Dear reviewers, thanks for your valuable contribution to this manuscript.

Dear reviewer, we kindly appreciated your valuable comments concerning the manuscript content. However, the manuscript was not published before in another journal. Research Square is a multidisciplinary preprint platform [1]. Preprints are preliminary reports that have not undergone formal peer review [1]. In this manuscript, as an innovative study during the pandemic scenario, we decided to share our findings with the research community as soon by preprint platform before to submite to peer-review in a formal journal.

[1] Research Square. Preprint Platform. Available: https://www.researchsquare.com/researchers/preprints.

1. Line 86. "Two experienced rheumatologists and a rheumatology physician with extensive experience with patients 86 with COVID-19 performed the patient eligibility procedure." What is the difference between experienced rheumatologists and a rheumatology physician?

Dear reviewer, thanks for your valuable suggestions. We wrongly mentioned that the initial patients was screeninned by two rheumatologits without COVID-19 experience, and as third reviewer of the patient's screening was performed by a frontline rheumatologist wih extensive experience with patients with COVID-19. Your suggestions was applied in the manuscript content line 86 "Two experienced rheumatologists performed the initial patient's screening and a final review a frontline rheumatology with extensive experience with patients with COVID-19 performed the patient eligibility procedure.

2. Lines 201-202-203: UNCLEAR. "Priming effects are the result of increased functional connectivity due to neurotransmitter release, which cases increased cortical excitability in the primary cortex and influences pain processing (43-45)." I am not sure I understand "which cases…"

Dear reviewer, thanks for the suggestion. We applied the changes to the manuscript (see line 202).

3. Line 209. The present study's limitations include its limited sample size and lack of a control group.: Indeed, these are two major issues. Sample size and control group. Difficult to draw conclusions on 8 patients (one could not be finalized due to isolation). One could have used a non-COVID infected SARD group as a control group and even made it to a double-blind study where the reviewers would not know who was COVID-infected and who wasn't. Moreover, with such a large patient base as you mention in your manuscript, it should be feasible to select a matched control group of vaccinated non-COVID-infected SARD and maybe another vaccinated COVID-infected SARD group and see their results on a similar Design.

Dear reviewer, thanks for your valuable suggestion. We added the change in the manuscript as future studies (see lie 220-221).

4. I would suggest changing the title to: "Transcranial direct current electrical stimulation in combination with aerobic exercise: a pilot study in post-COVID-19 systemic autoimmune rheumatic patients". The tile should reflect the pilot nature of the work and should not make a statement on such a small cohort without a control group.

Dear reviewer, thanks for your valuable suggestion. We applied the changes to the manuscript.

(1) Science editor:

I suggest you explain in your manuscript why your current study protocol is different from your protocol on clinicalTrial.gov
Language Quality: Grade B (Minor language polishing)
Scientific Quality: Grade C (Good)

Dear science thanks for your suggestion. We added yor suggestions in line 73 and 74.

(2) Company editor-in-chief:

I have reviewed the Peer-Review Report, the full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Rheumatology, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office's comments and the Criteria for Manuscript Revision by Authors. Before its final acceptance, please upload the primary version (PDF) of the Institutional Review Board's official approval in official language of the authors' country and the Signed Consent for Form(s) or Document(s) to the system. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to

ensure that all graphs or arrows or text portions can be reprocessed by the editor. In order to respect and protect the author's intellectual property rights and prevent others from misappropriating figures without the author's authorization or abusing figures without indicating the source, we will indicate the author's copyright for figures originally generated by the author, and if the author has used a figure published elsewhere or that is copyrighted, the author needs to be authorized by the previous publisher or the copyright holder and/or indicate the reference source and copyrights. Please check and confirm whether the figures are original (i.e. generated de novo by the author(s) for this paper). If the picture is 'original', the author needs to add the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT): Copyright ©The Author(s) 2022. Before final acceptance, when revising the manuscript, the author must supplement and improve the highlights of the latest cutting-edge research results, thereby further improving the content of the manuscript. To this end, authors are advised to apply a new tool, the RCA. RCA is an artificial intelligence technology-based open multidisciplinary citation analysis database. In it, upon obtaining search results from the keywords entered by the author, "Impact Index Per Article" under "Ranked by" should be selected to find the latest highlight articles, which can then be used to further improve an article under preparation/peer-review/revision. Please visit our RCA database for more information at: https://www.referencecitationanalysis.com/.

Dear editor, thanks for your suggestion. We applied the changes in the manuscript.