Reviewer's report

Title: Effects and predictors of shoulder muscle massage for patients with posterior shoulder tightness

Version: 4 Date: 17 January 2012

Reviewer: Jerrilyn Cambron

Reviewer’s report:

Discretionary Revisions
1. Typically PubMed MeSH terms are used as keywords. “Stiff shoulder” and “posterior shoulder muscle” seem somewhat obscure.
2. Many of the references were old. Please be sure to check and see if more recent references are available.

Minor Essential Revisions
1. The abstract is missing a few key elements such as what type of outpatient practice used for recruitment (orthopedic ; primary care?), the sample size in each group, and statistical results of BETWEEN group analysis.
2. If block randomization was utilized, why didn’t the groups end up with 30 in each?
3. The third statement in the discussion section is not a complete sentence.
4. Tables 1 seems to include both baseline demographics AND outcomes. Please divide into two tables with demographics in one table and pre-post outcomes in the other. Table 2 is the same way.
5. Is Table 3 accurate in the PD slope adjusted OR? The result states 300, but the text states that “the odds of being responsive were almost 1.8 times greater for someone who is 0.5 as compared to someone who is 0.4.”
6. When discussing regression analyses, were you using forwards or backwards stepwise regression?

Major Compulsory Revisions
1. The inclusion and exclusion criteria in clinicaltrials.gov do not match those in the manuscript. Please either modify the manuscript or explain why there were modifications.
2. Please add a participant flow diagram as per the CONSORT guidelines.
3. I am not clear on why 20% improvement was used as the cut point for FLEX-SF. The authors state that it was because “the patients generally felt satisfied with 20% improvement from our investigation in the clinic.” How was satisfaction measured? Was this determination made after the study was complete? There are actually several references that state a 20% change on an outcome measure is considered clinically significant. Perhaps a reference like...
that would be more useful.

4. There were two places in the manuscript where the word “random” was used and I was not sure what the authors meant. First, when describing the myotonometer probe being “Placed over the 3 posterior shoulder muscles in random order.” Second, when the massage was described stating “about 6 minutes for each muscle and order was random.” Did the authors actually use the randomization method to determine the order for either of these examples? Or were the authors stating that the order was arbitrary? Please describe further if a randomization process was used. And if randomization did not actually happen, please modify the language so as not to confuse the reader.

5. Please further describe the control group treatment. Did the same physical therapist do the treatment and the control? What does “applied light hand touch on the muscles 10 minutes” mean? Be sure to be clear enough so that the reader could repeat the technique if so desired.

6. The results section includes pre-post results for all outcomes, but does not include between results for outcomes. Please modify. Also, are the pre-post results based on intention to treat analysis? The authors state that both analyses occurred and were similar, but do not state which type of analysis was presented.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.