

Nutritional Supplements by Keto Diet: A Mini Review

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Overweight and obesity are increasingly common conditions in the developing countries. They are caused by the increase in the size and the amount of fat cells in the body. It is a serious medical condition that can cause complications such as metabolic syndrome, high blood pressure, atherosclerosis, heart disease, diabetes, high blood cholesterol, cancers and sleep disorders. To combat this, many diets have emerged, including the ketogenic diet.

The Ketogenic Diet is a plan that emphasizes high-fat and low carbs. It is primarily designed for weight loss, which happens by eliminating most carbs from meals. This diet puts body in the state of ketosis, in which body burns fat to use as energy

TYPES OF KETOGENIC DIETS

Standard ketogenic diet: This is a very low-carbohydrate with moderate-protein and high-fat diet. It typically contains 70 per cent fat, 20 per cent protein and only 10 per cent carbohydrates.

Cyclical ketogenic diet: This diet involves periods of higher carbohydrates in between the ketogenic diet cycles. For example, five days ketogenic diet followed by two days high-carbohydrate diet as a cycle

Targeted ketogenic diet: In this diet, additional carbohydrates can be consumed in periods, followed by intensive physical work out. **High-protein ketogenic diet:** In this diet, ratio of fat and protein would be 60% and 35%, with only 5% of carbohydrates which is ultimately a high fat diet. The cyclical and targeted ketogenic diets are mostly used by bodybuilders or athletes. Beyond weight loss, ketosis can have some other health benefits, such as:

MAY REDUCE RISK OF CERTAIN CANCERS

The ketogenic diet would cause more oxidative stress in cancer cells than in normal cells, causing them to die. Along with chemotherapy and radiation therapy, this may be a safe and suitable treatment to people with certain cancers.

May improve heart health

High levels of cholesterol can increase the risk of cardiovascular disease. A keto diet with reducing effect on cholesterol may, therefore, reduce risk of heart complications.

May protect brain function

Ketones that generate during the keto diet provide neuroprotective benefits, which can strengthen and protect the brain and nerve cells. A keto diet may also help to prevent or manage Alzheimer's disease.

Potentially reduces seizures

The ratio of fat, protein, and carbs in a keto diet alters the way the body uses energy which resulting in ketosis which can reduce seizures in people with epilepsy. Specifically those who have not responded to other treatment methods

Improves PCOS symptoms

Polycystic ovary syndrome (PCOS) is a hormonal disorder that can lead to excess male hormones, ovulatory dysfunction, and polycystic ovaries. A high-carbohydrate diet can cause adverse effects in people with PCOS, such as skin problems and weight gain.

RISKS AND COMPLICATIONS

The ketogenic diet may have many health benefits. However on a long-term, it can have an adverse effect on health, including an increased risk of the following health problems:

1. Kidney stones
2. Excess protein in the blood
3. Mineral and vitamin deficiencies
4. A build-up of fat in the liver

The keto diet can also cause adverse side effects known as keto flu, which include constipation, fatigue, low blood sugar, nausea or vomiting, headaches, a low tolerance for exercise. These symptoms are especially common at the beginning of the diet as the body adjusts to its new energy source. A ketogenic diet restricts or severely limits carbohydrates. However, some carbohydrates provide health benefits. For a less restrictive dietary approach, people should consume a diet that includes a variety of nutrient-dense, fibrous carbs, such as fruits and vegetables, alongside nutritious protein sources, and healthful fats. To manage one's health problems or disease conditions, it is important to discuss any intended diet plan with a doctor, dietician, or trusted healthcare provider.

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