

EFFECTS OF SUPPLEMENTATION IN CROSSFIT ATHLETES

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Abstract: Crossfit is an increasingly popular form of physical training worldwide. However, it is a relatively new modality with more and more studies with scientific rigor and several myths about the practice. Therefore, the present work aims to investigate the effects of supplementation on the performance of exercises practiced during crossfit. To this end, a literature review was carried out that addressed the themes already studied on the subject, establishing the correlation. Based on the studies found, it was possible to observe that supplementation improved performance in crossfit athletes, but there were no changes in muscle strength, muscle mass and VO₂max. **Keywords:** Exercises in Circuits. Food Supplementation. Athletic performance.

INTRODUCTION

Crossfit is a physical activity that has become increasingly popular worldwide. In Brazil, in 2013, there were 99 establishments qualified to teach the practice, increasing this value to 790 in 2017.

However, due to the short time of existence of the activity, the sport had few studies about its accomplishment, added to several myths around its practice. Crossfit uses different patterns of movements performed with high intensity and constantly and abruptly alternating with each other. In addition, there is also a high-intensity interval feature that combines aerobic and strength exercises with a focus on the functional.

Due to the various characteristics mentioned above, crossfit promotes considerable metabolic gains, given that it uses the three pathways of energy metabolism for muscle actions. Therefore, a diet and nutritional supplementation interferes in the physical performance of these athletes.

The diet of practitioners of this sport must recommend the supply of nutrients according to individual needs, frequency, intensity and

duration of training.

According to the Brazilian Society of Sports Medicine, healthy and adequate nutrition is a complementary strategy to training and must be used by athletes as the starting point for maximum performance.

Given the complexity of performing the exercises, combined with the large number of sports fans, who also perform diets, in addition to the various existing biotypes, there is a lack of studies that evaluate the effect of caloric intake and supplements in this sport. Therefore, the objective of this article was to investigate the effects of supplementation on the performance of crossfit exercises.

METHODOLOGY

The present work consists of a literary review that sought to address results found in research on the subject in question, whether in a comprehensive, ordered or systematic way. To carry out the work, the following steps were followed:

- 1) Selection of the corresponding themes;
- 2) Selection of samples found and used;
- 3) Analysis of the characteristics of the original research;
- 4) Analysis of the results obtained;
- 5) Conducting the review.

The databases of scientific literature and techniques used in carrying out the review were Google Scholar, Scientific Electronic Library Online (SciELO), Virtual Health Library, Latin American and Caribbean Literature on Health Sciences (LILACS), using the following search engines: "Crossfit Intake", "Nutrition in Crossfit Performance", "Supplementation in Physical Activity" and "Food Supplementation for Athletes".

Thus, the present work seeks not only to analyze the interface of sports medicine, but also to highlight the various contents on the subject in question, aiming to shed light on an educational path, establishing

possible influences on physical performance in the performance of Crossfit against supplementation.

DISCUSSION

Increasingly, the correlation between sports practice and adequate nutrition is being approached, in addition to the use of nutritional supplements. Crossfit is no exception to the rule, given that athletes increasingly seek to improve the performance of the practice of the activity. However, due to the short term of existence of the activity, studies about the practice are still shallow, if not scarce. That said, this study aimed to investigate the effects of supplementation on the performance of crossfit exercises.

Crossfit training is a physical conditioning practice that uses a combination of exercises that has physical conditioning and health maintenance as its principles. Combined with diet, crossfit establishes a molecular foundation that helps in this process.

Currently, according to the Brazilian Society of Sports Medicine, it is recommended that athletes practicing Crossfit must obtain a caloric intake that contains:

- 30% of varied and lean proteins,
- 40% low glycemic carbohydrates,
- 30% fat, mainly monounsaturated.

These measures would be ideal aiming at the metabolic utilization, responsible for determining the necessary amount of macronutrients (carbohydrates, proteins and lipids), essential in the maintenance or improvement of the sports performance and health of the human body.

Regarding the intake of micronutrients, which include vitamins, minerals and trace elements, the SBME also recommends that, when present in balanced diets and with a variety of foods, they are sufficient for the demand required by practitioners of regular physical activity, leaving supplementation to

special occasions (athletes with iron deficiency anemia and pregnant women).

However, it is feared that the amount of micronutrients that are ingested are insufficient in Crossfit practitioners, causing health problems and even causing injuries to practitioners who have this deficiency. In order to avoid injuries and improve physical performance, it is a common practice to take supplementation in high-intensity physical activities. Protein intake must be obtained through a normal and varied diet, supplementation being a practical and safe way to adapt good quality intake and amino acid bioavailability to the increased demands of an athlete in training and competition.

The ideal to be carried out when practicing supplementation is its realization in the pre-workout, combining the same tactic in the post-workout, causing several beneficial effects during physical activity, both in the scope of exercise resistance, as in hypertrophy. These benefits are explained by the ingestion of essential amino acids after intense training, added to carbohydrate solutions, determining greater recovery from effort followed by an increase in muscle mass.

CONCLUSION

Based on the facts above, it is concluded that supplementation improved performance in crossfit athletes, when performed correctly, accompanied by professionals prepared to perform this combination. However, it did not cause changes in muscle strength, muscle mass and VO₂max.

However, despite the relevance of the topic being notorious, it is a relatively new type of sport, and there are few studies and clinical trials that seek to prove the effectiveness of supplementation and that describe in detail the protocols performed, in order to increase the level of evidence on the impact of performance in practitioners of this sport.

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