Reviewer's report

Title: Effect of low-level laser therapy (904 nm) and static stretching in patients with knee osteoarthritis: a protocol of randomised controlled trial.

Version: 1  Date: 15 November 2014

Reviewer: Ru-Lan Hsieh

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Major Compulsory Revisions

This study aimed to investigate (1) the effect of static stretching and low-level laser therapy, in combination or as monotherapy, in the management of pain in patients with knee OA; and (2) evaluate the influence of each intervention of quality of life, function, mobility, knee flexion range of motion, and hamstring strength. I have some comments as listed below:

1. They aimed to investigate effects of stretch exercise, laser, and both effects simultaneously. However, they classified the groups into 5 groups with different duration: laser therapy (8 weeks), exercise (8 weeks), both therapy (3 weeks of active laser therapy followed by 8 weeks of exercise), both therapy (3 weeks of placebo laser therapy followed by 8 weeks of exercise), and control group (8 weeks). If they aimed to investigate the effect of exercise and laser therapy, then the duration of both treatments should be equal. The followed up time was different, either at 8 weeks after treatment or after 11 weeks after treatment. The time effect would severely bias the study results. In addition, the design of group classification should be 6 groups with same duration as: exercise alone, active laser, placebo laser, exercise with active laser, exercise with placebo exercise, and placebo groups.

2. In the exercise group, they aimed to investigate the effect of stretch exercise. However, all patients in exercise groups underwent 10 min of strengthening exercise by either bike or treadmill. Therefore, the improvement noted in exercise groups would be the effects of both stretch exercise and strengthening exercise rather than the real stretch exercise effect.

3. Thermotherapy has effect on pain relief. The present study allowed patients to take analgesics and thermotherapy for pain control during the intervention period. How to eliminate the confounding effect by these variables, especially the thermotherapy effect?

4. This study was conducted since May 2012, and will be completed in the end of this year. It means the study will be completed in recently. I suggest the authors to publish the research paper after completion of data analysis.

5. Only SD of VAS was mentioned in the sample size calculation. How could they get the sample size?

6. In the discussion section, the authors mentioned that “if adding of low-level
laser therapy to guideline-endorsed conventional physiotherapy provides greater pain relief and functionally improvement than conventional physiotherapy alone, this method could be confirmed as an effective treatment for these patients”. However, as we known, the effect of stretch exercise on patients with knee OA is still lacking and the present study did not perform the conventional physiotherapy additionally. How could they get this comment?

7. The present study included patients with Kellgren and Laurence classification between 2-4. However, patients with K-L classification 4, there were marked joint space narrowing and definite deformity. In general, grade 4 patients are not suggested to receive conservative treatment such as physiotherapy. Why the authors did include these patients in the present study?

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.