

Letter to Editor: “Combined aerobic and strength training improves dynamic stability and can prevent against static stability decline in postmenopausal women: A randomized clinical trial”

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Dear Editor,

First and foremost, we express our gratitude towards the authors for their clear and concise description of the positive effects of aerobic and strength training on dynamic stability.⁽¹⁾ Additionally, their ability to provide a focused and informative introduction section is commendable. The study piqued our interest in further exploring the benefits of aerobic and strength training in enhancing balance, posture, and gait patterns in postmenopausal women. We would like to draw attention to a few methodological and statistical issues that are pertinent to the study, as this would enable medical professionals involved in the rehabilitation of postmenopausal women to effectively utilize the study's findings.

According to the guidelines outlined in the journal, the title should not exceed a maximum of 15 words. However, the title in question surpasses this limit and presents confusion for the readers. This is due to the fact that, in the background section, only terms related to posture and gait were utilized. Nevertheless, there exist various parameters that could be incorporated into the concept of dynamic stability, such as balance, equilibrium, and coordination. Another salient aspect that the authors should bear in mind is the necessity for word usage to be well-balanced. One particular inconsistency arises from the utilization of the term “randomized clinical trial” in the title, “control trial” in the abstract, and “controlled” in the methods section. Such discrepancies in terminology can undoubtedly lead to confusion among the readers. Furthermore, in the conclusion section of the abstract, the authors mentioned improved gait and balanced control in older women, which does not align with the objective of the study.

In the third paragraph of the methods section, the authors have provided a detailed account of the reasons for participant dropouts. In order to mitigate this issue, the authors could have employed interim analysis⁽²⁾ or intention-to-treat analysis,⁽³⁾ both of which would have enhanced the feasibility of this study. In the section pertaining to sample size estimation, the authors have furnished the values of partial eta square, albeit without any citation. Furthermore, the method employed for determining the sample size remains unspecified, thus potentially leading to confusion. Upon entering all these values into the G* Power 3.1.9.7 software, the estimated sample size was determined to be 952 (with 476 participants in each group), a figure that deviates from the sample size mentioned.

The inclusion of the effect size is essential in order to obtain comprehensive results. Therefore, we have incorporated the effect size values of the outcome measures utilized in the study into the Table. The effect size for the outcome measures was determined using the subsequent formula: $[M1 - M2/SDPooled]$. The power of the study was assessed using G*Power software ver. 3.1.9.7 (Heinrich-Heine Universität Dusseldorf, Dusseldorf,

Germany; <http://www.gpower.hhu.de>), which estimated the post hoc power analysis for the effect size of the outcomes.⁽⁴⁾ From the table 1, it becomes evident that these measures cannot be adequately discussed due to insufficient power.

Table 1. Effect size and power for the measures [Body weight, muscle strength, abdominal, and aerobic capacity]

| Measures | Effect size-Control Group | Power-Control Group (%) | Effect size-CT Group] | Power-CT Group (%) |
|------------------|---------------------------|-------------------------|-----------------------|--------------------|
| Body weight | 0.04 | 60 | 0.05 | 0 |
| Muscle strength | 0.57 | 42 | 0.29 | 18 |
| Abdominal | 0.23 | 36 | 0.75 | 60 |
| Aerobic capacity | 0.07 | 70 | 0.74 | 90 |

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Reply to:

Combined aerobic plus strength training improves dynamic stability and can prevent against static stability decline in postmenopausal women: A randomized clinical trial

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Dear Editor,

We read with interest the comments of Kaur and Kumar about the few methodological and statistical issues pertinent to our study "Combined aerobic and strength training improves dynamic stability and can prevent against static stability decline in postmenopausal women: A randomized clinical trial".

In summary, we have demonstrated that Combined Aerobic and Strength Training is safe when administered by trained, experienced, rehabilitation professionals and this training strategy can improve dynamic stability in postmenopausal women. It is very important to highlight that the approved version of our paper was reviewed by the *Revista Brasileira de Ginecologia e Obstetrícia* and the study was registered in the Brazilian database of clinical trials [RBR-9CBP8S].

We believe that our title highlights the importance of the study and included the theme, method of training used, sample and results of our study, as suggested by Woods and Sikes.⁽¹⁾ Furthermore, we understand the importance of different terminologies used in the literature about gait and balance control. In the current study, we choose the terminology "postural control" and "gait performance", since these terms reflect our main objective. Regarding the use of different terms related to "randomized clinical trial", our intent was to use synonyms to prevent word repetition.

Regarding the Methods, the inclusion criteria were postmenopausal women with ages between 50 and 79 on the date of the evaluation. Since the average was 59.3 ± 8.0 years old, we also had participants over 60 yrs old, therefore, older women were included. We understand about the value of intention-to-treat analysis. However, it is prohibited to pay for participants to be rewarded for commitment to clinical trials in Brazil so we have difficulty motivating participants to return to the study after they drop out of the intervention. In addition, the power sample was calculated for the primary outcome (gait velocity). Unfortunately, it would be very difficult and expensive to conduct an exercise intervention study over 16 weeks with 476 participants in each group. Therefore, we have focused the power on the primary outcome. We are confident in our findings and the importance of this study for postmenopausal women.

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