

Analysis of the use of nutrition supplements and anabolic steroids in the fitness population.

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Abstract

For every athlete, especially the professional, his sport is a very important item for him. Today conditions of fast life and require an increasing need for 'fast-track' 'building muscle so individuals turn to anabolic steroids and various supplements. Anabolic steroids are used for some medical conditions, but people also use them illegally in some sports environments. They are used to increase muscle mass, performance and endurance, and to shorten recovery times between workouts, and even if they can be fed through food, individuals use additional nutritional supplements, which have their positive and negative sides.

Keywords: Sports, Muscles, Supplements, Anabolic steroids.

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Introduction

Since physical activity is a human and biotic need, society just like any individual should take care of the physical condition [1].

Bercic and Donlic point out that life without physical activity is incomplete and therefore everyone has reasons for regular physical activity [1].

In order for a sports practice to be successful, it is not enough for a trainer to be expert, but the individual himself must have elementary knowledge about the contentment and endurance of the triggering apparatus, then the physical endurance of the organism, appropriate nutrition, as well they need to know evidences about strength recovery and many other kinesiological information or negatively fit into sport [2]

People who training regularly know nutritionally adequate nutrition. Information about plenty of fluids are important for increasing physical performance. But the question is when adding nutritional supplements can be good as a form of training, improving performance or competitive advantage. And if anabolic steroids and supplements used to increase body capacity and muscle mass, they have been increasingly used. The paper explains what anabolic steroids and supplements are and how they affect the population.

Sports

Athletes can be divided into two basic groups, recreational athletes and top (professional) athletes [3].

According to Brkljacic [4] a limited but very "health" definition of sport would read as follows: it is physical activity that significantly improves an individual's physiological characteristics. If we supplement the physiological characteristics with psychosocial ones, a large segment of this social aspect would certainly belong to ethics.

Sport is extremely important for the human body, both for adults to maintain health and even more so for children because of development at their levels [5].

Sport in individuals develops a sense of security, through which they gain self-esteem, that is, achieve social recognition [6].

Anabolic Steroids

Anabolic steroids are synthetic variations of the male sex hormone testosterone. Adequate term for these compounds is anabolic-androgenic steroids. "Anabolic" refers to muscle building, and "androgenic" refers to the increased characteristics of the male hormone [7].

Anabolic steroids are used to increase body weight and muscle mass. When it is used main period in large doses and without medical supervision, can cause abnormal and unreasonable behavior and even a series of unwanted physical effects.

An anabolic steroid is testosterone and all medicines which are chemically and pharmacologically correlated to it, leading to an increase in muscle mass. Anabolic steroids have androgenic effects and anabolic effects. Androgenic effects cannot be parted from anabolic ones, but some anabolic steroids have been created with minimal androgenic effects [8].

Steroids affect normal metabolism in two ways, and jointly they result in greater muscle mass. When androgen receptors are activated, some cells upsurge the production of proteins, which the body uses to figure more cells. This is the segment of the metabolic sequence known as anabolism, where small molecules accrue in more complex and supplies energy. Anabolism is also a term for the process when the body builds muscle [9].

People who use anabolic steroids generally consume them orally or inject them into muscle. These doses can be 10 to 100 times the set doses for the treatment of medical circumstances. Steroids are also applied as a cream to the skin and the gel or patch. People who will abuse steroids believe they can avoid

unwanted side effects or maximize the effects of drugs so that will reduce cycle taking doses in a certain time, or cessation of use, and repetition - slowly increases dose [7].

Anabolic steroids affect in a different way than other drugs; they do not have the same short-term effects on the brain. Important variance is that steroids do not inspire the rapid increase of dopamine in the brain, but also NIDA [7] highlights that long-term and misuse of a steroid can already operate in some parts of the brain which can have a significant effect on mood and behavior.

Generally, steroids are chemical compounds that share a common structure. There are many types of steroids; Anabolic steroids are just one of several that play a role in the body. To the collected and anabolic them the body breaks down drugs in the molecule which may get causes CI in the individual cells, at steroidal molecule is to bind structures called androgen receptors. This is where anabolic steroids really take on the role of testosterone, as androgen receptors are designed very specifically to bind to natural testosterone in the body. Anabolic steroids, however, can also bind to individual receptors [10].

The Hatgens et al. [11,12] study shows that men who used steroids for 10 weeks gained 2 to 5 pounds of muscle. They also reported an increase in power from 5% to 20%. Participants gained more muscle mass in the chest, then, shoulders and upper arms, unlike other areas. This is not because they skip a day for legs, but because the muscles in these areas have more androgen receptors in their cells, were observed and how the participants improved with lifting weights with bench, unlike other types of lifting.

In a study by Christou et al. [12], most users of anabolic steroids showed hypogonadism with persistently low levels of gonadotropins and testosterone, lasting several weeks to months after discontinuation. Anabolic use of androgenic steroids results in a profound and prolonged effect on the reproductive system of athletes and recreational users, and potentially on fertility.

Nutrition Supplements

Persons engaged in regular physical activity aware of the fact that the nutritional and adequate nutrition and plenty of fluids important about the increase in body's performance. But the question is whether to add nutritional and added ci be good as shape enables necessary train does not have, to improve her performance or improve competitor advantage. This fact describes what is known about the effectiveness and safety of many of the ingredients in nutritional supplements that are promoted to improve exercise and athletic performance.

Dietary supplements are also known as "ergogenic tools", but this fact simply refers to them as "accessories performance." Sellers of these supplements tough e how their products improve strength or endurance, help faster muscle reach goal and performance or simply lead to increased ton own efficiency and, tolerance e on high intensity exercise. Another of the fact that the National Institute of health (NIH) in 2017

though will that certain supplements can help prepare the body for exercise, to reduce the possibility of injury during training or help with recovery after exercise. Supplements and Save they cannot replace healthy eating, but some of them may increase individual values.

Research Cantarow et al. [13] conducted must be explored and consumption patterns of proteins recreational athletes (athletes participating in moderate to strong physical activity for at least 30 min/d, three or more times per week). A total of 70 men and 169 women completed the online survey. Categorical data were estimated by gender, age, type of exercise, and frequency of exercise using quadratic (χ^2) analyzes with a significance level of $P < 0.05$. A significant distinction discovered are between genders, types of exercise and frequency of use of exercise and protein.

Beta alanin

Beta alanine is a kind of amino acids that the body does not recognize as protein helps the muscles to the anaerobic glycolysis which provides energy during high-intensity exercise targeted results, and buy mound in the form of hydrogen ions and dairy acid and dissociates to form lactate which vying go to a decrease in strength and fatigue [14,15]. Beta- alanine is produced in the liver, and the relatively small amounts are present in birds and the fish.

Consumption of beta- alanine reliably increases the amount of carnosine in the body. Four to six grams of beta- alanine in 10 weeks can increase muscle levels by up to 80%, especially in athletes [16].

Saunders et al. [17] in a recent review of studies on the cuts of the beta- alanine -a during exercise lock or supplementation and a statistically significant positive effect of embodiments (including the isolated limb and whole body), especially in the protocols for 30 seconds to 10 minutes. However, individual examination and highlights the fact that small scientific studies of short-term duration and multiple using the protocol dominated the scientific literature. The Traxler et al. [18] study of 40 placebo- controlled studies, with a total of 1,461 participants. Is used in the intake total dose of beta- alanine 84-414 g striving in 28-90 days. Apparently, appears that the supplement beta- alanine safe at 1.6 to 6.4 g/day to 8 weeks [18]. Some evidence indicates, however, to be consumed with conventional s dose is beta- alanine of at least 800 mg or 10mg/kg body weight can cause moderate to severe paresthesia [19].

Glutamine

Glutamine is a key molecule in metabolism and energy production, and it promotes nitrogen for many critical biochemical reactions [14]. Study Ziegler [20] compared the effect of glutamine (four doses of 0.3 g/kg body weight for 3 days) and placebo in 16 young adult people in injury and the eccentrically them exercises and extensions s knees. With the help of glutamine, there was a decrease in loss of strength, an accelerated recovery of strength, and a decrease in muscle pain

compared to placebo and these effects were more pronounced in men.

Some athletes use glutamine supplements in the hope of relieving exercise-induced pain and reducing the risk of upper respiratory tract infections.

Protein

Protein is essential for building, maintaining and repairing muscle. Exercise increases intramuscular protein oxidation and breakdown, after which muscle and protein synthesis increase for a day or two. Regular physical endurance results in the growth of myofibrillar proteins (the dominant proteins in skeletal muscle) and the increase in the size of skeletal muscle fibers. Aerobic exercise leads to moderate accumulation of protein in the working muscles, primarily in the mitochondria, which increases the oxidative capacity (use of oxygen) for future exercise [21,22]. Athletes must consider both protein and nutrition. They must get the essential amino acids (EAA) from diet or supplement to support muscle growth.

Schoenfeld et al. [23] in their study of the resistance to muscle growth and muscle mass, they consumed drink before bedtime, which is still contained about 27.5 or 40 g milk protein, which increased the level of amino acids throughout the night. Some comparative studies show increased muscle protein synthesis when plasma amino acid levels increase.

The attention of those who have a high protein intake from food and supplements because of their potential harmful effects. High-protein diets two to three times RDA of 0.8 g/kg/day for healthy adults and 0.85 g/kg/day for young people) Have the risk of kidney stones or dehydration, or when consumed for several months. alters glomerular filtration rate and blood lipid levels [24]. Protein increases the excretion of urinary calcium, but that effect is of no consequence to the long-term health will bones [25] and, in any event, easily be compensated by spending more calcium.

Many foods including meat, poultry, fruits, eggs, dairy products, peas and nutty fruit contain protein, besides protein powders and drinks, most of which contain whey, a complete protein isolated from milk [26]. The breakdown of casein, the main whole protein in milk, is slower than that of whey, so the release of amino acids from case in into the blood is slower. To increase muscle adaptation to training, the recommended one is that athletes consumed 0.3 g/kg of body weight of protein of high quality (for example, about 20 g of a person of 70 kg) from 0 to 2 hours after exercise, and then every 3 to 5 hours [22].

Conclusion

Anabolic steroids are unnaturally formed versions of the natural male hormone testosterone, used for medical purposes, but misused to increase muscle mass and reduce body fat. When it comes to dietary supplements in individual cases, the active ingredients or other ingredients that are promoted as ergogenic adjuvants are unknown or uncharacterized. These many such products contain multiple ingredients that have not

been adequately tested in combination with one another. It is important that if a person chooses to use a diet supplement he or she consults with a specialist.

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