Author’s response to reviews

Title: Universal goniometer and electro-goniometer intra-examiner reliability in measuring the knee range of motion during active knee extension test in patients with chronic low back pain with short hamstring muscle

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Reply to the reviewers’ comments

Reviewer #1: Page 5, line 13, please explain what is the rationale of the study: To clarify this issue, one paragraph regarding the hypothesis was added at the end of Introduction. (Background/ paragraph 6)

Reviewer #1: Page 11 line 45, "According to Norkin and White, 2 reliability levels show higher scores... Is the "2" a typo here?=Amended in the manuscript (2 is a punctuation mistake) (Discussion/ paragraph 6)

Reviewer #1: Page 11 line 47, "In other study, Singh-referred..." What is "Singh-referred"?=Amended in the manuscript (we added space between " Singh " and " referred ") (Discussion/ paragraph 6)

Reviewer #1: Page 11 line 61 "degreethat..." Add space between "degree" and "that"/Re=Amended in the manuscript( Discussion/ paragraph 7)

Reviewer #1: Page 12 line 27, "Suggestions for futur studies..." It should be "future" =Re=Amended in the manuscript (Discussion/ paragraph 9)

Reviewer #1: Page 12, line 36 - 40, Conclusion. The conclusion should response the aim of the study;Re=To clarify this issue text revised as follow:

Based on the results of this study, both universal goniometer and electro-goniometer methods had good reliability, but this reliability was higher in electro-goniometer method. It can be
concluded that universal goniometer can be used in clinical evaluations of patients and in laboratory studies electro-goniometer is used.

(Discussion/ paragraph 10)

Reviewer #1: Page 12, line 47, Why do you mention the "ANCOVA"? I did not see how you use it in your analysis: Re=Amended in the manuscript (Abbreviations)

Reviewer #1: Page 12, line 55, "(reference number: 94217). Re=This number is different from the one mentioned in page 5, line 32 - 45. Which one is correct? In page 12, line 55, (94217), is the code of research project, but the one mentioned in page 5, line 32 – 45 is the ethics committee number.

Reviewer #1: Table 2 and Table 3, the number of participants in Static Stretch (n=17), and control (n=18) are different from the data shared in the manuscript: Re=Amended in the manuscript (also, based on opinion of reviewer 2, the tables changed) Table 2

Reviewer #2: 1) Because this data has been collected as part of an RCT there are 3 groups of participants who receive different interventions. But there is absolutely no need for 3 groups in this reliability study. The data should be pooled into 1 group - this would give far greater power and precision to answer the research question well. Re=We agree with the reviewer. Hence, data pooled into 1 group and amended in the manuscript (Results/ paragraph 4 Table 1 and 2)

Reviewer #2: 2) The time point(s) of measurement should be clarified to make it clearer if this was before or after the intervention. In reality the intervention trial does not need mentioning in this reliability study. It is irrelevant. Re= We agree with the reviewer and for this reliability study, we considered the data of the pre-intervention (baseline) and amended in the manuscript ( methods/ paragraph 1)

Reviewer #2: 3) The study only includes an analysis of relative reliability (ICC). An analysis of absolute reliability needs carrying out also (e.g. by SEM or Bland & Altman methods) to give results in measurement units. This is easily done. Assessment of relative reliability tells us very little in isolation. Re=We agree with the reviewer. Intra-class correlation coefficient (ICC) for relative relative reliability and Standard Error of Measurements (SEM) for absolute reliability were used to quantify inter-examiner reliability and amended in the manuscript( Results/ paragraph 4 and table 2)

Reviewer #2: There is also some lack of clarity in places in the writing and the authors should re-check the manuscript for grammar and accuracy of statements made. As an example of accuracy check Ref 4 in para 1 of the Intro. This needs checking throughout. Re= Ref 4 in para 1 of the Intro was corrected. Some grammar corrections were done. If any more errors are remarked, we will correct them.