Response Letter manuscript WJO- 65041

High- and low-intensity percutaneous electrolysis short-term effectiveness in patients with Patellofemoral Pain Syndrome: A pilot study

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 Orthopedics, 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. The title of the manuscript is too long and must be shortened to meet the requirement of the journal (Title: The title should be no more than 18 words).

Response: Thank you for considering this manuscript for publication in the WJO. As suggested, I modified the title to meet the journal requirement.

Science Editor

The language classification is Grade C. Please visit the following website for the professional English language editing companies we recommend: https://www.wjgnet.com/bpg/gerinfo/240;

Response: Ms. Umut Varol is qualified to verify that all documents are well written. This certification was attached.

The "Author Contributions" section is missing. Please provide the author contributions;

Response: This statement has been added

The authors did not provide original pictures. 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;

Response: Original figures are provided.

PMID and DOI numbers are missing in the reference list. Please provide the PubMed numbers and DOI citation numbers to the reference list and list all authors of the references. Please revise throughout; and

Response: We reviewed the reference list according with the Science Editor recommendations.

The "Article Highlights" section is missing. Please add the "Article Highlights" section at the end of the main text

Response: Highlights have been added.

Reviewer #1

Thank you for the opportunity to review this manuscript submitted to the World Journal of Orthopedics. This pilot study sought to determine the effects of various needling techniques in the management of trigger points in persons with patellofemoral pain. Below, please see my comments which I had regarding your manuscript which I hope can be used to enhance the quality of your paper.

Response: Thank you for your valuable comments. Here you can find the response point by point.

I see a single author listed for this manuscript, however numerous other individuals were listed as blinded assessors or assistants. Why were they not involved in the authorship?

Response: Both assistants declined their authorship since they considered not enough participation in this study. Both co-authors have been added.

The questionable validity and reliability of trigger point palpation should be presented, since the intervention and results are based on investigator palpation (Rathbone, Clin J Pain 2017; Myburgh, Arch Phys Med Rehabil 2008).

Response: I agree the reviewer with this consideration. However, recent studies (e.g. Rozenfeld E, Finestone AS, Moran U, Damri E, Kalichman L. Test-retest reliability of myofascial trigger point detection in hip and thigh areas. J Bodyw Mov Ther. 2017 Oct;21(4):914-919. doi: 10.1016/j.jbmt.2017.03.023.), reported acceptable intra- and inter-examiner reliability in this specific location when examiners are experienced and therefore palpation evaluation can be used for clinical diagnosis of MTrP's in the thigh muscles.

Please describe how you calculated the needed sample size. Was a power analysis done? While you say this is a pilot study, I fear this study is under powered. You mention a small sample in future directions, but this needs to be further explained.

Response: I agree the reviewer with this consideration. Since this is a pilot study, the aim was to obtain the effect size needed for the sample size calculations to be able to conduct the full study with proper power. All the sample size calculations are performed by using the software G*Power v.3.1. (Mac OS)

Considering the PPT as our primary outcome and setting the effect size f to 0.314 (since eta-squared =0.09); α=0.05; 3 groups; and 3 measurements and correlation among repeated measures= 0.3, a sample size of 39 subjects is needed to obtain >0.90 of power.

The title speaks to effects on pain management, but you do not mention DN which was also effective. Also, you capture pain only with a subjective report. You could say PPT measures pain sensitivity, but you would also have to demonstrate that pain-free individuals have higher PPT than others, which may or may not be the case (Rio, Pain Med 2018). It may better reflect the study to say immediate changes in reported pain sensitivity?

Response: Thank you for these comments. The title was completely modified according with these recommendations.

Regarding the PPTs as indicators of pain sensitivity, we clarified this point based on this reference: van der Heijden RA, Rijndertse MM, Bierma-Zeinstra SMA, van Middelkoop M. Lower Pressure Pain Thresholds in Patellofemoral Pain Patients, Especially in Female Patients: A Cross-Sectional Case-Control Study. Pain Med. 2018 Jan 1;19(1):184-192. doi: 10.1093/pm/pnx059

Line 75: effective how? Pain or function? Navarro-Santana MJ, Clin J Pain 2020 suggests DN is not effective for all variables tested. 'the evidence' you mention is a single study?

Response: We clarified this affirmation mentioning the specific variables analyzed in this systematic review.

I would like to thank the reviewer for this reference. However, I think that this reference is assessing Percutaneous Electrical Nerve Stimulation rather than DN or Percutaneous Electrolysis.

Dry needling and trigger point dry needling should not be confused, as TDN speaks to a specific type of approach, whereas a number of approaches fit under the umbrella of DN. Please clarify in your introduction.

Response: I clarified this point in line 75

Line 86-9: This should be followed by a statement noting the clinical/therapeutic utility. Why would someone use it in clinic?

Response: Thank you for this comment. I added one reference reporting that PE could potentially be more effective than DN in musculotendinous approaches: Rodríguez-Huguet M, Góngora-Rodríguez J, Lomas-Vega R, Martín-Valero R, Díaz-Fernández Á, Obrero-Gaitán E, Ibáñez-Vera AJ, Rodríguez-Almagro D. Percutaneous Electrolysis in the Treatment of Lateral Epicondylalgia: A Single-Blind Randomized Controlled Trial. J Clin Med. 2020 Jul 1;9(7):2068. doi: 10.3390/jcm9072068

Between lines 92 and 93, there needs to be more to bridge the purpose statement. Why would you look at PPT and how is it relevant in this population? Why would trigger points be relevant to this population and what would exploration do to improve clinical management?

Response: We clarified this in the last introduction paragraph: "Since a previous study proposed that treatment of MTrP may be an effective way to diminish the pain associated with PFPS [6],"

Participants: were they allowed to take medication during the study? Last 48 hours? Were they treated elsewhere for PFP in recent months? Does 'any musculoskeletal or neuropathic condition' include concomitant conditions – PFP is a musculoskeletal condition.

Response: We clarified these points in the "Participants" subheading: "Exclusion criteria included being under pharmacological (e.g., analgesics) of physiotherapy treatment 7 days prior to their participation or during this study, needle fear, prior lower extremity or spine surgery, absence of pain, any musculoskeletal or neuropathic condition (e.g., peripheral compressive neuropathy, radiculopathy, sarcopenia, fiber ruptures…), traumatic injuries (e.g., fractures or fissures), or any medical condition or contraindication for needling treatment (e.g., anticoagulant)."

Please explicitly state participants were blinded to group allocation, if they were. Similarly, explicitly state the assessor was blinded.

Response: "Participants, examiner and rater were blinded to the allocation group."

Line 132-3. Please rephrase hyperalgesic – which speaks to peripheral/central sensitization rather than most painful. Active trigger point – meaning that it was recreating a characteristic pain report? Was it the typical PFP complaint?

Response: "Hyperalgesic" was modified to "most painful".

According with the reference cited in-text, an active trigger point was considered as "the myofascial trigger point that causes a clinical pain complaint. It is always tender, prevents full lengthening of the muscle, weakens the muscle, refers a patient-recognized pain on

direct compression, mediates a local twitch response of muscle fibers when adequately stimulated, and, when com- pressed within the patient's pain tolerance, produces referred motor phenomena and often autonomic phenomena, generally in its pain reference zone, and causes tenderness in the pain reference zone."

Be more specific with the discussion on needling. The lack of these specifics would make it hard to replicate.
a) They all participants have a twitch response?
b) Did you piston the needle until a twitch was found?
c) It was placed for 30 seconds (static?) and then connected to the electrical device?
d)You used the HIPE x 10 seconds, LIPE x 30 seconds, what about the DN group?
e) What do you mean hemostasis was performed x 1 minute?
Response:
a) "Local twitch responses were found in all the participants during the interventions"
b) "… until producing the first local twitch response performing a multiple rapid insertion technique"
c) "The needle was statically placed in this location for 30 seconds in all groups"
d) "From the total 30 seconds intervention time in all the groups; a) the HIPE group received a galvanic current of 660uA * 10 seconds and 20 seconds with no current; b) the LIPE group received 220uA * 30 seconds; and c) the DN group, although the needle was connected with the device, received no current during the 30 seconds."
e) Hemostasis is a procedure to avoid post-needling soreness and bleeding (Martín-Pintado-Zugasti, J Bodyw Mov Ther. 2018) that is commonly performed after invasive procedures (e.g., reference 20).

Please remove SKAPP and just use VAS, since it seems that you're only asking about a pain response. What pain induced during the procedure did you ask about? Worse pain? Initial pain? Twitch pain? How long did the induced pain last? Was the PPT of the TrP the same as PPT at the site of needle application – this is unclear in numerous spots in the manuscript.

Response: I am afraid to change SAKPP for VAS since VAS was used for two different purposes: 1) to measure the subjective anterior knee pain perception - SAKPP- and 2) to measure how painful were the interventions.

Therefore, using VAS for naming both outcomes could be confusing. However, I clarified this along the manuscript to facilitate the reading.

Regarding the PPT, the MTrP measurement point is the same at the site of the needle application as stated in line 182.

Line 189-90 – please add a reference for your reported effect sizes

Response: The reference has been added.

Line 200 – you note both groups were comparable, but were there any statistically significant between group differences?

Response: "Both groups were comparable at baseline since no significant differences were found for none of the variables (**Table 1**)."

The main findings paragraph should be split into multiple sentences.

Response: Thank you for this recommendation. I modified the paragraph into multiple sentences as suggested

Line 222-4 – that statement is untrue based on the reference provided. Trigger point management is not a priority in PFP based on current evidence.

Response: This statement is mainly based on two previous studies.

First, Samani et al. (2020) stated that the prevalence of MTrPs is higher in patients with PFPS compared to healthy populations. In fact, they stated that "therapy to treat PFPS should target the lumbo-pelvic-hip muscles" (including quadriceps).

I can understand the confusion since Sutlive et al reported no differences between sham and DN procedures in this population. However, DN is just one of several ways to approach MTrP and both agreed that MTrPs need to be approached in order to reduce the exacerbated mechanosensitivity and function of the knee.

Line 240 – replace 'likely' with possible

Response: Modified