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SPORTS NUTRITION

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Abstract: Diet can significantly influence athletic performance, an athlete's body is under significant stress, and to manage these stresses the body must produce more energy. For this reason, athletes must constantly consume food, but what they eat and drink is as important as the amount of calories being consumed. It's important to understand the differences in required nutrition for health, fitness, and athletic performance. Eating forhealth suggests a conservative approach to nutrition and focuses on keeping all body systems functioning properly. Athletes adopt various nutritional strategies in training and competition in the pursuit of success. Athletes have been encouraged to eat diets high in carbohydrate, but low-carbohydrate diets up-regulate the capacity of muscle for fat oxidation, potentially sparing the limited carbohydrate stores. Such diets, however, do not enhance endurance performance. Preventing excessive fluid deficits will maintain exercise capacity, and ensuring adequate hydration status can also reduce subjective perception of effort. This latter effect may be important in encouraging exercise participation and promoting adherence to exercise programmes. Dietary supplement use is popular in sport, and a few supplements may improve performance in specific exercise tasks. There is an increasing recognition of the role of the brain in determining exercise performance: various nutritional strategies have been proposed, but with limited success. Nutrition strategies developed for use by athletes can also be used to achieve functional benefits in other populations.

Keywords:

Introduction:

Sports Nutrition is the study and practice of nutritionand dietas it relates to athletic performance. It is concerned with the type and quantity of fluid and food taken by an athlete, and deals with nutrients such as vitamins minerals, supplements and organic substances such as carbohydrates proteins and fats Although an important part of many sports training regimens, it is most popular in strength sports. Sports nutrition is a broad interdisciplinary field that involves dieticians, biochemists, exercise physiologists, cell and molecular biologists, and occasionally psychotherapists. It has both a basic science aspect that includes such concerns as understanding the body's use of nutrients during athletic competition and the need for nutritional supplements among athletes; and an application aspect, which is concerned with the use of proper nutrition and dietary supplements to enhance an athlete's performance Sports nutrition can be defined as the application of nutrition knowledge to a practical daily eating plan focused on providing the fuel for physical activity, facilitating the repair and rebuilding process following hard physical work, and optimizing athletic performance in competitive events, while also promoting overall health and wellness. Successful athletic performance is combination of proper training and a sensible approach to nutrition. Sports nutrition is the study and practice of nutrition and diet as it relates to athletic performance. It is a science that provides and maintains food necessary for health, growth and physical performance Researchers suggests that athletes can benefit from nutrition education.

Basic Nutrition Guidelines

The keys to healthful eating are to consume a diet that provides adequate nutrients to maintain health, includes a variety of foods, is balance, and is consumed in moderation. Government agencies have developed several tools that provide general healthful eating guidelines that include balance, variety, and moderation to help the Indian population maintain or improve health. The Dietary Guidelines for Indian and the food guidance system are two such tools that

convert scientific evidence can use to eat more healthfully. These general guidelines are applicable to sedentary and athletic individuals alike. The primary purpose of the Dietary Guidelines is to provide the public with information about nutrients and food components that are known to be beneficial for health and to provide recommendations that can be implemented into an eating and exercise plan. When the guidelines are implemented as a whole, they encourage Indian to eat fewer calories, be more physically active, and make wiser food choices. To maintain body weight in a healthy range, balance calories from foods and beverages with calories expended.To prevent gradual weight gain over time, make small decreases in food and beverage calories and increase physical activity. Engage in regular physical activity and reduce sedentary activities to promote health, psychological well-being, and a healthy body weight. Consume a sufficient amount of fruits and vegetables while staying within energy needs. Two cups of fruit and 2½ cups of vegetables per day are recommended for individuals consuming a 2,000-calorie diet, with higher or lower amounts required dependent upon an athlete's actual calorie needs.Choose a variety of fruits and vegetables each day. In particular, select from all five vegetable subgroups (dark green, orange, legumes, starchy, and other vegetables) several times a week.Consume three or more ounce-equivalents of whole grain products per day, with the rest of the recommended grains coming from enriched or whole grain products. In general, at least half the grains should come from whole grains. Consume 3 cups per day of fat-free or low fat milk or equivalent milk products**.** Consume less than 10% of calories from saturated fatty acids and less than 300 mg/day of cholesterol, and keep fatty acid consumption as low as possible. Keep total fat intake between 20% and 35% of total calories, with most fats coming from sources of polyunsaturated and monounsaturated fatty acids, such as fish, nuts, and vegetable oils. Choose fiber-rich fruits, vegetables, and whole grains often. Choose and prepare foods and beverages with little added sugars or caloric sweeteners, such as amounts suggested by the food guidance system. When selecting and preparing meat, poultry, dry beans, and milk or milk products, make choices that are lean, low-fat, or fat-free.

Important micronutrients for athletes

1. Iron

Iron transports oxygen to all parts of the body, including muscles, and helps release energy from cells. If iron levels are low, you can feel tired and low in energy. Iron deficiency is a common problem for athletes, particularly women, vegetarians and adolescents. Hard training stimulates an increase in red blood cell production, increasing the need for iron. Iron can also be lost through damage to red blood cells in the feet due to running on hard surfaces with poor quality shoes, through blood loss from injury and through sweat.

2. Calcium

Adequate calcium consumption is necessary to develop and maintain strong bones that are resistant to fracture and osteoporosis in later life. Whilst most athletes will have above average bone mass, some female athletes are at high risk of developing osteoporosis prematurely. Loss of periods (known as amenorrhea) due to hard training and low body fat levels means that the body produces less oestrogen, which stops bones from reaching peak mass and strength.Most athletes need three daily serves of dairy foods to help ensure they get enough calcium. A serve of dairy could include one glass (250mL) of milk, one tub (200g) of yogurt or two slices (40g) of cheese. Teenage athletes should aim for four serves to meet their increased recommended daily intake of calcium.

Dairy's role in Sports Nutrition

Dairy does more than build strong bones! Dairy is ideal for athletes and recreational exercisers, who want to build lean muscle, speed up recovery and rehydrate effectively.

1. Milk and rehydration

There is increasing interest in the use of milk as a rehydration drink. Milk naturally contains water, carbohydrate and electrolytes. A recent study found that drinking milk after exercise may promote rehydration more effectively than water or

sports drinks. The researchers said it was likely that the naturally high electrolyte content of milk helped restore the body's fluid balance after exercise.

2. Milk speeds up recovery

Dairy products such as milk and yogurt are useful foods for post-exercise recovery because they contain carbohydrate and protein. Studies have shown that chocolate milk may be as good, or better, than sports drinks at helping athletes recover from strenuous exercise.

3. Dairy helps build lean muscle mass

Studies have shown that the protein from dairy food can help build and maintain muscle. Milk contains about 3.5% protein made up of casein (80%) and whey (20%). The whey protein has a high concentration of the branched chain amino acid – leucine. Leucine has been shown to specifically stimulate building of new muscle protein and dairy protein has been shown to directly stimulate muscle building.

4. Dairy snacks for sports

Drinks like plain or flavoured milk, smoothes and milkshakes are ideal snack options after exercise. They can also be a cheaper, yet equally effective and convenient alternative to the expensive sports supplements available. Other examples of post-exercise recovery snacks containing dairy include: Drinkingyogurt, tub of flavoured yogurt, A cheese and salad sandwich, Ricotta, honey and banana on toast, Low-fat cheesy muffins

Diet and Meal Planning

A nutritious and wholesome balanced diet is a key to good health. A well-balanced diet includes eating the right amount of foods from the five main food groups. Most people will have three main meals a day. No single food contains all nutrients the body needs so it is important to eat a wide variety. The right amount of different nutrients can increase life expectancy by keeping the heart and body healthy and preventing many long-term illnesses. Body weight can be kept to an acceptable level through healthy eating, leading to a fitter and more active lifestyle. Nutrition is one of the factors that contribute to the wellness of an individual. A balanced diet, when planned carefully, provides adequate energy and nutrients for growth, health maintenance, disease prevention and therefore it is essential for our whole lifespan. There are a number of factors to be considered when planning meals.

Conclusion:

As it is discussed in this paper clearly, that an athlete's body is under significant stress, and to manage these stresses the body must produce more energy. For this reason, athletes must constantly consume food, but what they eat and drink is as important as the amount of calories being consumed. It's important to understand the differences in required nutrition for health, fitness, and athletic performance. Eating forhealth suggests a conservative approach to nutrition and focuses on keeping all body systems functioning properly.

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