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OPEN PEER REVIEW

The Effect of Short-term Administration of High-dose Vitamins E and C on Serum Creatine Kinase and Myoglobin in the Resting Phase of Elite Sanda Athletes: A Randomized Trial

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1 Original submission

1 comment · 25 Dec 2022

Referee 1 Reviewer

MAJOR REVISION 25 Dec 2022

Thanks to the authors for considering AJSM for their submission.
This manuscript describes a parallel, single-blinded randomized trial conducted to evaluate the short-term effect of high-dose vitamin C & E supplements on the prevention of muscle? in elite Sanda athletes. The study design is appropriate, but the manuscript needs major revisions according to the following points:
General comments
1. English editing
2. Scientific writing structure
3. There have been some similar studies on this topic, such as "Short-Term High-Dose Vitamin C and E Supplementation Attenuates Muscle Damage and Inflammatory Responses to Repeated Taekwondo Competitions: A Randomized Placebo-Controlled Trial" and "Effects of Acute Vitamin C plus Vitamin E Supplementation on Exercise-Induced Muscle Damage in Runners: A Double-Blind Randomized Controlled Trial". What are the novelty and added value of the present study?
4. The sample size of the study is small. What were the assumptions and formula used to calculate the sample size?
Abstract
5. The objective is incomplete: "We investigated the short-term effect of high-dose vitamin C and E supplements on muscle Prevention in elite athletes of the Sanda field". Prevention of what? Injury and damage? Why was this outcome not measured and compared between groups directly?
6. Method: Why were the two groups matched according to weight? Randomization matched the two groups in terms of identified and unidentified factors.
7. Results:
7.1. For the first sentence: When a variable is compared between two groups, the value for each group should be presented in parentheses, and then the p-value should be written after the mean values for the groups. If you want to compare the change in a value between two groups, this term should be added to the sentence. Moreover, the time of comparison should be mentioned.
7.2. P should be written as p-value throughout the full text.
7.3. The number of decimal places for all figures in the manuscript and tables should be the same.
7.4. For the last sentence: The before and after values of CK and myoglobin and the p-value should be added in parentheses.
8. It would be better for the study conclusion to be about CK and myoglobin.
Main Text
9. The background is long and should be summarized.
10. The Method section has an inappropriate scientific writing structure. It should be written according to the CONSORT guidelines and sections.
11. The RCT registration code should be added in the ethical consideration section.
12. Some detailed comments are attached in the manuscript PDF file.
Please address all questions and comments in a response-to-reviewer file. Furthermore, all changes in the manuscript should also be marked.

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Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Reviewer 1:

The manuscript needs corrections, especially corrections of methodology, statistical analysis and results. Comments are provided in the text of the article.

Reviewer 1's comments have been modified in the "Reviewers' Comments" file and can be viewed.

Reviewer 2:

Thanks to the authors for considering AJSM for their submission. About this manuscript, it can be noted that is a parallel single-blinded randomized trial that conducted to evaluate the short-term effect of high-dose vitamin C & E supplements on prevention of muscle? in elite athletes of the Sanda. The design of study id appropriate, but it needs major revisions according to following points:

1. English edition

The English editing of the article was done by Article X Company.

2. Scientific writing structure

The written method was modified based on the CONSORT guidelines.

3. There were some similar studies on this topic such as "Short-Term High-Dose Vitamin C and E Supplementation Attenuates Muscle Damage and Inflammatory Responses to Repeated Taekwondo Competitions: A Randomized Placebo-Controlled Trial" and "Effects of Acute Vitamin C plus Vitamin E Supplementation on Exercise-Induced Muscle Damage in Runners: A Double-Blind Randomized Controlled Trial". What is novelty and added value of present study?

Elite athletes experience more muscle damage after intense training and competition. Our research showed that most of the studies were conducted on non-athletes or amateur athletes. We found a study that was done on professional taekwondo athletes. Sanda competitions such as Taekwondo features fighting. For this reason, we decided to conduct this research so that our findings and the research related to Taekwondo can be evaluated and used by other researchers.

4. Sample size of study is small. What were the assumptions and formula for calculation of sample size?

To determine the sample size of this research, we referred to the article with the following address:

Chou C-C, Sung Y-C, Davison G, Chen C-Y, Liao Y-H. Short-term high-dose vitamin C and E supplementation attenuates muscle damage and inflammatory responses to repeated taekwondo competitions: a randomized placebo-controlled trial. International journal of medical sciences. 2018;15(11):1217.

In addition, by using G*Power software version 3.1.9.2 and considering the effect size = 0.7, alpha error probability = 0.05, and the statistical power of the test = 0.9, the total sample size is determined by 20.

5. Objective is incomplete: "We investigated the short-term effect of high-dose vitamin C and E supplements on muscle Prevention in elite athletes of the Sanda field". Prevention of what? Injury and damage? Why this outcome not measured and compared between groups directly?

Thanks to your comment, we modified the "Objective" as follows:

“We investigated the short-term effect of high-dose vitamin C and E supplements on the serum levels of creatine kinase and myoglobin in elite athletes of the Sanda field at rest.”

6. Method: Why two groups matched according to weight? Randomization matched two groups in terms of identified and unidentified factors.

As you know, Sanda sport consists of ten competitive weights. These weights include -52, -56, -60, -65, -70, -75, -80, -90, and +95 kg. We randomly put two competitive athletes in each weight into one of the research groups (draw).

7. Results:

7.1. For first sentence: When a variable to be compared between two groups, the value of each groups should be presented in the parenthesis, and then, p-value should be written after mean value of groups. If you want to compare the change value between two groups, this term should be added in the sentence. Moreover, the time of companion should be mentioned.

P-values were added in the text based on the reviewer's opinion.

7.2. P should be written as p-value in the full-text.

P-values were added in the text based on the reviewer's opinion.

7.3. The decimal number of all figures in the manuscript and tables should be equal.

The decimal numbers of all figures in the manuscript and tables were revised again.

7.4. For last sentence: The before and after values of CK and myoglobin and p-value should be added in the parenthesis.

We added the values before and after CK and myoglobin and p-value in parentheses.

8. It is better that the study conclusion be about CK and myoglobin.

We slightly changed the conclusion section.

9. Background is long and should be summarized.

The introduction was summarized.

10. Method section was written with inappropriate scientific writing structure style. It should be written according to CONSORT guideline and sections.

The written method was modified based on the CONSORT guidelines.

11. RCT registration code should be added in the ethical consideration section.

This research has the code of ethics committee in research, which is presented at the end of the methodology section.

12. Some detailed comments attached in the manuscript pdf file.

Thanks

2 Revision 1

1 comment · 8 Apr 2023

Referee 1 Reviewer

ACCEPT 8 Apr 2023

Thanks to the authors for the appropriate revision of the manuscript.
Currently, it is suitable for publication in the ASJSM.