildlife habitat degradation and increased fertilizers and pesticides inputs. As per United Nations data, rearing animals for meat uses approximately 30% of the available land and 20% water to grow feed grains. According to Mishra (2012), production of 1 pound meat requires 2400 gallons water whereas to grow 1 pound wheat only 25 gallons of water are sufficient. The production of 1 kilogram of animal protein required about hundred times more water than one kilogram of grain protein production (Pimentel, D. & Pimentel, M., 1996).

### **ECONOMICAL ASPECTS**

In this modern era due to increase in per capita income and GDP it is observed that rate of meat consumption is proportionally rising. Currently large fertile land is being used for animal rearing whereas growing crops are used for feeding them this eventually results in food insecurity. Prices of food grains are increasing due to increase in animal rearing because of excessive export of food grains for feeding meat animals.

### **NUTRITIONAL ASPECT**

Similarly vegetarian diet pattern may lack in protein, iron, calcium, zinc and vitamin B12 deficiencies but varied pattern can cope with this and form the perfect vegetarian diet as balanced diet.

Proteins are the source of energy. Beans, legumes, pulses, cereals, soya product (tofu, tempeh, and veggie burgers), peas, nuts, starch vegetables, mushrooms, nut, butter and milk products are the good sources of protein.

Iron deficiencies can be recovered by some dried fruits (raisins, dried apricot, prunes), iron fortified breakfast cereals, molasses, spinach, lentils, kidney beans, turnip greens, whole wheat bread and peas.

Calcium is necessary for maintaining bones strength and stronger bones and teeth. The vegetarian source of calcium include milk products, some dark green leafy vegetables (turnip greens, mustard greens, collard greens, bok choy), soya products (Soya based beverages, tofu), fortified breakfast cereals and calcium fortified orange juice.

Zinc helps in proper functioning of immune system and various biochemical reactions. The vegetarian source of zinc are pumpkin seeds, various beans (chickpeas, kidney beans and white beans), wheat germ, milk products and zinc fortified breakfast cereals.

Vitamin B12 is found in fortified foods for vegetarians to eliminate animal products. Its sources are fortified foods such as soya based beverages, nutritional yeast, veggie burgers, breakfast cereals and milk.

Carbohydrate helps in utilization of proteins and fats. Its sources are cereal grains (wheat, rice, etc.) or tubers (potato, sweet potato, and cassava), fruits and sugarcane.

Vitamin D sources are fortified margarines, breakfast cereals, fortified soya milk, cheese and margarines.

n-3 fatty acids are important for cardiac, immune and cognitive functions. Its sources are flaxseeds, walnuts, flaxseed oil, canola oil, olive oil and or vegan DHA supplement. Fruits, vegetables, legumes, nuts, grains and soya protein are the part of vegetarian diet which will show positive health benefits. Balance of vegetarian nutrients from exchanging food pattern is of more importance for pregnant or lactating women, infants and menstruating women. For optimal health status vegetarian dietary patterns must be moderated and vary according to individual with diet rich in fruits and vegetables, low saturated fatty acids, salt and refined sugar.

### **BENEFITS OF VEGETARIANISM**

Low risk of diabetes, reduction of blood cholesterol levels, improvement of mood, reduction in risk of developing cataracts and kidney stones, reduction in risk of developing cardiovascular and cancer diseases. It contains high amount of dietary fibre, n-6 fatty acids, vitamin E, B9 and C, magnesium, potassium, carotenoids, plant sterols and many other phytochemicals which provides various health benefits. Prevention of oxidative stress through antioxidant present in plant based diet lower risk of obesity and overweight. There is 28% less risk of ischemic heart disease.

### **CONCLUSION**

Meat consumption is not sustainable economically or environmentally. Hence it is necessary to change the diet patterns and emphasize on vegetarian food to sustain our planet. Human requirement for a healthy balanced diet can be met through variety of plant foods although plant-based foods has lower digestibility and lack in one or more essential amino acids. Number of researches evidences strongly supports the healthy vegetarian diet which consists of ample quantity of processed foods, no animal food, more quantity of vegetables, fruits and cereals are sufficient to provide complete nutrition for health benefits and disease prevention. Hence, vegetarian diet is a boon to health. Thus, preference to vegetarian diet will help one to live healthy and disease-free life.

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