

Response to Reviewers

Dear editors and reviewers, thank you all for making valuable suggestions towards the improvement of our manuscript.

- **Reviewer #06250380**

Detail of Review

Reviewer Name: Anonymous

Review Date: 2022-03-25 00:54

Specific Comments To Authors: *"Authors should strongly justify the necessity to conduct the described research. This part of the introduction is insufficient. Both, in the introduction and in the discussion, the following paragraphs are often thematically unrelated. Authors should take care of the quality of the text. PBM is a non-invasive therapeutic modality with demonstrated effects in many fields related to regenerative medicine. PBM may offer medical experts ease of application, non-invasiveness, financial viability, efficacy, and lack of serious adverse events, it may prove to be a suitable ally in the management of mild to moderate degrees of OA. Overall, the manuscript has a relatively wide coverage, and the content is novel and interesting. But, figures 1- -4, figure legends and notes should be provided."*

Scientific Quality: Grade C (Good)

Language Quality: Grade A (Priority publishing)

Conclusion: Minor revision

Response to reviewer #06250380

Dear reviewer, thank you for taking the time to review our manuscript. According to your suggestions, we made some modifications to the abstract and introduction. Figures 1 – 4 now have legends.

- **Reviewer #05731995**

Detail of Review

Reviewer Name: Anonymous

Review Date: 2022-03-24 21:23

Specific Comments To Authors: *"The abstract section looks like a background section. It needs to be re-written summarising the paper and stating the aim of this review. The introduction started by defining the Photobiomodulation without providing a reference to where this definition came from. The abbreviations of the terms are reversed. For example, the paper states "LASER (Light Amplification by the Stimulated Emission of Radiation)". This is incorrect academic use of the abbreviation. It should be Light Amplification by the Stimulated Emission of Radiation (LASER). PBM abbreviation should be defined at the first instance in the introduction. It is not sufficient to define it in the abstract. There are many appropriate uses of English and in appropriate academic writing style. For example, the authors should not start a new paragraph say, "This orthopedic disorder is still listed...." What is referred to by the term "This" while it is the first sentence in the paragraph? The introduction is lacking focus. I struggle to understand what the authors are trying to explain. The review is about photobiomodulation. Therefore, the introduction should basically define it, provide some history, then explain potential benefits and risk. There is no need for a lengthy unclear introduction. I would have expected some details about if this treatment is recommended by some guidelines or not. The second section "THE ORIGINS OF PBM" starts by vague question that does not make sense. There are many sentences that are not references while they should be, especially in "PARAMETERS". For example, how did the author know that "LLLT typically employs the use of light in the red or near-infrared region, where the wavelengths fall in between 600 to 700nm, and 780 to 1100 nm". Where did this information come from? This is a review, not a primary research data. Therefore, it would be expected that these details are supported with evidence not based on the authors' opinion or expertise. There are many problems in the sentences structure and many sentences are too long. Although this is a review not a systematic review, it would be expected that the authors would provide a method section describing the search strategy on how they identified the papers that they used to discuss the review."*

Scientific Quality: Grade D (Fair)

Language Quality: Grade C (A great deal of language polishing)

Conclusion: Major revision

Response to reviewer #05731995

Dear reviewer, thank you for taking the time to review our manuscript. We fixed the abstract in order to provide a more accurate summary of the manuscript.

We apologize for forgetting to insert the reference after providing the definition of PBM. This has been rectified.

Dear reviewer, we apologize again but we do not understand your confusion regarding the abbreviation of Light Amplification by the Stimulated Emission of Radiation (LASER). This is exactly what we wrote in the introduction, we do not see how there was any form of reversal.

The abbreviation of PBM has now been defined in the introduction as well. Thank you for bringing that to our attention.

The purpose of the introduction is to explain what PBM is and introduce its benefits which are dissected in the corresponding sections of the manuscript. We do agree that some bits of text were not really necessary; therefore we decided to eliminate a considerable amount of words from the introduction. Thank you for bringing that to our attention.

We understand that guidelines would be appreciated but we inserted a paragraph in the introduction explaining that there is still a lack of consensus in the literature regarding a “best practice” or gold standard treatment. There is a lot of heterogeneity surrounding PBM; there are different wavelengths, power densities, area irradiated and many other parameters which make classification and standardization of this technique a difficult task. We did, however, create tables based on the work of other authors raising considerations for physicians before utilizing this tool. The existing guidelines were created for different procedures and objectives. More robust guidelines for osteoarthritis, specifically, still need development.

Origins of PBM – The first sentence is not a question, it is an affirmation; there is no question mark. This section of the manuscript is meant to provide background on how PBM came to existence, and it does. We cited the original study that led to advances in phototherapy.

Parameters – We inserted the reference for this statement. We apologize.

We agree. A methods section is a great addition to the manuscript. We have inserted a methods section describing the search strategy.

Dear author, once again thank you very much for your constructive feedback.