

February 9, 2015



Dear Editor,

Please find enclosed the edited manuscript in Word format (file name: 15035-review.doc).

**Title: Addition of hip exercises to treatment of patellofemoral pain syndrome: a meta-analysis**  
(title changed from the following to fit word limit - Effectiveness of adding hip exercises to traditional therapy for treating patellofemoral pain syndrome: a meta-analysis)

**Author:** Kimberly M Morelli, Maria Carrelli, Maria A Nunez, Caroline A Smith and Gordon L Warren

**Name of Journal:** *World Journal of Meta-Analysis*

**ESPS Manuscript NO:** 15035

The manuscript has been improved according to the suggestions of reviewers:

**1 Format/word count in the Title, Running Title and Abstract have been updated, and Comments section added**

We have changed the title and added a running title to meet the word limits specified. We have revised the abstract to meet the word count, specifically the AIM was decreased to less than 20 words and the Results was increased to no less than 120 words (see p. 3). The Comments section has been added (see p. 14). All revisions and adaptations have been highlighted in yellow as requested.

**2 Revision has been made according to the suggestions of the reviewer 02709880**

- (1) The authors should specify the term "traditional physical therapy" for PFPS.**

We have further defined traditional physical therapy in the introduction (see p. 5, line 19-22).

- (2) The follow-up time of the studies included in the review should be documented, at least should be referred to and accounted for. For example the study of Fukuda 2012 showed a different outcome after 1 year compared to their short term followup.**

We have added data to Table 1 providing time to follow-up (p. 24). In the Methods section, we also explained the categorization of this time to either immediate or long-term follow-up (p. 8, line 13-16). The different outcomes between short- and long-term follow-up in the Fukuda 2012 study were not mirrored in our subgroup meta-analysis comparing immediate vs. long-term follow-up. See Table 2 (p. 25).

- (3) Some typo's: Table 1: Fukuda instead of Fukada Fig 2: Witvrouw instead of Witrovouw**

We addressed our mistakes in spelling of the authors' name in Table 1 and Figure 2 (p. 24-25).

**3 Revision has been made according to the suggestions of the reviewer 03067328**

- (1) Abstract 1. Please list out all 8 databases searched, or remove the 3 examples. There is no justification of listing only the three and not the others.**

We added all databases that were searched to the abstract (p. 3, line 3-5).

- (2) Introduction 1. Please be a little more specific about the example of the biomechanical factors related to PFPS. Why and how do Q angle and trochlear groove relate to PFPS? 2. It may be important to discuss the current standard physical therapy treatment for PFPS and its efficacy in the introduction.**

We have explained the Q angle, trochlear groove, and defined traditional physical therapy in the introduction (p. 5, line 6-10 and 19-22).

- (3) **Results 1.** It may be more appropriate to specify the type of hip exercises (general or posterolateral) in the methods. Also, what specifically does "general hip exercise" imply? 2. In table 1, it will be helpful to include the number of men and women in the 5 studies that have a mixture of subjects' genders.

We added a description and data extraction specific to the hip exercises in to the Methods section explaining the exercises were categorized based on which region of the hip was targeted (p. 8, line 10-13).

In Table 1, we added the number/percentage of men and women to the studies that used a mixture (p. 24).

(4) Discussion

- a. 1. "...persons diagnosed with patellofemoral pain syndrome."

We changed the spelling from "persons" to "person" on page 13, line 2.

- b. 2. It is good that the authors recognize the publication bias that is common in the clinical research world. However, the selected research studies in this study are most likely still biased, and the procedure used in this meta-analysis didn't seem to be able to account for it. This limitation should be stated more strongly.

To assess the effect of possible publication bias, we additionally applied a Duval and Tweedie's trim and fill correction and found no overall change to the ES. We added this information to the Results (p. 11, line 15-17) and discussed it briefly in the Discussion (p. 13, line 19-20).

- c. 3. The discussion that the non-specific nature of the exercises performed as a limitation is contradictory to the inclusion criterion #4 of this analysis (i.e. study included a list of specific exercises performed). Please explain.

We recognize our error in describing inclusion criteria #4 and have corrected it to state that the exercises performed had to state what muscle or muscle region was being targeted (p. 8, line 10-13). Studies were excluded if they only stated lower-extremity exercises were performed and did not include which muscle, muscle regions or list of specific exercises were given (p. 7, line 17).

- d. 4. In addition to the duration and frequency of the exercises, it is important to consider the intensity of the strengthening exercise. Is it possible to use the prescribed differences in exercise intensity as a predictor of outcome effect sizes?

We added information describing data extraction of exercise intensity to the Methods (p. 8, line 16-19) and an explanation was provided in the Discussion (p. 14, line 10-12) for why an analysis of the effect of exercise intensity was not carried out. We would have liked to assess exercise intensity and its effect on the meta-analysis; however, not all studies specified intensity and those that did reported exercise loads very differently so that they are not comparable among studies. Furthermore, the exercise intensity and adjustment within and between sessions was not constant.

- e. 5. "...in reducing pain and improving function..."

We changed "decreasing" to "reducing" on page 14, line 9.

- f. 6. Another possible limitation is whether or not the therapy providers, assessors, and patients were blinded. Also whether or not the control and the treatment groups received equal amount of treatment.

We added information on the whether therapy providers, subjects and assessors were blinded in the Results (p. 10, line 7-12). We also added a paragraph in the Discussion addressing this as a limitation to our analysis (p. 14, line 13-21).

Thank you again for publishing our manuscript in the *World Journal of Meta-Analysis*.

Sincerely yours,

Kinley Moulton PT, DPT, MTZ

Kimberly Morelli, PT, DPT, MTC  
Dept of Physical Therapy  
Georgia State University  
Atlanta, Georgia 30302  
404-413-1250  
Fax 404-413-1230  
E-mail: [kmorelli@gsu.edu](mailto:kmorelli@gsu.edu)