

The Hazards of Low Carbohydrate Diets



Due to the craze about weight loss in the recent years; a number of people, particularly women, have been loading their diets with a lot of proteins and less carbohydrates, hoping that this will assist them in losing weight. Some professionals advise their clients to take low fat and low carbohydrates diets while others advice on the consumption of more proteins and animal fats which have all been found to have a lot of side effects individual taking them since they can result in heart disease, diabetes and kidney complications.

The diets high in proteins are effective in losing weight because; when high proteins are taken and less carbohydrates are consumed then it means that the body will lack glucose to metabolize so as to provide energy for the body, the body will therefore be forced to act on the body's fats reserves and as a result a significant weight loss may be realized. The problem with this is that as the fats get broken down, ketones are produced. Ketones are quite toxic to the body and therefore a lot of water is needed to remove them from the body. This water if not replaced then the individual is likely to suffer dehydration, he or she may also experience constipation and irregular heart rhythms.

According to research, it has been found that low carbohydrate and high protein diets are never effective agents of weight loss in the long-term and can even cause serious medical complications. The low carbohydrates diet has been found to result in a lot of wastes in the kidney, this may contribute to the development of serious kidney complications in the long-term, and an increased level of uric acid in the diet as a result of the low carbohydrate

intake may cause gout disease.

A low carbohydrates diet, also known as ketogenic diets depletes the glycogen reserves in the body. The body normally stores excess glucose in the form of glycogen in the muscles and in the liver and only releases it in situations of extreme starvation. Taking of a low carbohydrates diet therefore means little available glucose for the body to burn for fuel. This will trigger glucogenolysis; the breaking down of glycogen into glucose to be used in energy production. This will cause the depletion of the glycogen reserves and as a result the individual will suffer dehydration and loss of muscles.

The depletion of the glycogen in the muscles may make the individual to have less energy and may frequently experience fatigue. It has also been shown by research that the fatigue in the muscles is directly proportional to the rate of glycogen depletion in the muscle. This will make the individual to feel weak and therefore he or she will not be able to exercise more; this will have negative impact on the basal metabolic rates and caloric expenditure of the body.

The muscle normally use glycogen for energy during movement but when there is less glycogen reserves in the muscles, then the muscles will be obliged to use glucose instead. This will result into a mixture of the two sources of energy and as a result the muscles will contract less than it does in a normal situation, this is known as muscle loss or muscle atrophy.

When the body has low levels carbohydrates, the cells will start converting the proteins in the body into glucose through the process of gluconeogenesis; the glucose will then be metabolized to provide energy for the body. Since the low carbohydrates level normally results in the low levels of insulin in the blood, the breakdown of proteins will continue and

finally the synthesis of proteins will stop. This will be detrimental to the body since the proteins are needed in the body for quite a number of activities.

Low carbohydrates levels have been associated with low metabolic rates because metabolism normally occur in the muscles. Therefore if the glycogen in the muscles gets depleted then it means that there will be less muscle tone and as a result a reduced rate of metabolism in the body. Low carbohydrates level have also been associated with lack of homogenous skin tone, this is as result of the exhaustion of the muscle glycogen thereby leaving the muscles appearing saggy, this will also make the skin to appear slack. This may also be as a result of the water from the body being used in the elimination of the waste products of glycogen catabolism from the blood, thereby making the individual's body to be dehydrated. This therefore makes the skin to appear non- homogeneous and flabby.

Research has shown that the brain needs more than a hundred grams of carbohydrates every day for it to functions at an optimum level. This is because the brain normally requires the carbohydrates in glucose form to provide it with energy for its activities. A low level of glucose in the body therefore translates into low glucose for the brain. Hence the brain will not function at that expected capacity. This will therefore affect the individual in that he or she will experience a reduced brain functioning in terms of memory, attentiveness and coordination of a number of activities. This is likely to affect the development of an individual especially a young child.

Low carbohydrates level does have serious side effects on those that are diabetic and are undergoing treatment. This is because, the low carbohydrates intake will result into a natural reduction in the blood sugar level; this may therefore mean that the patient will have to adjust the insulin medication so as cater for the changes. The same applies to the patients on hypertension medication; they may also be forced to adjust the medication

in accordance with the reduced levels of glucose. This at times when not checked may interfere with the efficiency of the medication.

When the body is supplied with less glucose than it requires then it means that alternative sources will have to be sought so as to meet the body's demand for energy. One of these sources may include the catabolism of fats to provide energy for the body. The fats deposits normally insulate the body against low temperature. Reduced level of fats may to some extent make an individual be vulnerable to the complications that come with low temperatures especially when the depletion of the fats was drastic.

As a result of the desire to loose weight being on the rise, most people are going for a low carbohydrate diet and a highly protein packed diet. Most of the protein rich food substances are also very rich in fats. This increased level of fats in the body may result in high glycerol levels and may cause diabetes and stroke among others. It may be therefore important that the amount of protein intake is reduced and if possible care should be taken so as to ensure the consumption of the healthy proteins and avoidance of the unhealthy ones.

During an extreme situation of starvation; from lack of glucose caused by the low levels of carbohydrates in the diet, the body may start acting on proteins to produce glucose to be used in respiration. In this process uric acid is normally generated. High levels of uric acid may lead to a person developing gout the disease.

Metabolism of proteins produces a lot of toxic wastes such as urea which are quite harmful to the body, researchers have found out that increased catabolism of proteins may have some negative effects on the kidneys due to the additional toxic wastes that it has to eliminate. The low carbohydrates diets have also been shown to have the potential of

damaging the kidneys particularly when the kidney disease is present already.

As much as it may be important to lose weight, care should be taken so as to ensure that the loss is gradual and the method used does not deny the body the essential nutrients it needs for its normal functioning. Apart from the taking the right diet, it is also important that a person engages in exercises so as to prevent the accumulation of fats in the body that can cause obesity and other diseases. The body normally requires vitamins, proteins, fats; proteins and mineral salts to enable it function well. These should be taken in the right amounts for the individual to feel healthy. Carbohydrates are the main source of glucose in the body; this glucose is normally broken down in the process of respiration to release energy in the form of ATP for the functioning of body cells, tissues, organs and organ systems. A low carbohydrate diet therefore limits the amount of glucose available for metabolism and this is likely to reduce the general body activities. It would be wise therefore the carbohydrates are taken in healthy amounts to prevent the cases of obesity and overweight due to an over consumption or muscle atrophy, low rate of metabolism and gout due to an under consumption.