



Mount Carmel  
College  
Autonomous

# NUTRIZONE

Department of Nutrition & Dietetics

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**Higher atmospheric levels of CO<sub>2</sub> result in less nutritious crop yields**

By 2050, atmospheric CO<sub>2</sub> concentrations are expected to reach around 550ppm.

Concentrations of protein, iron, and zinc are 3-17 % lower when staple crops are grown in environments where CO<sub>2</sub> concentrations are 550 parts per million compared with crops grown under current atmospheric conditions, around 400ppm.

## A boon for Diabetes: Stevia

Stevia is a sugar substitute that comes from a shrub native to North and South America. It contains compounds called as steviol glycosides that are 300 times sweeter than sugar. Stevia is so low in calories that it is called a "zero-calorie" product. Steviol glycosides are often present in sugar-free drinks, jams, and dairy products. Replacing stevia in place of sugar in sweetened foods and drinks may help people with diabetes stabilize their blood glucose levels. It decreases the triglyceride and cholesterol levels. It has antioxidant properties, improves satiety and lowers blood pressure in hypertensive patients.

Stevia extracts are generally safe in moderate amounts. Some stevia products contain additives that may have side effects like, bloating, nausea and vomiting, stomach pain and other digestive issues.



People with diabetes should check that their chosen stevia product does not contain other sweeteners that may increase blood glucose levels.

## Eating fiber can delay brain aging



Eating fiber-rich foods such as whole grains, pulses, fruits and green leafy vegetables help delay brain aging by triggering the production of a short-chain fatty acid that has anti-inflammatory properties.

Microglia, a type of immune cell in the brain becomes inflamed with age. This is the main cause of memory and cognitive decline in old age. Short-chain fatty acid that is produced in the colon when bacteria ferment fiber in the gut, can improve memory and reduce inflammation.

## Coconut sugar nutrition

Coconut sugar comes from the coconut palm tree, the sap of the coconut palm. To harvest coconut palm sap, farmers cut into the flower-bud stem of the tree to allow the nectar to flow out. They are dried to form granules and look similar to unprocessed raw sugar.



**Coconut sugar vs. other types of sugar:** Coconut sugar has higher levels of iron, zinc, calcium, phytonutrients and antioxidants, Coconut sugar contains some inulin, which is a specific fiber that helps to improve gut health and slows glucose absorption.

Coconut sugar like other sugars, is high in calories and eating a lot can lead to excess energy consumption, causing weight gain. Coconut sugar affects blood glucose levels. For people looking for an alternative sweetener to sugar, coconut sugar may be a similar, more natural option.

*Studies show that your “gut feeling” can be attributed to your gut bacteria. The types and number of gut bacteria can have profound implications on human health — affecting everything from body weight to brain function*

## Building Child's Bone "Bank Account"

Bone is living tissue that is turned over constantly with regular deposits and withdrawals. During childhood and adolescence, bones make the highest rate of deposits for use throughout the rest of a person's life. 90% of peak bone mass is reached by age 23.

Many nutrients work in concert to provide the framework for healthy bones. Calcium lies at the forefront. It is found in milk and milk products. Other non-dairy food sources include almonds, turnip greens, figs, tofu prepared from soybeans.

Magnesium, Vitamin K and Vitamin D are crucial for bone development. Sun exposure triggers vitamin D production, but few natural food sources of vitamin D, including egg yolks and fatty fish such as salmon and tuna. Almonds, spinach, seeds and kidney beans are rich sources of magnesium. Green leafy vegetables are best sources of Vitamin K. About 10 percent of the vitamin K we absorb is made from good bacteria in the colon.

Regular weight-bearing exercise and sports stimulate bones and make them stronger. Interplay of nutrients and exercise maximizes bone saving potential.



# NUTS & SEEDS CORNER

## CHIA SEEDS



Chia seed is a potential source of antioxidants which are believed to have cardiac, hepatic protective effects, anti-ageing, anti-carcinogenic, anti-inflammatory, antioxidant, anti-blood clotting, laxative, antidepressant characteristics and is an immune improver.

The presence of higher extents of fiber help in diabetes mellitus by slowing down the digestion process and release of glucose, it also improves the peristaltic movement of intestine and reducing plasma cholesterol.

The biological value of chia is superior to cereals and higher content of calcium, magnesium, protein and potassium than milk and cereals. The absence of gluten in chia makes it digestible to patients suffering from celiac disease.

## CASHEWS ARE NOT ALL BAD NEWS!

A fist full of these nuts a day could help reduce blood pressure and improve the level of ‘good cholesterol. The findings, published in Journal of Nutrition, is based on a study of 300 people in Chennai with type2 diabetes conducted by Dr V Mohan and team of Madras Diabetes Research Foundation. Half of them were asked to consume 30 grams of unsalted, raw, broken cashew nuts a day. At the end of three months, their blood pressure had dropped by 5mm. Their high-density lipoprotein (HDL) level, ‘the good cholesterol’, had increased by 2 mg/dL. There was no deleterious effect on the body weight or sugar levels. However, these nuts are beneficial only if taken in their raw form and not when added with salt and other spices, fried or roasted.

*Adding flax seeds to smoothies and yoghurt to enrich it with lignans, which have protective effect against cancer*

## Snack on pumpkin seeds

Pumpkin seeds good source of magnesium, which is important for bones and decreases the risk of osteoporosis. It contains omega-3 and omega-6 fatty acids, antioxidants, and fiber. This decreases cholesterol, triglyceride levels and the risk of heart attack, stroke, atherosclerosis, cardiac death.

Pumpkin seeds are a good source of zinc and are recommended during pregnancy to improve immune function and prevention of uterine infections which contribute to preterm delivery. They also enhance digestive health, keep us full for a longer time and help in maintaining weight.

Having a few pumpkin seeds before bed, provides body with tryptophan needed for melatonin production, the “sleep hormone”.



# PCOS and Nutrition



Polycystic ovary syndrome is a condition that causes hormonal imbalances and problems with metabolism. It is experienced by one out of 10 women. PCOS can also lead to diabetes, cardiovascular problems, depression, and increased risk of endometrial cancer.

- A high fiber diet that maintains a healthy weight and promotes good insulin levels benefits people with PCOS. Low Glycemic index foods are digested slowly, meaning they do not cause insulin levels to rise as much or quickly. Low GI foods include whole grains, legumes, nuts, seeds, fruits, vegetables, and unprocessed, low-carbohydrate foods.
- Anti-inflammatory foods, such as berries, fish, leafy greens, and extra virgin olive oil, may reduce inflammation-related symptoms, such as fatigue. Reducing stress by getting enough sleep and exercising helps a person manage PCOS.

**Breast milk**  
contains stem  
cells which go on to  
become other body  
cell types like brain,  
heart, kidney, or  
bone tissue .



## Moringa oleifera - Drumstick leaves

Moringa oleifera is used for medicinal purposes worldwide. Various parts of this plant such as the leaves, roots, seed, bark, fruit, flowers and immature pods act as cardiac and circulatory stimulants. It helps in strengthening the bones as it is rich in iron and calcium.

Moringa is used for anemia, arthritis, asthma, intestinal ulcers, intestinal spasms, fluid retention and thyroid disorders. It is applied directly to the skin as a germ-killer and treating pockets of infection, dandruff, gum disease and snakebites.

It can be easily incorporated in form of leaves or powder into roti, idli, dosa, rice, dals, gravies and can also be used in baked products like cakes, cookies, breads etc.



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