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Abstract-

Nutrition is the science of food and its interaction with an organism to promote and maintain health. It deals with those processes by which body utilizes food for energy, growth and maintenance of health. It includes everything that happens to food, is used for various functions in the body. Today the view of nutrition is totally changed and developed. Research shows that the coupling exercise and proper diet helps to prevent chronic diseases and also to maintain healthy lifestyle.

Key Words- Sports, Nutrition, Food.

The interest in physical fitness is very high in all the age groups of populations around the world. It is to keep fit healthy and thus improve the quality of life or it can be to participate in athletics and sports competitions. The aim of sports is to improve one's physical social and ethical standards. The diet must guide all athletes and sportsman.

Our body compositions, muscular ability, respiratory and cardiovascular capabilities are very closely linked with nutrition and exercise. Sports nutrition is a discipline which applies principles derived not only from nutrition but also biochemical physical & scientific knowledge for the purpose to promote optimal performance. It depends upon the food & nutrients taken by the athlete.

From the time when ancient Greeks and Romans started the olympic games, the athletes had their own routine for great performance which includes diet and nutrition. Today the view of sports nutrition is totally changed and developed. Research shows that the coupling exercise and proper diet helps to prevent chronic diseases and also to maintain healthy lifestyle.

In 2008 US News reported that 65% of Americans exercised regularly by working out, playing sports or doing physical activities, thus the importance of proper nutrition is of great interest to athletes and for optimal performance and longterm benefits. (Handbook of Sports Nutrition, by sports publication.).

Food is the basic necessity of life. It is intimately woven into the physical, economic, psychological and social life of man. It is a part of his culture and is filled with many different meanings and symbols for all individuals at various ages and stages of their maturity. Agricultural products such as cereals, fruits and vegetables, milk, eggs are foods. Food, Nutrition and Health are intimately connected aspects of life.



Nutrition is the science of food and its interaction with an organism to promote and maintain health, which deals with those processes by which body utilizes food for energy, growth and maintenance of health. Nutrition includes everything that happens to food, is used for various functions in the body.

Nutrients are chemical components of food that are needed by the body in adequate amount in order to grow reproduce and lead a normal healthy life. It includes water, proteins, fats, carbohydrates, minerals and vitamins. Each nutrient class has its own function.

To enhance the performance of a player sports nutrition plays a vital role which improves body composition & to increase speed quickness, mobility & strength. It also help the speed recovery, it allows to increase energy for both competitions and practice. Although sports nutrition basics are similar for all athletes, important differences exist for individual athletes in various sports. eg- nutritional needs of a gymnast would be different from a longdistance runner and the need of a tennis player would be different from weight-lifter or judo player. Various factors are affected on athlete's nutrition such as energy weight, height, age sex and metabolic rate etc. Emotional & physical stress of training and competitions, hectic travel schedules affects dietary intake, adequate calorie and essential nutrient intake must be planned carefully to meet requirements for training and fitness.

Sports Authority of India, National Institute of Nutrition and Indian Life Science Institute, recommended nutritional and hydration requirement during training and competing for Indian sports person. Which helps to fulfill sport person's nutritional needs. Essential to the diet are carbohydrates, fats, proteins, vitamins, minerals and water.

Carbohydrates-Carbohydrate is the major nutrient for energy support in exercise. carbohydrate should contribute about 55 to 60 percent or more of the daily caloric intake. Carbohydrates offer most fuel nutritional value and satisfy. Fruits & vegetables are good sources of carbohydrates for an athletes diet. The body can only store limited amounts of carbohydrates training increases the ability to store and spare carbohydrate. Sportsman should increase slowly a intake of carbohydrate in the week before the event.

Protein- Next to water level of protein is most abundant compound of the body. There are thousands of different specific proteins in the body each having a unique structure and functions proteins are the main solid matter in the muscles. It is an essential part of every cell protein requirement of athletes particularly those engaged in strength and power events.

The type of sport and total caloric intakes influence protein requirement. To fulfill their protein needs athletes should eat sufficient foods. Adequate exercise does increase needs of athletes. Increase muscle mass can only be achieved by long term training without training program extra dietary protein is converted to storage fat. The protein is used to maintain metabolism & some is used to repair the tissue.



Protein deficiency can cause many problems such as early and extreme fatigue, poor wound healing, important to get complete proteins such as meat eggs. Which has all essential amino acids. Protein performs a variety of physiological functions that are very essential to health and physical performance.

Food source of protein- The foods which are richest in essential amino acids are good source of animal protein, milk etc. Plant protein contains some amount of the essential amino acids, therefore to meet protein needs with plant protein one should required wide range of vegetables. Common source of protein are cereal, cheese, eggs, fish, meat, liver, milk protein requirement is estimated on body weight basis and for greater protein intake with increase in muscle mass.

Vitamins- Vitamins are one of the six classes of nutrients. They are required for normal maintenance of all. Vitamins are very important for their regulatory and protective functions. It does not provide calories but are very essential in metabolic reactions. Vitamins are organic substances which occur in small amount in food.

Several micro nutrients are important in exercise and sport, including folate, vit.B, Athletes involved in training may need more nutrients, such as thiamin, riboflavin and pyridoxine, because they important for energy production. Antioxidants, vit A, vit. D, vit. E, vit. C and phytonutrients are very important.

A deficiency of vitamins can lead to serious illness, chronic disease, even death. The minimum requirements of vitamins are small and can be easily met through a varied diet.

Sources of Vitamins- Green leafy vegetables, red & orange fruits and vegetables, fish Milk eggs etc.

Minerals- Minerals are inorganic compounds found in trace amount in the body and also very essential for bodily function. Calcium, Magnesium, phosphorus, potassium, sodium, iron and iodine are a few of the most important required minerals. Most of the minerals are found naturally in a larger variety of foods. Milk is rich in calcium, most animal protein foods are good sources of phosphorus. Common salt is a good source of sodium. Iron is an important mineral in diet of both male & female athletes. As an essential component of hemoglobin, iron deficiency can occur with or without anemia.

Calcium is the most important mineral found in the body. It is needed for developing the bones and maintaining bone rigidity, about 90% of calcium is stored in the bones. In addition to structural function it plays important role in blood clotting muscle tone, contraction and irritability, normal heart activity and activation of several enzymes. Phosphorus combines with calcium in bones and teeth. It plays very important role in metabolism of the cells. Magnesium is essential for human metabolism and is important for maintaining electrical potential in nerves and muscle cells. Sodium plays a vital role in regulating fluid balance and synthesizing hormones of thyroid glands. Copper deficiency is associated with the failure to form hemoglobin. Zinc is also important in forming enzymes.

Sources for minerals included milk, green leafy vegetables, citrus fruits

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Fat- Fat is an important nutrients which supplies calories to human body for proper functioning of the body it plays very important roles as a fuel for exercise and sports. It is important for maintenance of cellular membranes, skin hormones and transport of fat soluble vitamins. Total fat intake of more than 20-30 percent is not required in most of athletes. Various kinds of raw materials are being provided by fatty acids which help in controlling blood pressure, blood clotting and various body functions. It is recommended by the experts that upto the ten percent of the total calories that is being consumed daily should constitute saturated fat.

Result- Proper nutrition for a sportsman is very important to maintain weight by increasing muscles and to decrease fat. Athletes must use high protein diet complex carbohydrates and other micro nutrients. He also need to avoid junk food. Athletes should eat foods that have the most nutritional benefit for the amount of calories.

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