Author's response to reviews

Title: Test-Retest Reliability and Sensitivity of the 20-Meter Walk Test among Patients with Knee Osteoarthritis

Authors:

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Version: 3 Date: 4 April 2013

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Major Compulsory Revisions (MCR)

MCR 1: I think that the study would benefit from a larger sample size, since this seems to be the major issue. However, I am aware that this may not be possible. Therefore it must be stated even more clearly as a limitation (in both abstract and discussion) with regard to the applicability both clinical and in research context.

We have added that the small sample size is a limitation in the abstract (line 64-65) and discussion (289-290).

MCR 2: The between-session comparison of your study reveals that the difference between session 2 and session 3 is almost significant. You need to comment on this.

We have added in the results that “No other sessions were significantly different (median differences ranging from -0.14 to 0.31 seconds, -0.03 to 0.01 m/s); however, we detected a trend that participants walked slower in session 3 compared to session 2 (p=0.07)” (lines 216-217). In the discussion we added “Furthermore, we detected a trend that participants walked slower during session 3 compared to session 2. “ This statement was followed by a discussion that this finding along with differences between session 1 and 2 suggest that the practice trials may be important (lines 247-250, 263-271).

MCR 3: Page 14, line 282-283. In what way were they representative? Age, gender, WOMAC etc.?

Participants were representative in age and gender of those with mild to moderate knee OA. This has been added (line 283-284)

MCR 4: Since the focus of the study as stated both in the title and the purpose is also on test-retest reliability, one would assume that you would also comment on this in the discussion and conclusion. However after your revision of the manuscript, you are not mentioning it in the conclusions, except for your comment on practice trials and standardized protocols. Why? Is it because of the change in statistics? If so perhaps the sections on test-retest reliability should be changed to.

Based on the comment above we have added additional text to the discussion to highlight the implications of different walking times between sessions. We also clarified in the first paragraph of the discussion that “Greater session 1 and 3 walking times as well as discrepancies between trials in the first session may be due in part to a learning effect and by participants acclimating to the test. Furthermore, the lack of correlation between session 1 and the following sessions calls into question the test-retest reliability of the first session and thus the validity of walking times from that session.” Furthermore, we modified the conclusion to note "In summary, our study demonstrated the first two walking trials may not represent a participant’s normal self-paced walking speed and lacked good test-retest reliability. Therefore, practice trials are advised prior to a valid measure of a participant’s walk time and gait speed. “
MINOR ESSENTIAL REVISIONS (MER)

MER 1: Page 4, line 83. The reason why reliability of the 20-meter walk test in mild to moderate OA is interesting (in addition to the results on end-stage OA published by Villadsen et al.) is still not clear. Perhaps a dependent clause after “…using a symptomatic population with mild to moderate OA.” would help. It could be something like “; a population often applied in clinical trials on OA”.
The author’s agree with the reviewers and have added the clause “a population often used in clinical trials for OA.” (line 85)

MER 2: Page 2, line 47. You state that the participants were elected. In the methods you state that they are consecutive. If they are consecutive, please state that in the abstract as well.
“Consecutive” added to line 46 for clarification.

MER 3: Page 10, line 212-213. You state: “…walking times in session 1 were slower in the first session than the second…”. Perhaps you mean: “…walking times were slower in the first session than the second…”?
Edited for clarification. Changed to “walking times in session 1 were slower than session 2” (line 213-14)

MER 4: Page 15, line 300-301. Your final comment of the discussion seems a bit isolated from the paragraph above. Please make their connection more obvious.
We’ve eliminated this sentence since it seemed to be little value added to the overall discussion.

MER 5: In Table 1, you use both “[sd]” and “(sd)” please revise.

The table has been updated to be more consistent.