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Peer Review Report for "The Effect of Non-prescription Orthotics on Walking Gait in Participants with Excessive Pronation"

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Review Timeline:

‣ Submit Date:	14 Sep 2022
‣ Revised Date:	17 Oct 2022
‣ Accepted Date:	17 Oct 2022

Revision (0)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: EIC | **Revision (0)**   17 Oct 2022

Revision 0:

Reviewer 1:

Comments:

The title of the research is attractive and its approach is practical, but it is better to correct the comments mentioned below to strengthen the work as much as possible.

- Abstract section: Instead of putting the objectives of the research in the first part, it is better to state a background or such research and then put the research aim.
- P-values should be mentioned in the results section of the abstract.
- Check the keywords based on the mesh standard.
- In the first paragraph of the introduction, you should refer to the references related to the contents. Some parts don't have references.
- In the final references section of your research, there are some sources related to the last 30 years. If possible, replace them with more up-to-date sources, especially from the last three years.
- One of the weaknesses of this work is not having a control group, probably because of the

limitations of your research, so state it in the limitations of your research.

- In the discussion part, compare your results with other studies and justify the differences, and states the mechanism involved in obtained results.

Reviewer 2:

The research ideas are interesting, but there are some mistakes in the research.

1- Introduction:

- Have a practical definition for Pronation in the introduction part.

- Focus more on research necessity.

- Have some references to relevant literature of the research title.

2- Method:

- Please kindly refer to the reasons for recruiting such a low sample size (n = 12). Is it possible to generalize the results by this low number of participants? On the other hand, 10 men and 2 women? How do you justify the inequity in the number of genders?

Comments:

- Name the exact brand of high-speed Vicon infrared cameras.

3- Results

- If possible, it is better to use figures to show some parts of the results.

- In Table 1, please insert the t-value in the last column of the table.

3- Discussion:

State study limitations in a paragraph and have some suggestions for future studies.

AE:

Dear Authors

Please kindly provide appropriate responses (point-by-point in red color) and justify the vague points raised by respected reviewers.

EIC:

Major revisions are needed. Please send the revised version of your manuscript for the further review process.

Reply to respected reviewers

Dear EIC,

Thank you for providing an opportunity to answer the comments and special thanks to the constructive comments of the editorial team which helped us to improve the work. We did our best to answer all points carefully and hopefully, it makes respected reviewers satisfied.

Revision 1

Reviewer 1:

The title of the research is attractive and its approach is practical, but it is better to apply the comments mentioned below in order to strengthen the work as much as possible.

1- Abstract:

- Instead of putting the objectives of the research in the first part, it is better to state a

background or such research and then put the research aim.

Response: done

2- P-values should be mentioned in the results section of the abstract.

Response: done

3- Check the keywords based on the mesh standard.

Response: Checked and arranged based on Mesh standard.

4- In the first paragraph of the introduction, you should refer to the references related to the contents. Some parts don't have references.

Response: All independent contents were referenced.

5- In the final references section of your research, there are some sources related to the last 30 years. If possible, replace them with more up-to-date sources, especially from the last three years.

Response: Some Old references were removed and some up-to-date sources were added.

6- One of the weaknesses of this work is that it doesn't have a control group, probably because of the limitations of the research, so please state it in the limitations of your research.

Response: As mentioned in the study limitations, it wasn't possible to have more groups and we have put it as a study limitation.

7- In the discussion part, compare your results with other studies and justify the differences, and states the mechanism involved in obtained results.

Response: Such a sentence were added: "It seems that, unlike other results, non-prescription orthotics destroyed the effect of running shoe for knee flexion. Because all three differences in this study happened when running shoe was on. But it is just a hypothesis and may not be correct and have some other reason such as an error in data. More studies should be done to help us understand better this result"

Reviewer 2:

The research ideas are interesting, but there are some mistakes in the research.

1- Introduction:

- Have a practical definition for Pronation in the introduction part.

Response: It was added in the first paragraph of the introduction.

- Focus more on research necessity.

Response: Generally, there have been very few articles regarding the effect of non-prescription orthotics on walking gait in people with over-pronation. The following sentences were added.

"There are few studies that looked at the effect of prescription orthotics in walking in terms of gait velocity and walking joint moment. Also, there are some others that looked at angular changes in lower body segments. For example, Genova and Gross looked at the effect of prescription orthotics on eversion during standing and walking treadmill in people

with overpronation".

-Have some references to relevant literature of the research title.
Response: Done and highlighted with red color.

2- Method:
- Please kindly refer to the reasons for recruiting such a low sample size (n = 12). Is it possible to generalize the results by this low number of participants? On the other hand, 10 men and 2 women? How do you justify the inequity in the number of genders?
Response: We have pointed out that a low no of participants is considered as our study limitations and recommend for future studies have more subjects

- Name the exact brand of high-speed Vicon infrared cameras.
Response: Ten high-speed Vicon infrared cameras [MX T-Series (T40-S) Camera].

3- Results:
- If possible, better to use figures to show some parts of the results.
Response: Due to the high no of variables, It wouldn't be possible to include all in separate figures.
In Table 1, insert the t-value in the last column of the table.
Response: Added to Table 2

4- Discussion:
- State study limitation in a paragraph and have some suggestions for future studies.
Response: The following was added.

More studies should be done to help us understand better this result. There were some limitations in this study. First, our sample size was not big enough. We would have more reliable results if there were more volunteer participants in this study. Second, both the mean average age and height of participants, which are seen as important factors in our analyzing factors, had many differences, and this might be one of the reasons for not having our predicted results. Because people of different ages are not treated or walking the same. In fact, we were limited to having participants all with the same gender, height, and age. And, we could not provide all the participants with the same running shoe. They all had their own running shoe with different styles and features, such as Different cushioning, length, and flexibility. There were some errors in data and, we had to do some events manually for all trials. Doing events manually can cause misjudgment and impress our final results.

Reviewer 1:
- All the raised comments are done and now it's Accepted

Reviewer 2:
- Accepted

AE:

Now, it seems that the work is strengthened and qualified to be published.

EIC:

While appreciating the esteemed authors for their responses and the support of the AE, it seems that the quality of the work has been well increased and the article can be published.