

Role of Nutrtnion in Sports and General Fitness

Abstract

As physical activity is essential for physical, mental and social development of an individual similarly good nutrition is also essential part in the life of an individual. An individual, taking part in sports has high demands of nutrients like Carbohydrates, fats, proteins, vitamins and minerals etc due to increasing physical activities. These essential nutrients only come from foods that we eat. Most of the sportsperson do not have proper knowledge of nutrition. This paper provides proper guidelines for the appropriate information about healthy and nutritious food for the sports and general fitness. It is said that "Nutritious diet is a key to good health".

Keywords: Physical Activity, Nutrition, Nutrients, Food, Energy.

Introduction

In this modern age numerous people engage themselves in different types of physical activities for healthy lifestyle. Along with these, nutrition provides the fuel for these physical activities. Nutrition for sports and general fitness required proper eating strategies with physically active life. The knowledge of nutrition and exercise is important for an athletic in order to produce best performance. In general, the foods we eat play a major role in defining the medical conditions e.g. Heart disease, Diabetes, fatty liver, uric acid, cholesterol etc. of an individual. In metropolitan cities, people do not focus on their dietary intake because of their passive as well as busy lifestyle and this lead to a potential overweight, reducing motor efficiencies and thus decreases the general quality of life. Poor nutrition invite various deficiency to non athlete and injury, fatigue and poor recovery to an athlete.

Everyone has different goals related to their fitness, it may be weight loss, increase endurance, gain muscle etc. Proper nutrition helps an individual to achieve these parameters as well as goals.

All our energy, which is used during growth, development and activities that we perform comes from the food that we eat. A perfect food is one that contains all the constituents of food like carbohydrates, proteins, fats, vitamins, minerals in optimal proportion necessary for the growth and healthy body. A "balance diet" provide adequate amount of all these constituents of food in proper ratio for all the metabolic requirement of the body. However, basic requirement of an individual depends upon his age, sex and occupation. Different individual require dietary needs according to their age like growing child require more protein, active athlete require all the nutrients of diet depending upon their volume, intensity and duration of sports. Girls need more protein in their daily diet. Pregnant lady requires special dietary plan. Consuming too much food without engaging in work leads to overweight and sometime this habit makes a person obese, which is a dangerous alarm of various types of life threatening diseases.

Aim of the Study

As we know the role of nutrition and diet is unbelievable in sports and fitness with regards to improving athletic performance. Nutrition focuses its studies on the type, as well as the quality of fluids and food taken by an athlete. Sports nutrition deals with the consumption of nutrients such as vitamins, minerals, supplements and organic substances that includes carbohydrates, proteins and fats in a adequate manner, so the benefits of nutrition helps the training program.

Balance Diet

Balanced diet means the intake of food in which appropriate and adequate amount of all the food constituents are present which is necessary for growth and maintenance of body.



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"A diet which consists of all the essential nutrients like carbohydrates, fats, proteins, vitamins, mineral and water in moderate amount is known as balanced diet".

What are the Basic Nutrients?

The food we eat are composed of various nutrients that are essential to a body for producing energy, building up of muscles, repairing tissues, growth and development, regulating body processes and preventing various deficiencies. Digestion process extracts the essential nutrients from the food that we eat.

There are six types of essential nutrients which are necessary to carry out the life processes. Further these six types of nutrients are classified into 'macro nutrients' and 'micro nutrients'. Macro nutrients are taken in large amount. They supply energy for daily routine work and physical activities. They include carbohydrates, protein, fats and water. On the other hand micro nutrients are required in small amount. These nutrients are essential to carry out normal functioning of the body.

Carbohydrates

Carbohydrates are the energy yielding food. Carbohydrates is oxidized in body to produce bio energy i.e. ATP. There are two main types of carbohydrates i.e. simple and complex carbohydrates. Glucose, fructose, lactose, maltose and sucrose are called simple carbohydrates. These are sweet in taste and soluble in water. Starch, glycogen and cellulose are called complex carbohydrates. These are not sweet in taste and insoluble in water. They are available in the form of monosaccharide, disaccharide and polysaccharide groups. Carbohydrates are store as glycogen in the body. But glucose is the simplest form of carbohydrate and is the instant source of energy. When an athlete increased the storage of glycogen in their body, he/she can enhance physical performance in sports. So, carbohydrates are the major source of energy in the body. Carbohydrates are obtained from wheat, rice, maize, potato, chocolates, sugar, banana etc.

Fats

Fats are also energy yielding food. But fats provide double the energy that is provided by carbohydrates. Fats are also called as stored energy food. If an individual consumes more carbohydrates then caloric expenditure, the body converts excess carbohydrates into fats. The body's stored fat provides energy for exercise. Fats are present under the skin in the adipose tissue and also in liver and kidney. Fats are found in the form of saturated fats and unsaturated fats. Major source of saturated fats are meat, cheese, butter etc. (animal origin) and major source of unsaturated fats are groundnut oil, olive oil etc. (plant origin). Saturated fats are considered to be unhealthy for heart as it increase the bad cholesterol i.e. L.D.L (Low density lipoprotein). Unsaturated fats are less harmful as compared to saturated fats and it increases the good cholesterol i.e. H.D.L (High density lipoprotein). Consuming excess fats without exercise is bad for health and invites diseases like cardio vascular problem,

respiratory problems, over weight and sometimes obesity.

Protein

Proteins are called as building blocks of the body. Proteins perform various functions in our body such as it act as catalyst for digestion of food, protein forms some hormones which performs essential function in growth and development of the body, transport oxygen to all cells of the body by haemoglobin, it helps in muscle contraction to carry out physical activities like actins and myosin. Proteins also provide energy like carbohydrates and fats. Protein repairs the damaged tissues of the body. Proteins are broken down in the form of amino acids. Proteins are not stored in our body. There are 25 amino acids out of which 8 are essential which are required by our body and are available in the animal sources such as meat, fish, egg and dairy products. Body can make some amino acids that are known as non essential amino acids. Actually these are also essential but we do not have to get them from food we eat. Athletes who participate in physical activities required more protein then non athletes. Body builders and weight lifter consumes lots of protein in their dietary intake.

Vitamins

Vitamins are required by the body to carry out various chemical reactions and also help to sustain the body healthy and disease free. Vitamins are called as micronutrients because vitamins are required in very small amount. Different vitamins carry out different functions in our body. If one of the vitamins is absent from our diet, it may cause a deficiency disease. They do not provide energy as provided by carbohydrates and fats.

There are two types of vitamins that is water soluble and fats soluble vitamins. Water soluble vitamins are absorbed in water and remain dissolved in the body fluid. When there is excess amount of water soluble vitamins in the body, they are expelled out form the body with the help of urine. Vitamin B and C are water soluble vitamins. Fat soluble vitamins are stored in the liver cells and adipose tissues. Excess intake of fat soluble vitamins can produce toxic effect. So there is less chance of fat soluble vitamins deficiencies. Vitamin A, D, E and K are the fat soluble vitamins. Human body synthesizes only vitamin D and K. Each vitamin is present in different kind of food and each performs specific function in the body.

Mineral

Our body requires certain types of inorganic substance like metals and non metals and they are called as minerals. Mineral are also called as micro nutrient. They are also needed in smaller amount but are essential part of good nutrition. Some mineral take part in the formation of body's tissue like calcium and fluoride for bones and teeth and iron for the blood cells to transport oxygen.

There are 21 minerals, which are essential for normal health of a body. All these minerals perform a specific role in the various functions of the body. There is no role of mineral to supply energy to the body. Minerals also help in the extraction of

energy from carbohydrates, fats and proteins and play an important role in energy transfer throughout the body. Most of the minerals are obtained from both plants and animals. The person who eat healthy and balanced food consumed sufficient minerals for proper functioning of the body. Excess sweating causes loss of some important minerals from the body. Hence it is important to take plenty of water after exercise. Some essential minerals which are required by our body are calcium, iron, iodine, sodium, potassium, chlorine, phosphorus etc.

Water

Our body is made up of 60-70 % of water. Water do not provide energy to the human body. But helps to control body temperature, carries nutrients from one place to another, helps in excretion of waste products etc. Water plays an important role in various metabolic reactions of our body. Generally 20% of water comes from the food we eat and remaining 80 % of water comes from drinking water. Water is excreted from the body in various form such as urine, sweat, faeces and water vapor exhaled in breathing. We should drink atleast eight glasses of water per day for healthy lifestyle. Athlete should drink water as much as possible because of their excessive sweating while training and always be alert consequences of dehydration and fluid loss.

Nutrition and General Fitness

As we discussed above that what is "Nutrition" and what are the basic nutrients which are necessary to remain fit and healthy and also how nutrition plays an important role in growth and development of our body. As far as "Fitness" is concerned, it is a wide term. Many people gave opinion on fitness in their own perspective. Some people interlinked fitness with physical fitness, mental fitness, emotional fitness and social fitness referring to its specific nature in specific contexts. Many people regard fitness as a good physique and consider strength and power as the basis of fitness. But in actual meaning, fitness is the capacity to do routine work efficiently without any fatigue or exertion and the energy that is left behind to engage in leisure time as well as to meet the emergencies.

According to Don Hoskins "The human body's ability to move with the desired speed,

balance, agility and strength gained through proper exercise and nutrition."

The knowledge of nutrition is important for both the common man and an individual who participate in sport because it helps in preparing daily eating plan which provide the energy for the physical activity, helps in achieving best athletic performance and also promote overall health and fitness.

Conclusion

As we know participating in sports and exercise require optimal nutrition. Nutrition is not about calories to reduce or gain weight, it focus on leading an active lifestyle. Athletes and their coaches are very concern about meals taken before and after training. Poor nutrition or lack of knowledge of nutrition can lead to injury, fatigue and poor recovery. The requirement of nutrients varies a lot from one individual to another depend upon size, weight, age, physical activity and occupation of work. Human body requires carbohydrates, proteins and fats in the proportion of 4:1:1 with small amount of minerals and vitamins. If a person consuming too much nutrient without engaging in energy expenditure leads to various diseases like obesity, weight gain, cardiovascular problems, respiratory problems etc. If we keep on burning calories through exercise, participating in games and sports, heavy work, no unwanted food intake, we will be physically fit and healthy.

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