

Nutritional profile and incidence of muscle injury and pain in crossfit[®] practice

Abstract

Known as a sports training method CrossFit[®] is a registered trademark created in the United States in the 2000s by Greg Glassman. With boxes affiliated in more than 140 countries around the world on all continents, this mode has already added more than 14,000 official training sites around the world. The training model aims to develop conditioning in general, using calisthenics exercises, basic surveys and high intensity interval training. As it is a mode that gains more followers every day, it needs attention in some details like the muscular recovery and the prescription of the alimentary diet. The objective of this research was to investigate the nutritional profile of CrossFit[®] practitioners. A large online questionnaire was used to track the nutritional profile of CrossFit[®]. The respondents answered that the main objective is health and wellness, they are consumers of food supplements and about 1/3 of those who answered the questionnaire do not have a nutrition professional prescribing their diet. According to the results, we conclude that a correct nutritional intervention can help in achieving the desired goals, avoiding poor muscle recovery and injuries.

Keywords: crossfit, nutrition, muscle soreness, injuries, supplements, training

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Introduction

Crossfit[®] is a sport known and practiced worldwide, and consists of functional, high intensity and constantly varied movements.¹ It is a highly competitive sport, having several formats of competitions: The internal competitions, carried out by the box itself for the enrolled students; National competitions, usually organized by companies that support the sport; regional competitions, known as CrossFit Games Regionals[®]; and world-class competitions, known as CrossFit Open[®] and Crossfit Games[®].

This sport uses movements and/or exercises of other sports, such as gymnastics, athletics and weightlifting.¹ These exercises and/or movements are usually complex and used to work the 10 physical capacities performed in CrossFit[®]: cardio respiratory endurance, muscular endurance, strength, flexibility, power, speed, agility, coordination, balance and precision.¹ Another striking feature is the high intensity in which the routines are performed.² Thus, the large number of competitions, and consequently the large training volume associated with complex high-intensity exercises, may increase the risk of joint and muscle pain and injury in CrossFit[®].³ Another important feature in high-intensity sports is the nutritional support, which is very important both for performance improvement and for muscle recovery.⁴

Although nutritional support is important for sports, the indiscriminate use of nutritional supplements can cause harm to the health of individuals, resulting in a greater chance of injury with the pro-oxidant state caused by excess vitamins and antioxidants.⁵ Therefore, the objective of this research was to investigate the nutritional profile of CrossFit[®] practitioners. A large online questionnaire was used to track the nutritional profile of CrossFit[®] professionals with issues involving the subject of nutrition and practice of the modality.

The questions and respective results are listed below:

- i. What is your goal with CrossFit[®]? Mark as many options as you want (464 replies): 72.6% Health and quality of life; 59.9% Weight loss and muscle definition; 52.6% Performance and 29.7% Increased muscle mass.
- ii. Do you consume food supplements? (466 replies): 70.6% Yes and 29.4% No.
- iii. If so, which one(s)? Answer as many alternatives as you need. (328 replies): 85.4% Protein; 52.7% Vitamins and antioxidants; 35.4% Creatine; 3.5% Glutamine; 26.3% Pre-workout; 21.6% Thermogenics; 14.6% Carbohydrates; 14.6% Protein bar; and 4.3% Hypercaloric.
- iv. Do you do any type of dietary monitoring? (461 replies): 66.4% Yes and 33.6% No.
- v. If so, who prescribes your diet? (346 replies): 69.7% Nutritionist; 22% I set up my own diet; 4.3% Doctor; 2.3% Coach; and 1.4% follow internet diets.

Conclusion

In this sense, we conclude that a correct nutritional intervention can help in achieving the desired goals, avoiding poor muscle recovery and injuries. Most of the CrossFit practitioners know about the nutritional importance for the expected results and follow a nutritionist recommendation.

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Conflict of interest

The author declares no conflict of interest.

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