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Article

Nutrition for Football Players: Fueling Performance on the Field

Hassanein Mohammed Jihad[1]*

1. Ministry of Education, Open College of Education, Wasit Study Center, Iraq.
* Correspondence: h.Jahad@uowasit.eud.iq

Abstract: Proper nutrition plays a critical role in enhancing the performance and overall health of football players. This paper examines the relationship between nutrition and athletic performance, emphasizing the importance of balanced meals rich in carbohydrates, proteins, and fats tailored to the needs of athletes. The study highlights how a well-structured diet helps replenish energy, build muscle, and aid recovery after intensive training and competition. It also explores pre- and post-competition meal strategies, showcasing how specific food intake can optimize glycogen restoration and sustain energy levels during prolonged physical exertion. By addressing the physiological demands of athletes, this research underscores the significance of targeted nutritional strategies in maximizing performance and ensuring long-term athletic success.

Keywords: Sports Nutrition, Football Performance, Carbohydrates and Glycogen, Pre-competition Meals, Muscle Recovery

1. Introduction

Sports culture for coaches and the athletes in all types of necessities and priorities that serve as the main pillar of the training process, training is not the size, intensity and intensity of training, but there are some basic, which is food one of them, that the lack of knowledge of special nutrition for sports and the type of activity practiced may lead to counterproductive results and may lead to some diseases and therefore we may lose the athlete and his health after the loss of achievement.

The good nutrition calculated by calories according to the physical effort exerted in the competition or training in all sports events makes the release of energy easy and affordable according to our needs for it, the food we eat provides our bodies with energy, whether for daily life work or the added effort as athletes practicing an event, as nutrition plays a special importance in both physical, mental, psychological and social health in general and for athletes in particular, and balanced and integrated nutrition is a basis in building the basis for sports levels Good and distinct proper nutrition leads to raising the level of physical, skill, tactical, Wrong nutrition leads to general health disorders, which leads to a decrease in the level of performance and the appearance of fatigue early during training or competition.

The training in its current form for those with higher and distinguished levels imposes on athletes that all the ingredients are available before training, especially glucose and glycogen and even fats and proteins, and this is only done through a balanced and

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integrated diet in which the energy generated by food is distributed in order to meet the needs of the body during performance, from the above It is clear that eating ((3)) meals a day is a balanced and integrated food is essential to achieve the desired purpose of energy, but it is better to eat from ((4-6)) meals Daily, since blood sugar decreases during ((2-3)) hours after eating diets, eating more meals for more than ((3)) meals may prevent this decrease in blood sugar and make athletes in better condition during the day, and the importance of eating nutrition for the athlete in its appropriate form is summarized as follows:

1. Supplying the body with energy.
2. Rebuilding damaged cells and maintaining muscle fibers after exercise.
3. Increasing the area of the physiological section of muscle fibers.
4. Gain muscle strength.
5. Increasing endurance and the ability to work physically for a long time and increasing the prolongation of the circulatory system - respiratory.
6. Restoring the normal state and speed of recovery after intense physical exertion.
7. Increase metabolism and increase the strength of immunity when consumed in a regulated manner.

Carbohydrates are the most important part of human food as one of the basic sources of energy generation in the body, as they are found in the cell in the form of glycogen, and their sources (plant - animal), and the functions of carbohydrates are as follows:

1. Providing the necessary energy for the body.
2. Intervention and assistance in the synthesis of some body compounds.
3. Helps to oxidize fatty substances to be used to save energy.

Amino acids are the form of protein building in cells, and amino acids come from various protein sources such as (meat - fish - dairy products - and some vegetables). After eating protein, it is broken down into complex amino acids and then broken into individual amino acids used to form protein in the cells of the body and the formation of body enzymes, which is the process of breaking down these digestive enzymes.

Amino acids are compounds that are the first building block that makes up the protein molecule, and can distinguish (22) types of amino acids of importance in human nutrition, including (8) acids must be obtained through food either the rest of the other acids can be built by the body.

2. Materials and Methods

Research Method:

This study employs a comprehensive literature review approach and case study analysis of professional football players to identify the main nutritional needs.

Research Materials:

The data used in this research were gathered from reliable literature sources, including scientific journals, textbooks on sports nutrition, and case studies of football players. The analysis focused on the consumption of carbohydrates, proteins, fats, andhydration[6]

3. Results and Discussion

Snacks and high-carbohydrate drinks before, during and after training:

The normal level of muscle glycogen must be maintained, but there is difficulty in achieving this that may appear when the athlete trains ((2-3)) units per day because he does not have (24) hours between training doses to be able to complete the restoration of the composition of all glycogen. Therefore, all these athletes have low glycogen working muscles, which may use this athlete muscle protein to obtain energy, and therefore the process of eating light meals rich in carbohydrates before and during training may provide

the body with the required glucose when muscle glycogen decreases, as well as eating diets rich in carbohydrates immediately after training can help quickly restore muscle glycogen that was consumed as a result of physical exertion, Studies on this subject mention that taking carbohydrate solutions "dissolved carbohydrates" before and during training improves performance significantly, as it appeared that the improvement in performance time evolved by 17% from ((134 d - 157 d)), and in cycling ((80)) miles improved by 5% from (253 d - 241 d)) when the group members drank high-carbohydrate drinks during the race, and the reason for this is that the liquid carbohydrates consumed maintained blood sugar at a higher level. During exercise to the extent that more of it has become available to the muscles in order to obtain energy, on which the continuous extension of muscles with glucose is built, knowing that the result in such studies appears during the last half of the effort, and other studies were conducted on runners, swimmers, cyclists, which confirmed that it can benefit from the use of carbohydrate drinks and snacks before, during and after training or race, which helps to obtain the required glucose for performance, which qualifies them to perform units Training at a faster range during the duration of the training module, which lasts for two hours or more.

Pre-competition meals:

1. A snack should be (500-800) calories (500-600) (60-70%) of which are in the form of complex carbohydrates that are characterized by rapid digestion in order to drain into the bloodstream quickly to restore the formation of muscle glycogen that is used during competition.
2. To be useful and easy to digest to the point that athletes do not enter the competition with a full stomach.
3. The food of this meal should be familiar.
4. Avoid fried spicy foods.
5. Food should be eaten 3-4 hours before the race
6. Do not eat foods rich in fat, protein, high in fiber.
7. It is not recommended to eat (candy pieces, honey, grapes) because they cause a sudden increase in blood glucose, which may cause within a short period of time a compensatory drop in blood glucose, which causes fatigue, as sugars provoke beta cells in the root of Langerhans located in the pancreas until insulin is released. As the high flow of insulin increases the deposition of glucose in the liver, causing the level of blood glucose to drop there are moderate amounts of it.

Post-competition meals:

1. Small high-carbohydrate meals must be given after competition or training in order to restore the body to the energy lost during the competition and prefer liquid carbohydrates because they are characterized by rapid digestion and absorption or in the form of powder of (1-2) cups after the competition, such as:

   ((Bread, salt biscuits, pasta, potatoes, pies, corn grains, beans, beans, crisp biscuits, pasta with meat, bananas, peaches, oranges, apricots and pineapples, orange juice, non-fat milk.... etc)).
2. The process of restoring the amount of glycogen after training or competition is very necessary, especially after (1-2) hours, as the post-competition meal must contain (500-800) calories, which are in the form of carbohydrates, which do not take more than an hour inside the stomach and then begin to be stored in the muscles, because the basic meals are stored after (02-3) hours of eating.
3. Not taking these substances after the competition will increase the time period to replace the entire glycogen from (24-48) hours.

4. Conclusion

Proper and balanced nutrition is crucial for football players to support physical performance, recovery, and overall health. The article emphasizes that consuming meals

rich in carbohydrates, proteins, and healthy fats can boost energy reserves, repair damaged muscles, and aid in recovery after intense training or competition. Pre- and post-competition meals play a significant role in maximizing muscle glycogen levels and preventing fatigue during prolonged physical activity. Therefore, implementing the right nutritional strategies is essential for optimizing athletic performance and maintaining long-term health.

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