SEA - Practical Application of Science
Volume VII, Issue 20 (2 / 2019)

Corina TIFREA,
Sidi Hassan CHERKAOUI
National University of Physical Education and Sports of Bucharest

THE ROLE OF NUTRITIONAL SUPPLEMENTS IN RESTORING FOOTBALLERS DURING THE TRAINING AND COMPETITION PROCESS

Case Study

Keywords
Nutritional;
Footballers;
Supplements;
Competitions process

Abstract

Definition of sports supplements: A food, a component of the food, a nutrient, or a non-nutritional component is ingested in addition to foods consumed daily in order to achieve specific health and/or beneficial performance. Nutritional supplements should be consumed to supplement a balanced diet, not as a substitute. Nutritional supplements should not be administered by approaching the "Same for All" system; it should be considered that athletes train for different goals (problems with body composition, recovery after injuries) and train with different loads. Sports nutrition products such as sports drinks and protein refreshments are not considered nutritional supplements. The approach to nutritional supplements should be in accordance with the WADA Code (World Anti-Doping Agency) which stipulates that all supplements used do not contain prohibited substances in sports. Nutrient supplements are preparations that have in their composition macronutrients, micronutrients and other edible substances. Protein consumption is crucial for any individual involved in strong, vigorous workouts. 1 gram of protein has 4 calories. Protein is essential for growth and repair.

Food supplement is a dietary ingredient, used by people to supplement nutrition by increasing the total intake of concentrate, metabolite, constituent or extract and it can be a substance or any combination of substances, such as: a vitamin, a mineral, a herb or other plant, an amino acid, food substances such as enzymes, plant extracts or glands.

Definition of sports supplements: A food, a component of the food, a nutrient, or a non-nutritional component is ingested in addition to foods consumed daily in order to achieve specific health and/or beneficial performance. Nutritional supplements should be consumed to supplement a balanced diet, not as a substitute. Nutritional supplements should not be administered by approaching the "Same for All" system; it should be considered that athletes train for different goals (problems with body composition, recovery after injuries) and train with different loads. Sports nutrition products such as sports drinks and protein refreshments are not considered nutritional supplements (Ciolcă, 2005). The approach to nutritional supplements should be in accordance with the WADA Code (World Anti-Doping Agency) which stipulates that all supplements used do not contain prohibited substances in sports. Nutrient supplements are preparations that have in their composition macronutrients, micronutrients and other edible substances.

Protein consumption is crucial for any individual involved in strong, vigorous workouts. 1 gram of protein has 4 calories (Rothwell, 2019). Protein is essential for the growth and repair of the: skin, hair, tendons, ligaments, muscles.

Protein plays a crucial role in enzyme production and in maintaining the acid-base balance. Protein sources: skimmed milk; meat from poultry: chickens, turkeys, ducks, geese; lean red meat; fish; eggs; nuts, peanuts, chestnuts; beans; lentils; soybean products.

Cheese and fatty meats such as pork and hamburgers contain saturated fat and most are not desirable protein sources. High protein products are not suitable for football players.

Dosages, Consumption, Recommendations

The recommended daily protein ratio for an adult, female or male is 0.83 g per kg body.

- An adult weighing 70 kg can be limited to 58 grams of protein per day, equivalent to two pieces of chicken breast,
- Our body rarely uses proteins, 45 minutes after the start of the effort,
- High protein intake is not a good strategy,
- Athletes who are involved in heavyweights may need more protein (Mihele, 2004).

The recommendations for power and endurance training are somewhere between 1.2 g to maximum of 2 grams per kg body. Excess protein intake beyond the level of need is of no benefit and can become harmful in the long run. The stress of football training, on the field or in the gym, causes skeletal muscle damage. But consuming more protein, combined with increased workout effort allows the player to better respond to physical demands at the next workout. In order to maximize a quick recovery, it is essential to consume protein immediately after the training (Jesus, 1988).

Footballers should consume between 1.6-2 grams of protein per kg body. Additionally, during a planned high loss diet, players burn more calories than they consume, increasing protein intake to about 2.5 g per kg body weight to maintain muscle mass. A recent study shows that Premier League footballers (soccer professional league in England) consume on average between 2-2.5 grams of protein per kg body weight over a wide range of protein-containing foods and supplements.

CONCLUSIONS

- The consumption of the post-workout shake containing 30g of protein, 30g of dextrose, 3g of creatine and 150mg of magnesium, consumed after the training, helped the Wydad Sportive Temara team's players to recover more easily and to evolve as a team. going to the Second League.
- The evaluation and application of complex recovery programs due to the administration of nutritional supplements and the use of kinetic means (cryotherapy / cryosauna, lymphatic drainage, electrostimulation) had positive effects on the recovery and the improvement of the functional parameters post-exertion, their values being the following: FC = 73b, TAS = 123mm / Hg and TAD = 66.11 mm / Hg.
- The introduction of nutrition supplements during both the preparatory and competitive periods into the football players' medication resulted in the increase of self-confidence and physical, technical-tactical possibilities acquired during the final research at the Wydad Sportive Temara team

REFERENCES

[1] Ciolcă, S.M. (2005). *Capacitatea de performanță în fotbal*, Editura Cartea Universitară, București
[2] Jesus, R.S., (1988). *Composition Nutritional Assessments in Soccer,* Ed. International Journal of Sport Nutrition
[3] Mihele D. (2004). *Nutriție, dieto terapie și compoziția alimentelor.* Editura Multipress International, București
[4] Rothwell J. (2019). Accredited Sport Dietitian SDA (Australia) *Food and Supplements*

List of tables

Table no. 1
The values obtained in the tests of adaptation to the effort; the capacity of aerobic-anaerobic effort

Name	Horizontal position			Upright position			Effort			Recovery			VO2max (ml/kg/min)
	F.C (bpm)	TAS (mm/Hg)	TAD (mm/Hg)	FC (bpm)	TAS (mm/Hg)	TAD (mm/Hg)	FC (bpm)	TAS (mm/Hg)	TAD (mm/Hg)	FC (bpm)	TAS (mm/Hg)	TAD (mm/Hg)	
VA	48	115	60	60	120	55	132	165	50	60	110	60	3400
TA	72	120	70	66	110	70	132	170	70	72	120	70	4600
LC	66	115	75	78	120	70	138	170	70	84	110	70	3700
LA	60	120	60	72	125	70	126	170	60	72	140	60	4400
GV	66	120	65	78	115	75	144	190	50	90	130	60	3400
IA	66	115	65	78	120	60	144	180	80	72	120	60	3400
GR	66	115	70	72	110	70	150	175	65	96	125	60	2700
CT	60	115	70	66	115	75	138	180	70	66	115	70	3700
DG	60	130	70	66	120	80	132	168	70	78	120	70	3400
CC	78	130	80	78	140	80	150	170	80	90	140	80	3200
BN	52	122	70	56	120	60	130	180	60	80	130	70	4600
AI	72	120	60	84	120	70	140	170	70	78	130	70	5000
MG	60	110	70	66	115	70	132	165	55	60	115	70	4000
MD	66	110	70	66	120	70	156	145	70	66	120	60	3200
PA	60	125	70	66	125	75	132	170	60	66	120	70	2900
RI	48	110	60	66	110	70	144	150	70	54	130	60	3400
BA	60	125	70	66	130	70	138	175	60	66	125	70	3900
BA	66	120	60	78	110	60	138	180	48	66	120	60	4200
Average	***62,55***	***118***	***67,5***	***70,11***	***119***	***69,44***	***138***	***170***	***64***	***73***	***123***	***66,11***	***3727***