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Photobiomodulation therapy and the clinical reality in Brazil: response to the letter to the editor

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We are extremely honored to know that our work has a wide reach within the area of photobiomodulation therapy. We understand the questions and conflicting points raised by the authors of the Letter to the Editor and consider them important. However, we consider that some caveats and explanations are necessary in response.

In terms of the disputes concerning the dose used in our research [1] and the study used as reference, we have used the study by Hegedus et al. [2] as the basis for defining the location and points for irradiation since the establishment of our first intervention protocol [3], as well as in another randomized clinical trial with a similar theme [2], which is already published.

Hegedus et al. [2] applied 6 J to each of the 8 points located on the knee of his volunteers. We adapt these same points and replicate those same Joules. It is quite true, using equipment with different characteristics. Our central idea, not only in relation to photobiomodulation therapy, is that a randomized clinical trial should reproduce normal clinical conditions, especially with respect to the use of therapeutic resources, in order to guarantee greater external validity of the results obtained. Thus, we selected photobiomodulation devices that are commonly used in clinical practice in Brazil.

In this way, we replicate doses and application points of a previously published study [2]; really using equipment with different and even inferior characteristics when compared to other studies. However, at no time do we hide the equipment's characteristics. We assume this study limitation. In our country, most of the photobiomodulation devices regulated and available for clinical use by rehabilitation professionals do not present similar characteristics to those used in several other clinical studies already published, for example: non-compatibility for the use of clusters and low power equipment.

As previously highlighted, we prefer to use the reference of a double-blind, randomized, placebo-controlled trial [2]. Therefore, we chose not to replicate the recommendations of the World Association for Laser Therapy (WALT) [4]. In particular, we did not mention the highlighted meta-analysis [5], as we did not have access to it during the preparation and finalization of the manuscript. However, without a doubt it will be in our future manuscripts.

We also highlight that most of the researchers in our group have at least six other randomized controlled trials published [6–11], all of them with themes related to the effectiveness of therapeutic resources directed to musculoskeletal rehabilitation. From the experience acquired during these studies, we have adopted methodological processes that are judicious and necessary for the development of a randomized clinical trial of excellent quality. Among these processes, we highlight the routine checking, calibration and testing of devices used in clinical research.

Finally, we reiterate our understanding of the need for scientific discussion and consider the questions raised to be important. However, our aim was to carry out a randomized clinical trial as close as possible to the clinical reality in Brazil, for the management of signs and symptoms of patients with knee osteoarthritis.

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Authors' contributions
The author(s) read and approved the final manuscript.

Competing interests
The authors declare that they have no competing interests.

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