

## HIV AND NUTRITION

Nutrition is one prerequisite to any thing and everything related to good health. A healthy individual is one who eats a well balanced, healthy diet. In disease conditions a therapeutic diet is prescribed so that one is fed on nutrients that help in the alleviation of the disease and not its elevation. The same is the case with HIV/AIDS infected individuals.

HIV positive individuals suffer from a variety of nutritional problems due to a dent in their normal body functions. The most affected is the immune system which is a natural part of the body that fights off germs, viruses, bacteria and other disease-causing organisms that we can come in contact with every day and therefore it becomes a priority to restore it to its normal levels as well as try to strengthen it by eating a healthy diet.

Nutrition plays an important role in helping the immune system of our bodies work well. Eating right kind of foods aid in the bouncing back of the system from the damaged state to a restored healthy state. Eating right can also help the body stay stronger during any medical treatments that may be needed. Optimal nutrition can help boost immune function, maximize the effectiveness of antiretroviral therapy, reduce the risk of chronic illnesses such as diabetes and cardiovascular disease, and contribute to a better overall quality of life.

Nutrition can help the affected individual physiologically as well as emotionally. On one side, a healthy diet helps the immune system and on another, eating a well balanced diet with one's family strengthens the emotional bonds.

There is a shift in the strategy of health management for HIV patients since the concept that these theories were based has changed. Earlier many people with HIV were dealing with wasting and opportunistic infection, today in developed countries as a result of widespread access to highly active antiretroviral therapy (HAART) previous travails have made way to concerns for worries about body shape changes, elevated blood lipids, and other metabolic complications associated with antiretroviral therapy. According to research, aggressive nutrition support boosts the immune system and detoxification improves digestion thus producing positive health outcomes. Traditional Chinese medicine and Indian Ayurvedic medicine concentrate on the effect of whole food choices and mind-body practice as the basis of healing and longevity. They are integrated with modern medicine practices and have achieved positive results. Thus, effective diet therapy is one that takes care of the all the above mentioned complications as well as boost the immune system.

**A list of Do's and Don'ts for various complications is listed below.**

### **Tiredness**

- Consumption of adequate calories and protein by supplementing diet with oral vitamin-calorie-protein supplements.

- Intake of supplements of B vitamin complex, coenzyme Q10, selenium, cysteine, glutamine.
- Reduction in amounts of stimulants like caffeine which may induce insomnia.
- Incorporate “Pranayam” - deep breathing exercises for maximising the intake of oxygen to the body.
- Indulge in meditation, mild exercise, yoga, t'ai chi.

### **Nausea**

- Medications should always be taken with non-caffeine fluids like fresh fruit juice, herbal tea, or water.
- Concentrate on foods that are digested easily, such as yogurt (which have probiotics as well).
- Cold, dry and greasy foods should be avoided.
- Ginger in any form should be consumed as it reduces the feeling of nausea. Take it in the form of fresh ginger tea, crystallized, soft chew, or hard ginger candies.
- Sip on peppermint (unless you have heartburn) and chamomile tea; drink 3-4 cups/day.
- Lying down flat, after eating, induces nausea, so sit up.
- Read the dietary instructions for medications carefully. Videx (ddI) should not be taken with food, even if the label says "with or without food." The digestive process for medications works best with food to stimulate digestive enzymes. Crixivan (indinavir) can be taken with a no-fat, no-protein snack.
- Practice deep breathing exercises and meditation

### **Lipodystrophy and High Blood Fats**

- As a general rule the intake of Saturated and hydrogenated fats should be reduced to the minimum.
- Omega-3s, Omega-6s and monounsaturated fats should be incorporated in the diet, along with PUFA.
- Refined carbohydrates and sugary foods and drinks are a strict no-no.
- Total soluble fiber intake if made to 25 grams per day has healthy implications on absorption of cholesterol. *Include foods like beans, most fruits and vegetables, nuts and seeds, whole grains, especially oat bran, barley, brown rice and quinoa.*
- Soy products should be included in the diet.
- A great tip if to increase aerobic exercises to get the heart pumping easily: brisk walk, jump-rope, bicycle, rowing.

Therefore it is very important that one takes care of the body in totality and concentrate on the various diseases that come with the syndrome. Diet can act as a supplement to medications and aid in improving the resistance of the body. There are specific foods (nutrients) that need to be watched and that are the key to healthy living. The combat

strategy should be to focus on the negative and positive foods which would further help one in their exclusion or inclusion in the diet.

### **Foods to be excluded or reduced**

**Refined Carbohydrates / Sucrose/ Sugar/ Glucose:** According to research, evidence has been generated that suggests the negative impact sugar has on our resistance or immune system. The explanation and the mechanism behind the finding is that the white blood cells on exposure to high levels of sugar in the bloodstream, exhibit a decreased ability to engulf bacteria and have weakened systemic resistance to all infections. The digestive system is overtaxed trying to prevent all that sugar from entering the bloodstream all at once, and the pancreas is also working hard to produce enough insulin to process the sugar. Refined foods like white bread, cakes, candies, pastries etc are deficient in the beneficial nutrients and fibre that are present in whole grains, also causing the depletion of minerals in the body.

**Stimulants/ Coffee/ Theobromine:** Stimulants like caffeine, theobromine, etc., have a diuretic effect on the body that contributes to the body's loss of important nutrients, such as calcium, magnesium, and potassium. Caffeine causes the adrenal glands to be overstressed and adversely affects the nervous system, resulting in anxiety, hyperactivity, and insomnia. Thus it is best to avoid it and place impetus on drinks like caffeine free coffee, green tea, juices, fresh lemon juice, curd drinks etc.

**Ethyl Alcohol / Alcohol:** This is not recommended as it is a sort of poison to the body. The various poisonous effects of alcohol are depression of the nervous system, inhibition of bone marrow's ability to regenerate blood cells, toxicity to the liver, depletion of B-vitamins, and is dehydrating.

**Rancid fats and oils:** the problem with this is that rancidity causes chemical changes in the fat and they give rise to free radicals (highly reactive molecules that can initiate chain reactions of chemical disruption). As a result there is injuring of cell membranes, enzymes, and DNA.

### **Foods to be liberally included and focussed on**

**Protein:** A very important nutrient for immune system is good quality proteins, which are crucial in maintaining rapid production of cells to support the immune system, preventing loss of lean muscle mass, and boosting energy. Foods like meat and poultry, fish, especially those high in Omega-3 fatty acids, should be taken. Like salmon, sardines, mackerel, trout and tuna. For vegetarians, soya foods, flax seeds, beans and legumes, milk products are vital. Dairy products may not be the best protein source since they create digestive problems for many people, such as excess gas, loose stools, mucous and congestion. Yeast infections and thrush also thrive on dairy.

**Complex carbohydrates/ Whole grains:** Grains form the back bone of any cuisine and is the main food stuff in our diets. Grains like brown rice, millet, quinoa, buckwheat (kasha), oats, barley, consist of vitamins, minerals and fibre that are an essential part of keeping the immune system healthy. The fibre in them aids to clear the colon of toxins and thus prevent intestinal infections. It is better to consume whole grains rather than flour.

**Vegetables:** Different colour of foods should constitute your palette of meals. The best way to do it is to consume as many vegetables as one can. These are excellent immune-boosting heavyweights. You get the whole package of the vitamins, minerals, and phytochemicals from them that are known to protect the body against many diseases, including cancer. Special mention here is to the dark leafy vegetables also called greens, which help the most like spinach, cabbage, kale, etc. For the carotenoid, especially Beta carotene, include yellow and orange vegetables for anti-oxidant.

**Fresh fruit:** Coming in the same category as immunity boosters, are fruits. They should be eaten as snacks, separate from protein for better digestion. Anthocyanins rich berries are particularly noted for their cancer preventative abilities due to anti-oxidants in them. Tropical fruits such as bananas, mangoes, etc. should be avoided since they have a high sugar content.

**Water:** One of the most important, but also the most forgot is Water - rightly called the elixir of life. It is the essential nutrient for regulating all of the body's systems. It eases the job of the kidneys and liver to process and eliminate toxins from the blood. It helps keep mucous membranes moist enough to combat the viruses they encounter. And it is a little known tool for reducing sugar cravings. Sugar cravings are often a sign of dehydration. An important tip is that water, and other beverages, should not be ice cold because the body will have to use a lot of energy to warm it up to that 98.6 degrees.

**Miscellaneous:** Besides the above mentioned foods, some others are useful in this condition for therapeutic reasons. Onions, garlic (if no liver problems), ginger, and turmeric are considered helpful. Mushrooms such as shitake, oyster, and other Asian varieties, are noted for their immune-enhancing abilities. Sea vegetables are rich in minerals such as immune-boosting zinc, as well as calcium. Small quantities of fresh almonds, walnuts, and pumpkin seeds are also good sources for zinc and healthy fats.

**Supplements:** besides a healthy and balanced if required vitamins, minerals, antioxidants, and herbs should also be taken.

Thus, one must take proper care of nutrition and one's body to get the maximum benefit from life. Life is a precious gift and one must strive to protect it as long as possible.

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