

The Rate and Reasons of Using Nutritional Supplements among Male-bodybuilders in Mazar-e-Sharif City, Afghanistan

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ABSTRACT

Background: Nutritional supplements are products that consumed widely by sport populations around the world. The literature study of this research shows that only one article was published in 2011 about rate of using nutritional supplements among British Soldiers in Afghanistan. And there was not found any study in this case in Afghanistan. The main objectives of this study were to detect the rate and reasons of using nutritional supplements among male-bodybuilders of Mazar-e-Sharif city.

Material and Methods: This study was conducted by analytical-descriptive via research questionnaires. At first, ten gyms were randomly selected from the all gyms of Mazar-e-Sharif city. There were distributed 130 questionnaires among male-bodybuilders randomly and 112 persons were responded to questionnaires. After collection of questionnaires, the data was analyzed by using of SPSS and defined the rate, reason and types of food supplements that were prevalent and used among male-bodybuilders of Mazar-e-Sharif city.

Findings: Current research shows that the male-bodybuilders of Mazar-e-Sharif city's gyms usually use four types of nutritional supplements, including Protein (90.2%), Creatine (87.5%), Carbohydrates (83.9 %) and Vitamins (86.7%). Also there were pointed four reasons for using of nutritional supplements by body-builders which are including of: weight increasing (25%), energy providing and endurance (37.5), increasing mass of muscles and, strength (19.7), and weight decreasing (17.8).

Conclusion: A dietary or nutritional supplement is intended to provide nutrients that require for human body. Analyzing of current research data shows that the male-bodybuilders of Mazar-e-Sharif city's gyms usually use four types of nutritional supplements including Protein, Creatine, Carbohydrates and Vitamins supplements. Also, there were pointed four reasons for using of nutritional supplements (weight increasing, energy providing and endurance, increasing mass of muscles and strength, and weight decreasing) among male-body-builders of Mazar-e-Sharif city.

Keywords: Bodybuilders, Creatine, Carbohydrate, Nutritional supplements, Protein, Vitamins

INTRODUCTION

Food or nutritional supplements are industrial products that use to provide additional nutrients for more development of body (Molinero and Marquez, 2009). According definition of FDA (Food and Drug Administration), food supplements are not a usual or normal food, but they are composition of nutrients which produce industrially and use for providing of nutrients that need for more development of body. This definition explains that the food supplements cannot use for treatment of any disease (Ivanova et al., 2022).

Dietary supplements are products that consumed widely by populations around the world (sport population and non-sport populations). A dietary or nutritional supplement is intended to provide nutrients that require for human body. It includes vitamins, minerals and other less familiar substance-such as botanical or herbal extracts, biochemical, amino acids, enzymes and animal extracts (Deldicque and Francaux, 2016). Examples of these compounds are including creatine, ephedra, chromium picolinate, protein or carbohydrate and glutamine (Morrison et al., 2004). Glutamine, essential fatty acids, meal replacement products, creatine, weight loss products and testosterone boosters are used mostly over all. Multi vitamin/minerals, vitamin C, creatine, proteins/amino acids, and sport drinks are the most popular supplements (Knapik et al., 2016). Minerals activate enzymes for energy production through glycolysis and improve immune system. Creatine monohydrate is a very popular nutritional supplement for its ergogenic effects (Buford et al., 2007). For most dietary supplements, the prevalence of use appears roughly similar for men and women, except that a larger proportion of women use iron and a larger proportion of men use vitamin E, protein and creatine (Knapik et al., 2016). Consuming of high-calorie supplements may merely add extraneous calories to your diet, resulting in accumulation of excess body fat (Ivanova et al., 2022).

Nutritional supplements are varying in shape, color, and route of administration (e.g., pill, powder, lotion, etc.) (Szabo et al., 2013) and producing in different forms, such as capsules, pastilles, tablets, pills and other similar forms, sachets of powder, ampoules of liquids, drop dispensing bottles, and other similar forms of liquids and powders designed to be taken in measured small unit quantities. Scientists and health professionals agree that dietary supplements can be under certain conditions beneficial to human health, but should not replace complete and balanced daily meals of foods which are necessary for a healthful diet (Schwingshackl et al., 2017).

The use of dietary supplements is increasing among athletes, year after year and it is more prevalence among bodybuilding athletes. Bodybuilding supplements are dietary supplements commonly used by over half of athletics around the world (Maughan et al., 2018). The recent studies indicate that about one-half of the U.S. population and 70% of adults use dietary supplements (Schwingshackl et al., 2017). These may be used to replace meals, enhance weight gain, improve weight loss or improve athletic performance (Rasperini et al., 2019). Glutamine, essential fatty acids, meal replacement products, creatine, weight loss products and testosterone boosters are used mostly over all. Supplements are marketed either as single ingredient preparations (Ivanova et al., 2022).

The main reasons of using food supplements among athletes around the world are including of increasing of muscles mass, providing energy, boost of body, and healthiness (Druker and Gesser, 2017). The research which don by FDA in USA, shows that the consumption of most food supplements, additional to having temporary role or effects, case the serious toxicities and disorders in the body (Wiesner et al., 2022). The major disorders reported that cased by using of food supplements are including of: disrupting of hormones regulation, central nervous system (CNS) disorders, sexual abnormalities, cardiovascular diseases, cancer, allergies, kidney disorders, jaundice and damaging of liver (Morrison et al., 2004).

The use of stimulants in sensible quantities has a low risk of adverse effects, but its combination of with excessive caffeine intake, in the form of caffeinated drinks such as coffee, colas and Red Bull, as observed in more than a third of individuals is of potential concern and increases the potential for caffeine toxicity and adverse effects (e.g. insomnia, irritability and psychosis) (Boos et al., 2011). Vitamin A toxicity, for example,

can cause liver damage, blurred vision, headaches, bone pain and swelling, drowsiness and nausea (Lattavo et al., 2007). Supplements can cause interaction with medications, which can cause unwanted side effects and decrease the efficacy of the medicine (Schwingshackl et al., 2017). This research was designed to find the reasons, types and rate of using nutritional supplements among male-bodybuilders of Mazar-e-Sharif city, Balkh province of Afghanistan. Along with this objective, there were questions related to the side effects or negative effects of using nutritional supplements which is also added in this paper.

MATERIALS AND METHODS

Study Area

This study was conducted and performed by using analytical-descriptive methods for gathering of data related to the rate and reasons of using nutritional supplements among male-bodybuilders in Mazar-e-Sharif City. The most important steps that were used in this research are including of: 1) Field Survey and sampling by using research questionnaire among male-bodybuilders and, 2) statistical analyses of data. At first, ten gyms were randomly selected from the all gyms of Mazar-e-Sharif city.

Samples Collection

The statistical population of this research was bodybuilding athletes of Mazar-e-Sharif, who were randomly selected for current study. There were 130 questionnaires distributed among male-bodybuilders randomly and 112 persons of participants were answered.

Statistical Analysis

After collection of questionnaires, the data was analyzed by using of SPSS 26 and defined the rate, reason and types of food supplements that was prevalent and used among male-bodybuilders of Mazar-e-Sharif city.

RESULTS

The main objective of this study was to detect the rate and reasons of using nutritional supplements among male bodybuilders of Mazar-e-Sharif city. After analyzing of data, it was found that the four types of nutritional supplements including Protein (amino acids) (90.2%), Creatine (a peptide built from three amino acids: arginine, glycine and methionine) (87.5%), Carbohydrates (83.9 %), and Vitamins (86.7%) were prevalence among male-bodybuilders of Mazar-e-Sharif city's gyms (Table1 and Figure 1).

Table 1. Rate of using different nutritional- supplements among male-bodybuilders of Mazar-e-Sharif City.

Food supplements	Participants	Consumers	Rate of consumption
Proteins	112	101	90.2
Creatine	112	100	87.5
Carbohydrates	112	94	83.9
Vitamins	112	97	86.7

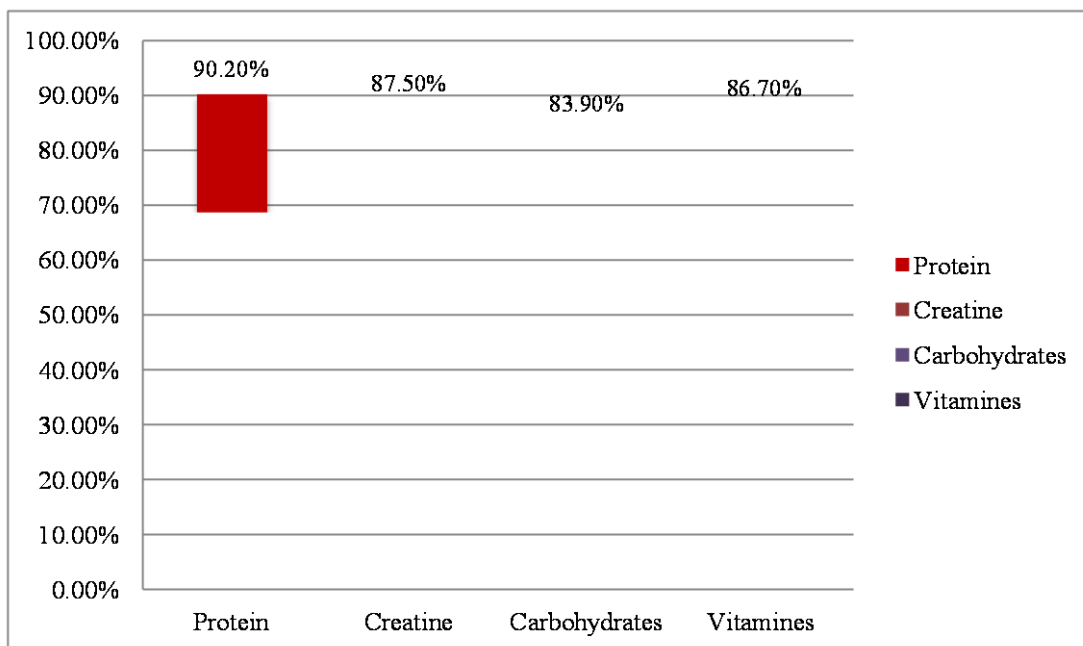


Figure 1. Rate of using different nutritional- supplements among male-bodybuilders of Mazar-e-Sharif City.

Also, we compute the rate of each nutritional-supplement that was prevalence among male-bodybuilders of Mazar-e-Sharif City (Table 2 and Figure 2).

Table 2. Rate each nutritional-supplements using by male-bodybuilders of Mazar-e-Sharif City.

Rate of using	Protein		Creatine		Carbohydrates		Vitamins	
	Freq.	Consuming (%)	Freq.	Consuming (%)	Freq.	Consuming (%)	Freq.	Consuming (%)
Much more	19	16.9	0	0	0	0	13	11.7
More	16	14.3	25	22.3	16	14.3	22	19.5
Average	34	30.5	28	25	25	22.3	33	30
Less	16	14.3	22	19.7	13	13.4	20	17.9
Lesser	20	17.9	19	17	34	30	13	11.7
Total	105	93.9%	94	84%	90	80%	101	90.8%

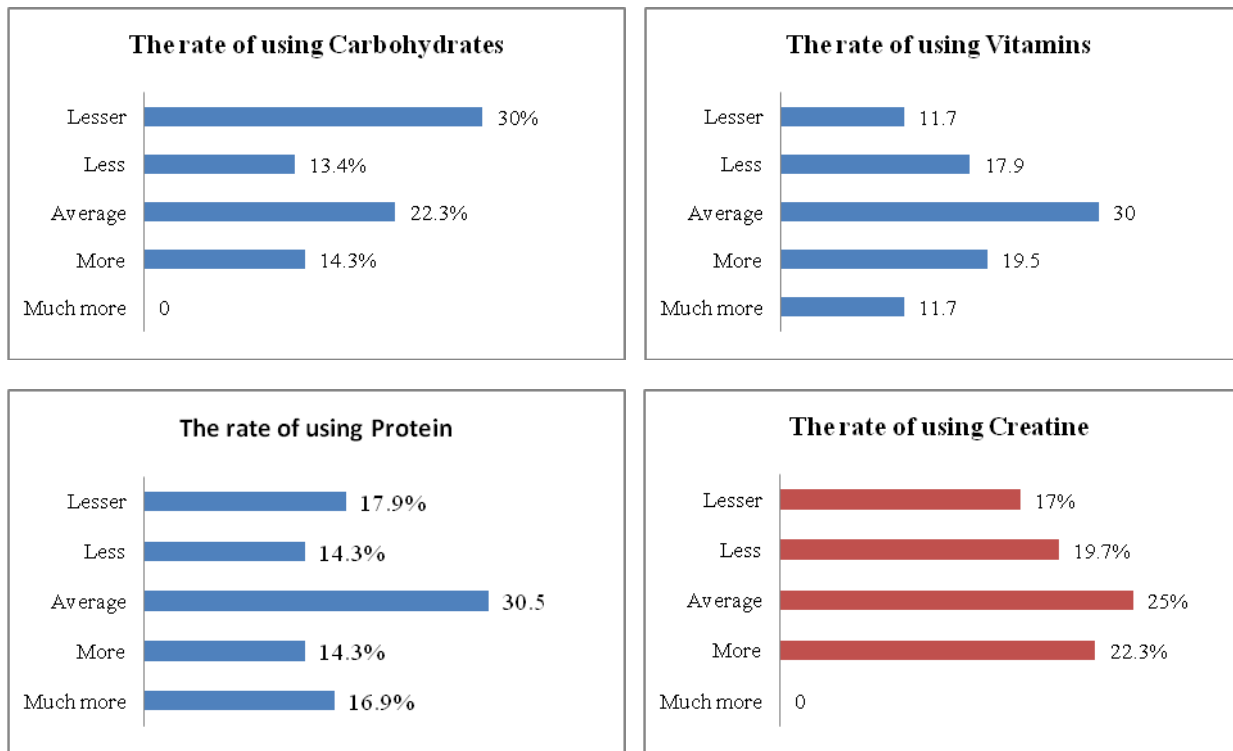


Figure 2: Shows the rate of each nutritional supplement that was prevalence among male-body builders of Mazar-e-Sharif City.

Another aim of this research was finding of reasons for using of food-supplements among male-bodybuilders of Mazar-e-Sharif City. After analyzing of data, there were pointed four reasons by body-builders which are including of: weight increasing, energy providing, muscles-construction and preparing for competitions, and decreasing of weight (Table 3 and Figure 3).

Table 3. The reasons of using nutritional-supplements among male-bodybuilders of Mazar-i-Sharif City.

Reason of consume	Frequency	percentage
Weight increasing	28	25
Energy providing and endurance	42	37.5
Increasing mass of muscles and strength	22	19.7
Weight decreasing	20	17.8
Total	112	100

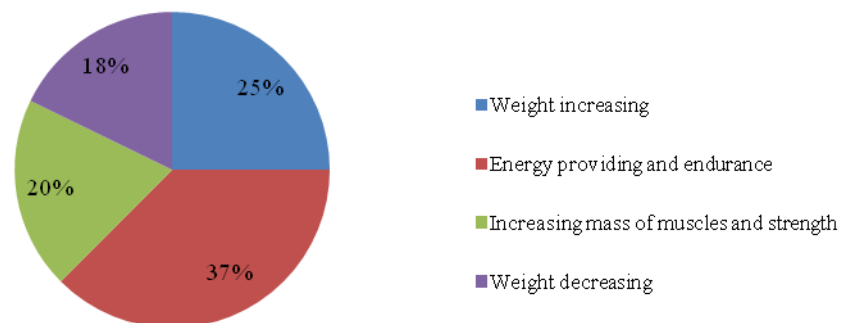


Figure 3. Show the reasons of using nutrition-supplements among male-bodybuilders of Mazar-i-Sharif City.

In this research we were also studied the negative effects or Sid effects of using nutritional supplements among male bodybuilding athletes of Mazar-i-Sharif City. The participants express different types of disorders and their experienced symptoms within using nutritional supplements which explained in (Table 4).

Table 4. The side effects of using food-supplements reported by male-bodybuilders of Mazar-e-Sharif City.

	side effects					Total
	Dyspepsia	Stomachache	Kidney disease	Obesities	No side effects	
No. of participants	19	16	23	26	28	112
Percentage (%)	16.97	14.29	20.53	23.21	25	100

DISCUSSION

Nutritional supplements are the most prevalent industry products in various types that use in sport area within different reasons in across the world nowadays. About 60% of athletes consume dietary supplements of any type (Deldicque and Francaux, 2016) and other study by (Jahangir et al., 2011) has shown that 82.4% of athletes taking supplements. Bodybuilders more frequently consumed protein and creatine (Morrison et al., 2004). Men were more likely to take supplements than women (86.8% vs. 11.2%) (Jahangir et al., 2011). The main types of supplement that defined to use by athletes, are include of proteins / amino acids (85.7%), creatine (34.3%), chromium (31.4%), stimulants (17.1%), hydroxycut (5.7 %), and testosterone boosters (1.2%) (Boos et al., 2011). Reasons for using supplements were reported to be used for health (45%), enhancing the immune system (40%) and improving athletic performance (25%) (Jahangir et al., 2011). The most frequent reasons for using nutritional supplements in sports as well as an increased endurance and performance (40.5%), followed by increased strength (15.5%), tear injuries (20.3%) and other reasons (23,7%) (Mazzeo et al., 2013). The using of supplements may show some side effects, For example, getting too much vitamin A can cause headaches and liver damage, reduce bone strength, and cause birth defects, and Excess iron causes nausea and vomiting and may damage the liver and other organs (Ghosh et al., 2018).

Current research was designed to find the rate, types and reasons of using of nutritional supplements among male-bodybuilders of Mazar-e-Sharif city. This study showed that the male-bodybuilders of Mazar-e-Sharif city's gyms usually use four types of nutritional supplements, including Protein (90.2%), Creatine (87.5%), Carbohydrates (83.9 %) and Vitamins (86.7%). Also, there were pointed four reasons for using of nutritional supplements by body-builders which are including: weight increasing (25%), energy providing and endurance (37.5), increasing mass of muscles and strength (19.7), and weight decreasing (17.8).

During this research also we study the negative effects or side effects of using nutritional supplements among male bodybuilding athletes of Mazar-e-Sharif City. The participants express different types of problems and their experienced symptoms including Dyspepsia (16.97%), Stomachache (14.29%), Kidney disease (20.53%), Obesities (23.21) and No side effects (25%) within using nutrition supplements. But the accurate study of these problems and appropriate positive or negative effects of using nutritional supplements need to laboratory and experimental studies like; Serological, Urological and other related laboratory tests, which may conduct by next researchers in the future.

CONCLUSION

Nutritional supplements are industrial products that use to provide additional nutrients for more development of body. A dietary or nutritional supplement is intended to provide nutrients that require for human body. It includes vitamins, minerals and other less familiar substance-such as botanical or herbal extracts, biochemical, amino acids, enzymes and animal extracts. Analyzing of current research data shows that the male-bodybuilders of Mazar-e-Sharif city's gyms usually use four types of nutritional supplements including Protein (90.2%), Creatine (87.5%), Carbohydrates (83.9 %) and Vitamins (86.7%). Also, there were pointed four reasons for using of nutritional supplements by male-body-builders of Mazar-e-Sharif city which are including of: weight increasing (25%), energy providing and endurance (37.5), increasing mass of muscles and strength (19.7), and weight decreasing (17.8).

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Conflict of Interest: There is no conflict of interest among authors in any aspects of current research.

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