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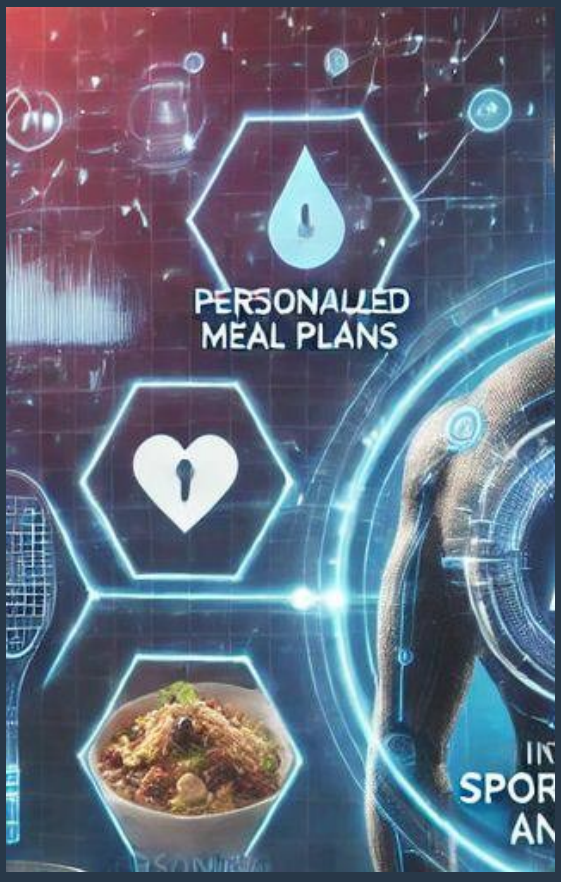

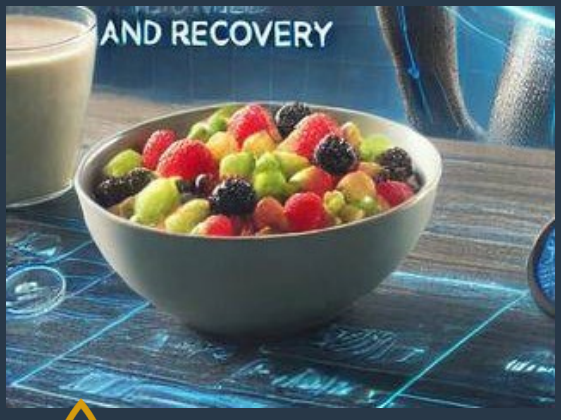

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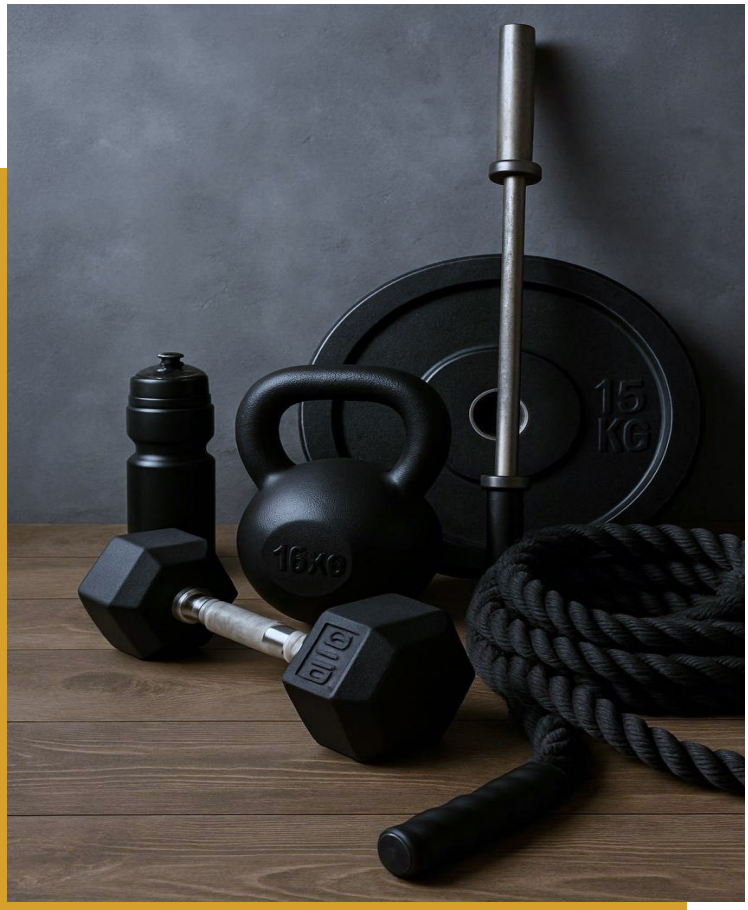

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The Effect Of L-Citrulline Supplement Consumption on Athletic Performance: A Narrative Review

Mina Jahandust, Parisa Hejazi, Alireza Gheflati

Introduction:

Improving athletic performance by as little as 1-2% can make a difference between winning and losing in a competition. Therefore, athletes often use various sports supplements to enhance their performance. One of these supplements is L-Citrulline, which is an organic compound and a non-essential amino acid that the body can naturally synthesize. The aim of this study is to examine the effects of supplementing with L-Citrulline on performance factors such as VO2max, Rate of Perceived Exertion (RPE), Lactate, Creatine Kinase, and Heart Rate.

Materials and Methods:

For this study, we searched PubMed and Google Scholar using keywords such as "L-Citrulline" "Sports performance" "rating of perceived exertion (RPE)" and "VO2max" with a time limit from 2019 to 2024. We found three clinical trial articles and one meta-analysis article. Additionally, we also reviewed articles from 2015 to 2017 to assess the comprehensive effects of L-Citrulline supplement.

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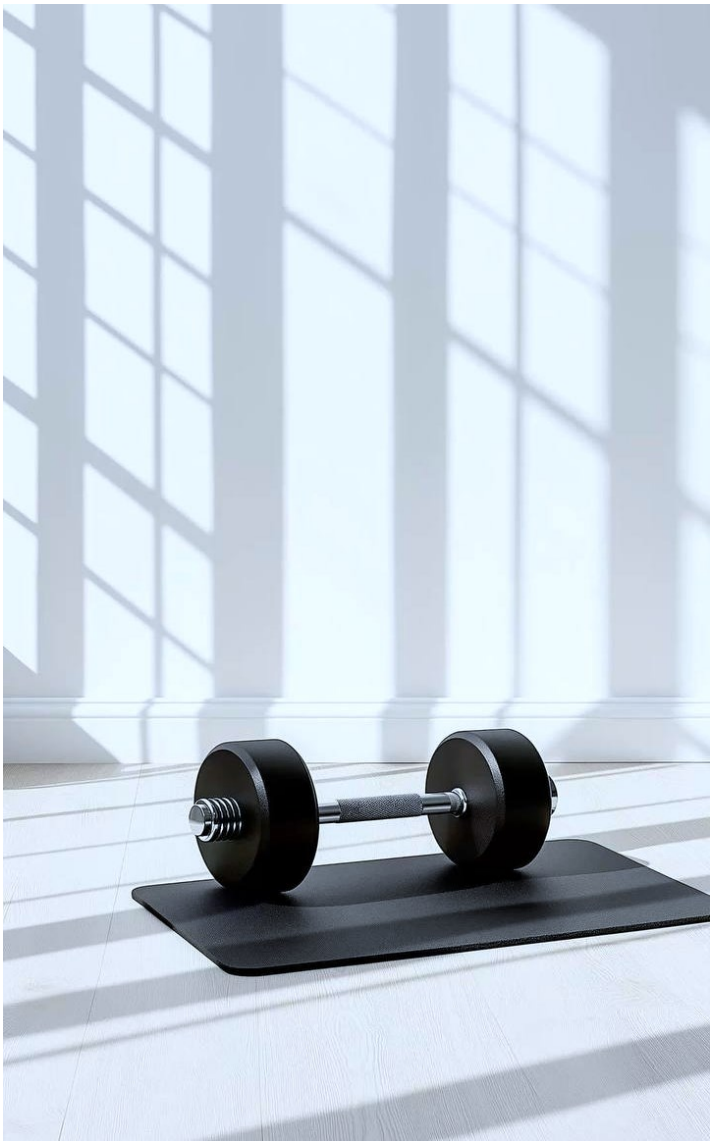
Results:

In the reviewed studies, the effect of L-Citrulline supplement on performance factors such as Lactate, CK, HR, VO2max, and RPE was investigated. The first study showed that L-Citrulline led to an increase in VO2max and a decrease in RPE. However, in the other three studies, L-Citrulline did not have a significant difference on any of the factors we were interested in.



Conclusion:

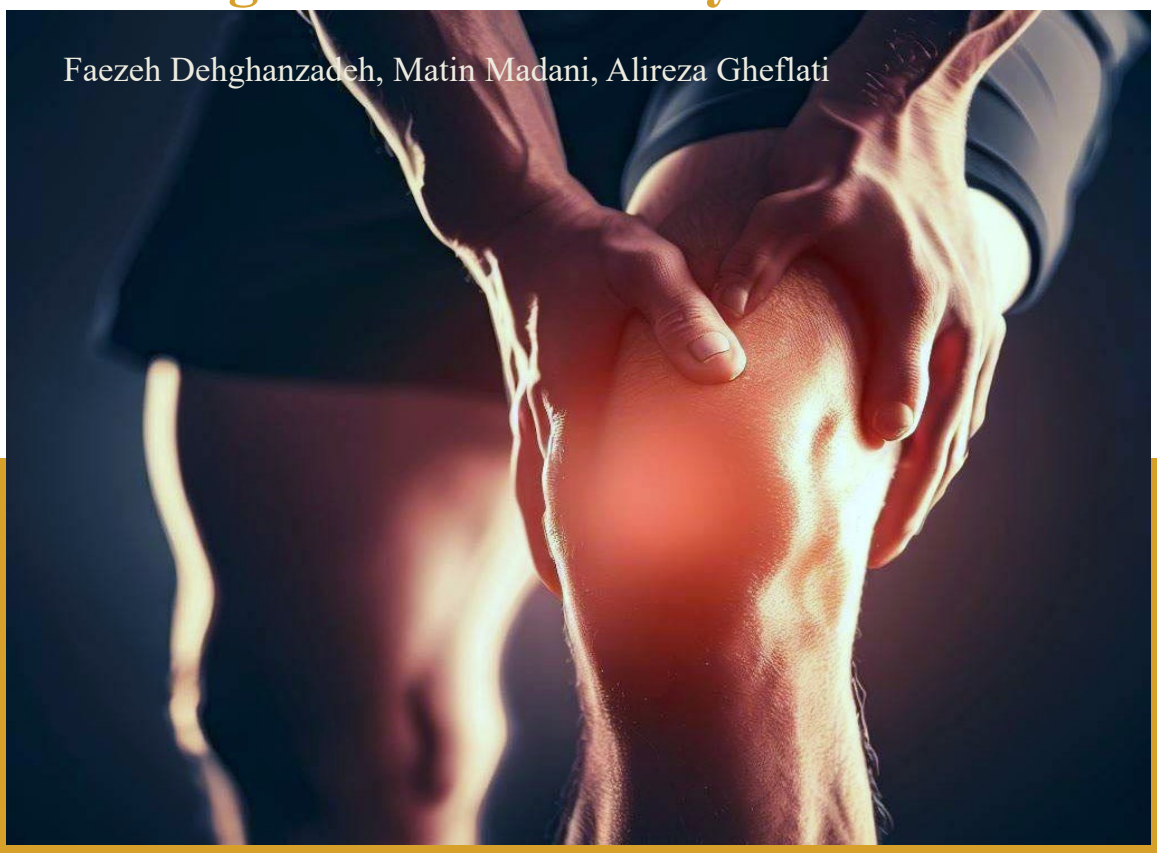
Supplementing with Citrulline did not have a significant effect on Lactate, CK, or HR factors. However, the results regarding VO2max and RPE were conflicting.

Keywords:

L-Citrulline, Sports Performance, VO2max, Rate of Perceived Exertion (RPE), Lactate, Creatine Kinase (CK)

Effect Of Melatonin on Muscle Damage in Football Players

Faezeh Dehghanzadeh, Matin Madani, Alireza Gheflati



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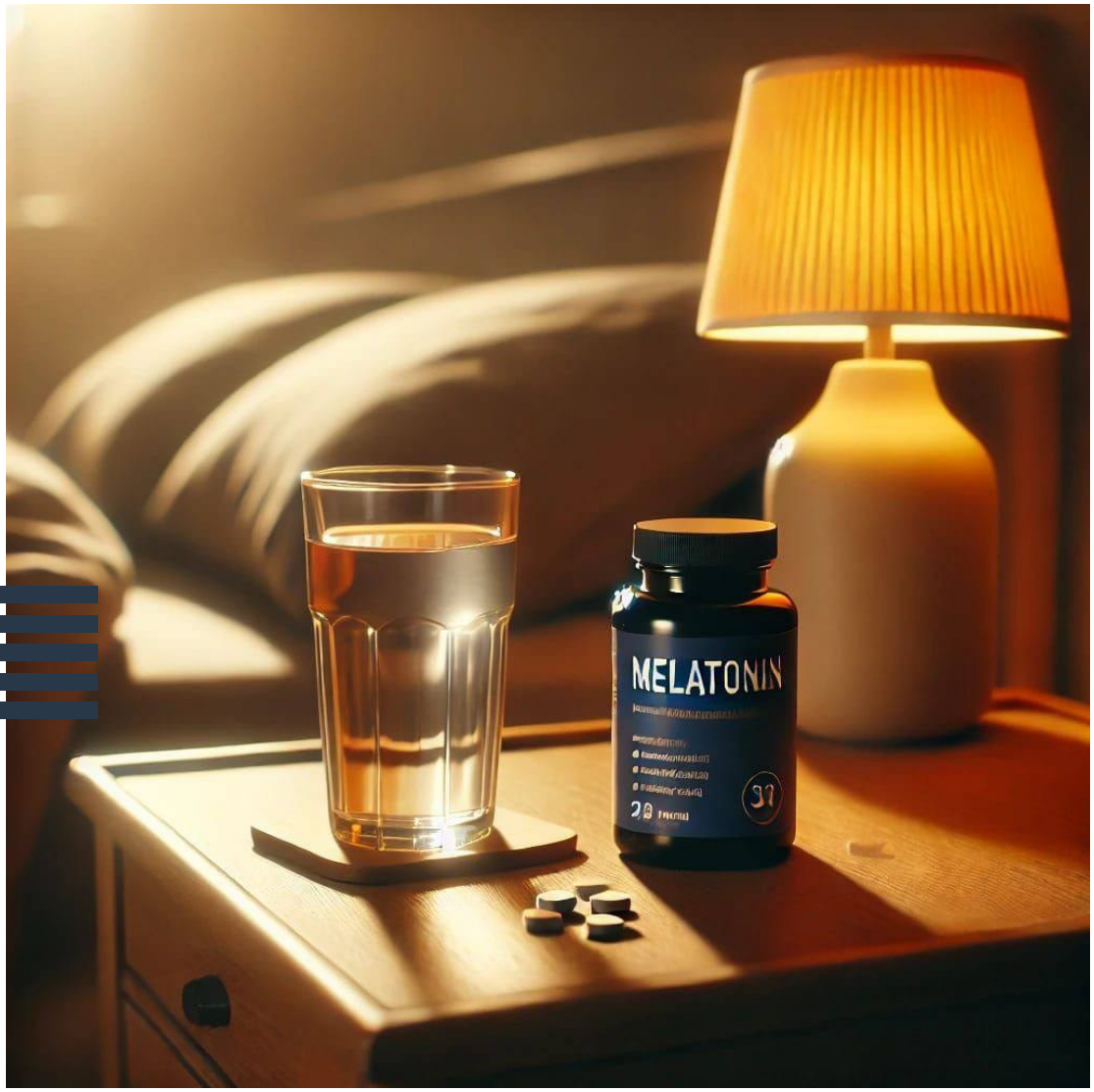
Introduction:

Muscle injury is one of the common problems in football players, which can have serious effects on the athletes' performance. Various reasons such as incomplete or incorrect movement techniques, excessive pressure on muscles, fatigue, lack of enough rest can lead to muscle damage in football players. According to the results of recent articles that indicate the effect of melatonin supplementation on the performance of athletes, in this study we will investigate the effect of melatonin supplementation on the levels of muscle damage and oxidative stress in football players.

Materials and Methods:

By searching in Medline, Google Scholar, Embase, and Web of Science search engines and using the keywords muscle injury, football athlete, melatonin, and performance, as well as the time limit from 2019 to March 2024, we found 1 RCT and 1 relevant systematic review article.



Results:

In the current studies, the indicators of CK, ASAT, GPX, AOPP, and related physical tests (HG), SJ, MAT, 20m-Sp, 5-JT, CMJ were investigated. The results of the studies indicate the effect of melatonin supplementation on reducing CK levels. AOPP, ASAT, and GPX levels were increased; however, supplementation with melatonin had an opposite effect on the physical performance of these people.

Conclusion:

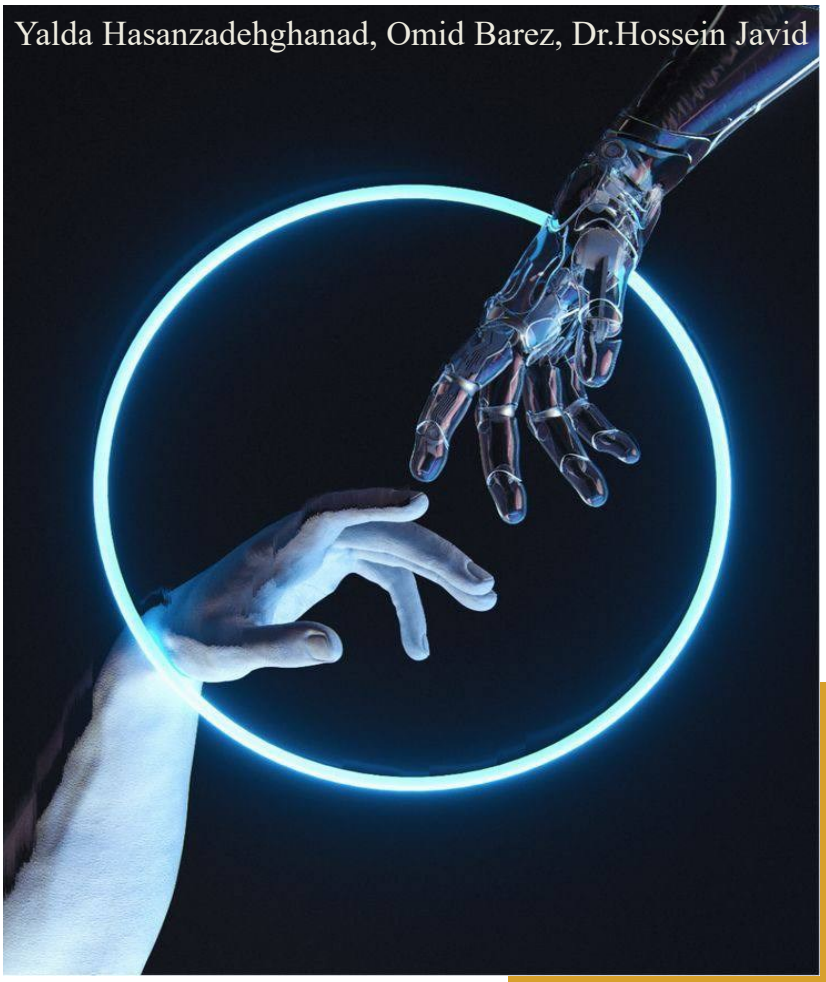
Supplementation with melatonin reduces the levels of CK, AOPP, ASAT, and increases the level of GPX, but it has an opposite effect on physical performance. However, to prove the results, more studies with a higher sample size are needed.

Keywords:

Muscle injury, football athlete, melatonin

The Role of Artificial Intelligence in Nutrition and Its Connection to Personalized Medicine

Yalda Hasanzadehghanad, Omid Barez, Dr.Hossein Javid



Backgrand:

The integration of artificial intelligence (AI) into health care has become a diverse field, especially nutrition, which is vital for health and disease management. Personal medicine requires compliance with medical and nutritional care with unique genomic and molecular characteristics. Personalized medicine integrates health care into individual needs, and AI enhances personal nutrition by providing dietary recommendations based on individual health data.

Methods:

This article explores artificial intelligence in nutrition and personal medicine. Search databases such as PubMed and Google Scholar have been identified from 2010 to 2024 using keywords such as "artificial intelligence", "nutrition" and "personal medicine." The selected studies were analyzed to determine the methods and consequences of clinical practice.

Results:

Important areas in which artificial intelligence affects nutrition and personal medicine:

personalized Diet Recommendations: Artificial intelligence systems improve genetic and metabolic data and lifestyle to follow dietary guidelines.

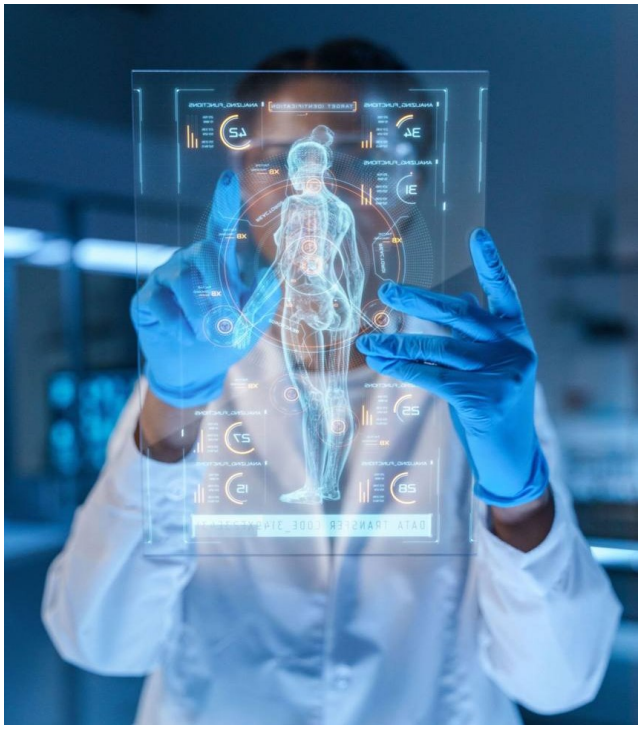
Nutritional Assessment: Artificial intelligence algorithms can reduce or surplus food in diet consumption data.

predictive Analysis: AI tools evaluate health outcomes and risk of chronic diseases such as obesity and diabetes based on dietary patterns.

Behavioral Interventions: Programs that use artificial intelligence stimulate users. Vorftar promotes healthy food .

Conclusion:

The combination of artificial intelligence, nutrition and personal medicine is promising for better health outcomes. Artificial intelligence has the analytical ability to provide accurate nutritional evaluation and appropriate recommendations. With research done and a focus on validating these interventions among different populations, AI can improve diseases if it is constantly combined with feeding practices**.**



The effect of CoQ10 supplementation on the levels of oxidative stress biomarkers in athletes: A narrative review

Sara Poursemnani, Fatemeh Fattah, Alireza Gheflati

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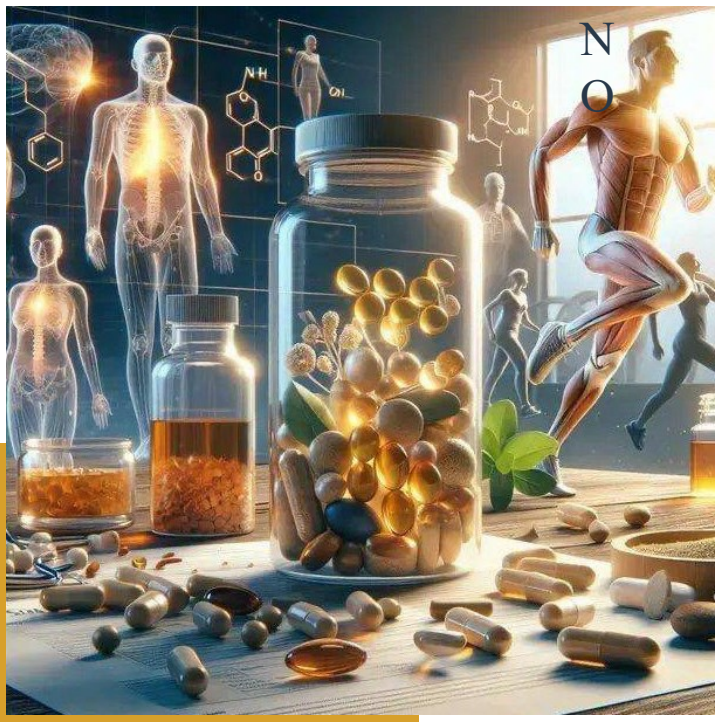
Introduction:

Oxidative stress is defined as “an imbalance between oxidants and antioxidants in favor of the oxidants.” Considering the production of free radicals in the body caused by oxidative stress in athletes, and also CoQ10 dietary supplements as an antioxidant, the aim of this study is to review the effect of CoQ10 supplementation on the levels of biomarkers related to oxidative stress in athletes.



Materials and Methods:

This review article was conducted using articles published in Medline, Google Scholar, and SCOPUS with the keywords ‘oxidative stress,’ ‘athlete,’ and ‘CoQ10’ from 2018 to March 2024. Three RCT articles and one relevant meta-analysis article were selected.

Results:

The indicators MDA, TAC, PON1, and lipid peroxidation products in saliva and plasma were examined. The results indicated that supplementation with CoQ10 reduced the levels of PON1 and MDA in plasma and erythrocytes, as well as lipid peroxidation products (salivary DC, plasma DC, and salivary SB). However, supplementation with CoQ10 had no significant effect on total antioxidant capacity (TAC).

Conclusion:

It seems that supplementation with CoQ10 can lead to a decrease in MDA, PON1, DC, and SB in saliva and plasma, but it had no effect on the total antioxidant level. However, to confirm these results, studies with a larger sample size are needed.

Keywords:

Oxidative stress, athletes, CoQ10

The effect of Tribulus terrestris supplement on the performance of male athletes (A narrative review)

Hosein Maddah pour, Mohammadreza Sabeti, Alireza gheflati

Introduction:

Today, with human progress, sports has become a specialized field, and scientists and athletes are looking for ways to improve sports performance. One of these ways is the use of herbal supplements that can be effective in improving the performance of athletes. The Tribulus terrestris plant has also attracted the attention of scientists. Because this plant contains steroidal saponins such as protodiosin and dioxin, which are claimed to be effective in increasing biomarkers related to improving sports performance. Our aim in this research is to investigate the effect of this supplement on the biomarkers related to the performance of male athletes.

Materials and Methods:

: For this review study, we first entered the words tribulus terestris, supplement, performance of athletes in PubMed and Google Scholar search engines and studied related articles from 2015 to 2022, which finally resulted in 3 RCT articles and one A relevant systematic review article has arrived.

Results:

The supplemental effect of Kharkhasek on men with physical activity by evaluating factors such as: testosterone, cortisol, growth hormone, insulin-like growth factor, creatine kinase, lactate dehydrogenase, interleukin-6, antioxidant factors, evaluation of sports performance and evaluation of pain indicators. became. The results of the biochemical tests showed that Yari supplement has a significant relationship with the increase of testosterone and insulin-like growth factor, as well as a significant relationship with the reduction of inflammatory and oxidant factors.

Conclusion:

Tribulus terrestris supplement with the doses examined in these studies could have a positive effect in increasing the performance of male athletes through hormonal, anti-inflammatory and antioxidant pathways. However, more studies are needed to clarify these effects in order to be more confident than the previous results.

Keywords:

tribulus terestris, supplement , performance of athletes

Investigation and Realization the Differences Among Three Key Obesity Treatment Methods: Bariatric Surgery, GLP-1 Receptor Agonists, and Very Low-Calorie Diets: A narrative review

Golara Kolahdooz, Sara Moradi, Mohammad Nosrati

Introduction:

Obesity represents one of the most significant public health challenges in the contemporary global context, with its prevalence exhibiting a consistent upward trend. Consequently, a comprehensive understanding of effective treatment modalities is imperative. Currently, three prominent approaches—bariatric surgery, GLP-1 receptor agonists (GLP-1 RA), and very low-calorie diets (VLCD) have garnered considerable attention within the medical community, each characterized by distinct advantages and potential adverse effects. The primary objective of this study is to conduct a comparative analysis of the efficacy of these three obesity treatment modalities and to evaluate their associated side effects.

Materials and Methods:

This review study employed a systematic search strategy across the databases PubMed, Google Scholar, and ScienceDirect, utilizing the keywords "VLCD," "Bariatric surgery," and "GLP-1 RA." The search encompassed peer-reviewed articles published between 2020 and 2025. Following a rigorous screening process involving titles, abstracts, and full texts, a total of four studies were deemed relevant and selected for in-depth analysis.

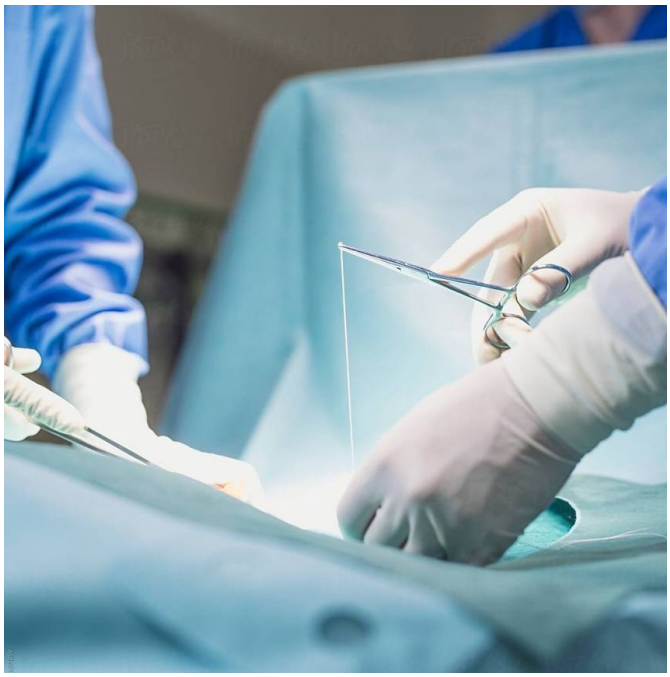
Results:

The reviewed literature delineated the functional disparities among the three obesity treatment modalities: VLCD, bariatric surgical procedures including Roux-en-Y Gastric Bypass (RYGB), Sleeve Gastrectomy (SG), and Adjustable Gastric Banding (AGB), as well as GLP-1 RA. The findings underscored the superior efficacy of RYGB in reducing Body Mass Index (BMI). Furthermore, the majority of the studies reported significant enhancements in dietary habits and quality of life among individuals who underwent surgical intervention.

Conclusion:

The findings from the majority of the reviewed studies suggest that the RYGB surgical procedure exhibits superior outcomes in terms of BMI and weight reduction. Nevertheless, given the influence of multiple variables such as surgical costs, potential complications, patient age, and other confounding factors on these results, there remains a critical need for more extensive research to support evidence-based decision-making in clinical practice.

Keywords:
VLCD, Bariatric surgery, GLP-1 RA



Effects of Betaine Supplementation on hormonal profile related with Athletes performance: A narrative Review

Negar Ghashghaei, Seyede Shima Shishebor Astaneh, Alireza Gheflati

Introduction:

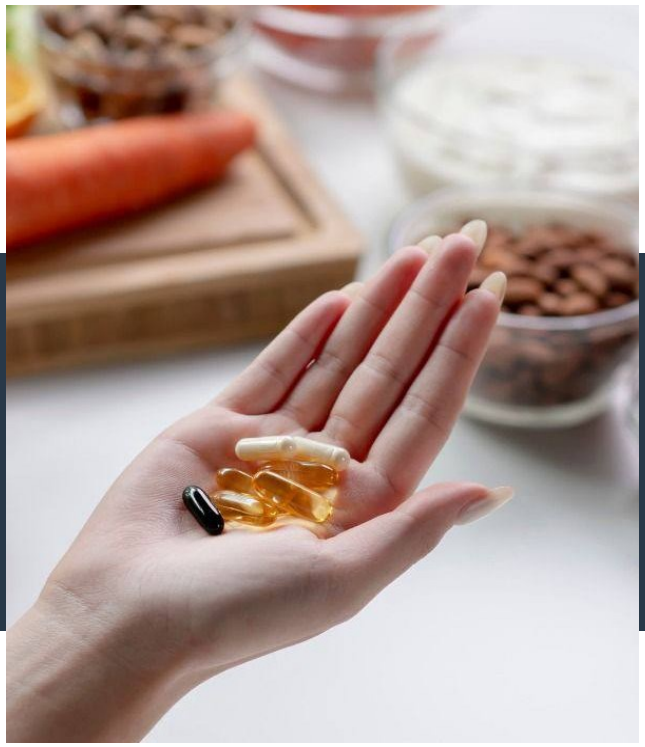
Betaine, a compound derived from choline, plays a role in cellular osmoregulation and methylation reactions and has gained attention as an effective supplement in sports nutrition. Evidence suggests that this compound can influence hormones related to stress, recovery, and muscle growth through metabolic mechanisms. Given the critical role of hormonal regulation in maintaining the anabolic-catabolic balance and enhancing post-exercise recovery, the aim of this study was to examine the effects of betaine supplementation on hormones influencing athletic performance.

Methods:

In this review study, the keywords "betaine", "hormonal profile", and "athletic performance" were searched in databases including Google Scholar, PubMed, and ScienceDirect. Relevant articles published between 2019 and 2025 were reviewed. Finally, we found four RCT articles.

Results:

According to the reviewed studies, betaine supplementation resulted in an increase in testosterone levels and T/C . However, GH levels did not show a significant change in response to betaine. Additionally, the findings related to cortisol and IGF-1 were inconsistent.



Conclusion:

Betaine supplementation may improve the hormonal status of athletes by increasing testosterone and the T/C ratio, potentially enhancing anabolic performance and post-exercise recovery.

Keywords:

Betaine, Hormonal Profile, Testosterone, Cortisol, T/C Ratio, Growth Hormone, IGF-1, Anabolic Performance

The Effect of Curcumin Supplementation on Athletes' Performance: A Narrative Review

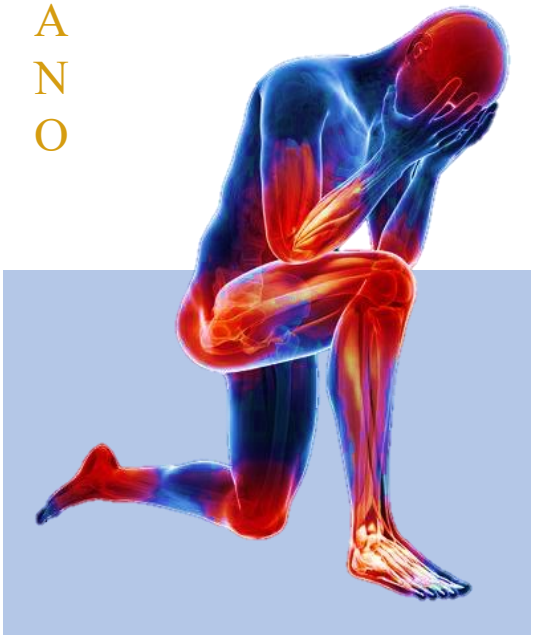
Parisa Shahrokhi, Melika Mojtahedzadeh, Alireza Ghafleti

Introduction:

Curcumin is a natural polyphenol derived from the rhizome of the Curcuma longa plant. Intense and prolonged physical exercise leads to inflammatory responses, increased concentrations of inflammatory cytokines, and elevated serum levels of creatine kinase. This damage can result in fatigue, muscle soreness, muscle injury, and decreased muscle strength. Given the rise in certain inflammatory factors and oxidative stress in sports, the aim of this study is to examine the impact of curcumin supplementation on athletes' performance.

Methods:

For this narrative review, we initially searched Google Scholar, PubMed, and ScienceDirect using keywords such as "curcumin," "athletic performance," "muscle strength," "inflammation," and "oxidative stress." We reviewed related articles published from 2019 to 2025. Ultimately, we identified four relevant RCT articles.



Results:

Curcumin supplementation may improve inflammatory markers such as α-TNF and oxidative stress indicators like 8-OHdG, MDA, TOS, and OSI, as well as markers of muscle injury and soreness such as LDH and CK.

Conclusion:

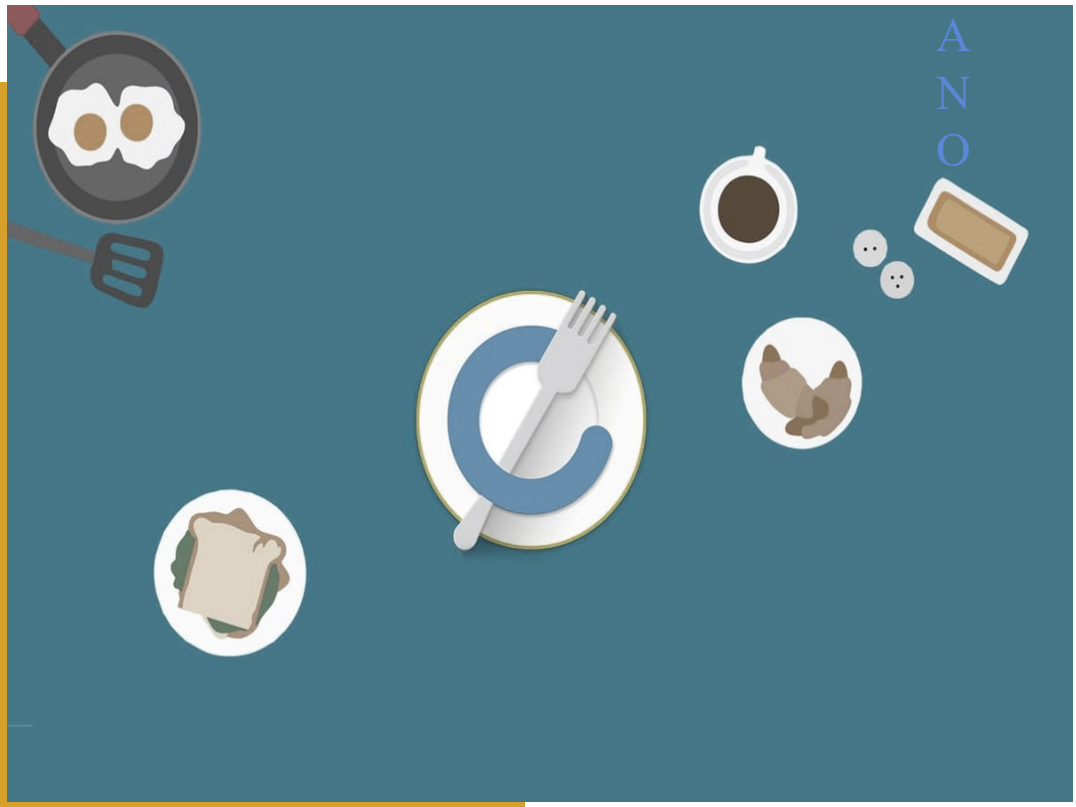
Curcumin supplementation can be effective in improving certain biomarkers related to inflammation, oxidative stress, and muscle injury. However, various factors such as gender, dosage of curcumin, type of exercise, intensity of exercise, etc., can influence these results. Therefore, more extensive and targeted studies are needed to achieve precise and applicable outcomes.

Keywords:

Curcumin, athletic performance, muscle strength, inflammation, oxidative stress

Design and evaluation of personalized nutrition web app in Iran

Mahsa Chaji, Pegah Farshchian, Fateme Moghbeli



Background and Aims:

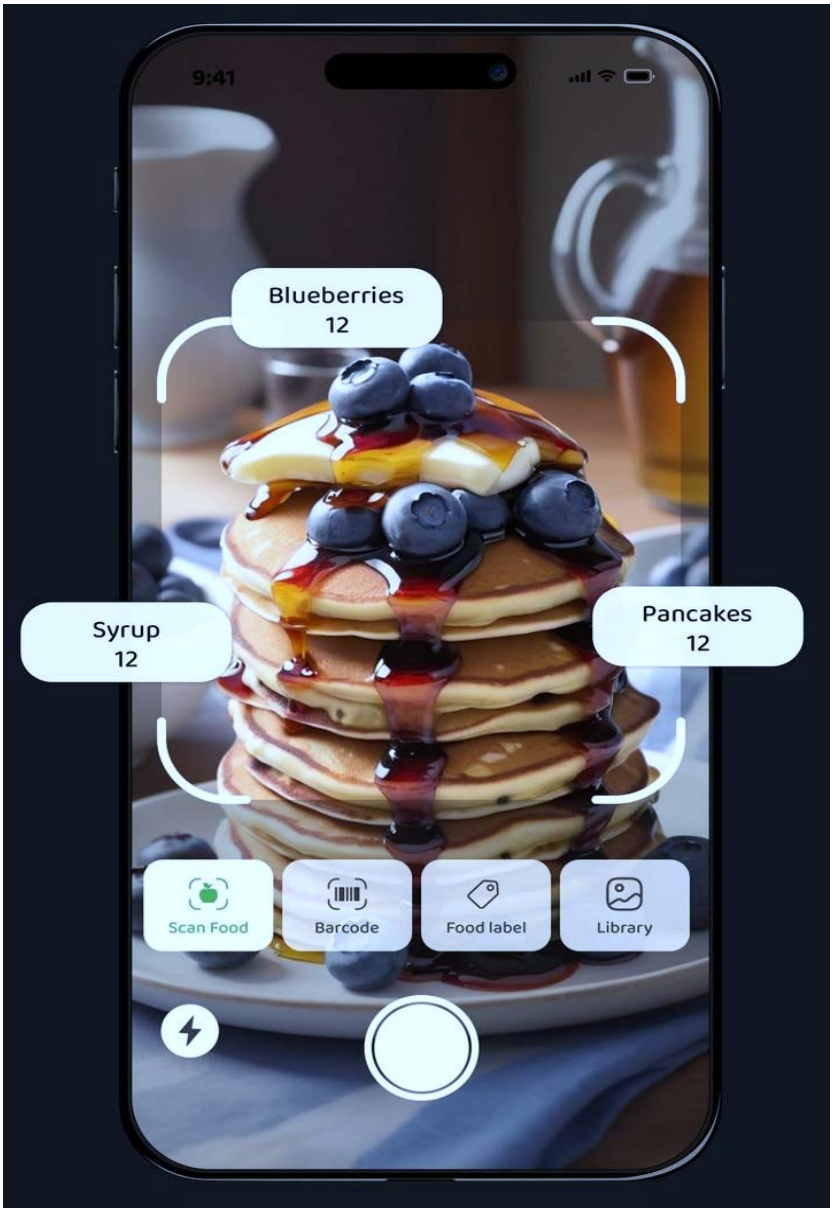
Personalized nutrition apps are effective in changing dietary behavior and diet-related health risk factors. The purpose of this study is to design and evaluate a personalized nutrition web app.

Materials and Methods:

This was a descriptive-cross-sectional applied study that first designed and then investigated the personalized nutrition web app using the heuristic evaluation method. In the first phase, the articles and web apps available in the field of personalized nutrition and providing them with diet were reviewed. Then the necessary variables for web app design were identified and registered in the data collection form and finally designed using Java and PHP. In the second phase, usability problems in different parts of the web app were discussed. Data analysis was done with SPSS version 26 software

Results:

In the first phase of the research, the web app's main page was designed based on the components of 24-hour consultations, experienced nutritionists, up-to-date articles and blogs. In the second phase, 56 problems were identified in the evaluation. In the end, all the problems identified in the web app were solved and it was given to the evaluators again, and in the end, a score of zero was assigned to all the components, meaning no problem.



Conclusion:

The design of many web apps in the field of nutrition, despite its wide use, has usability problems that affect the quality of user interaction with the web app Compliance with existing standards and rules in the design of web app user interfaces can reduce problems.icable outcomes.

Keywords:
personalized nutrition, web app, apps, web application, nutrition

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