

Review of: "Rate of force development in the quadriceps of individuals with severe knee osteoarthritis: A preliminary cross-sectional study"

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Potential competing interests: The author(s) declared that no potential competing interests exist.

#Reviewer Comments to Author

Thank you for the opportunity to revise your manuscript. The authors suggested that RFD was significant in strength test of KOA, and it was very interesting contents for clinicians. Considering a few participants, it is a wise judgment that the authors designed as a preliminary study.

However, the manuscript has incomplete and unclear descriptions as below.

Introduction

2nd paragraph

Several studies suggested that quadriceps strength was associated with symptomatic KOA in knee pain not radiographic KOA in morphology. One of those show below. The authors need the descriptions about this.

J.Kemnitz, W.Wirth, F.Eckstein, A.Ruhdorfer, A.G.Culvenor: Longitudinal change in thigh muscle strength prior to and concurrent with symptomatic and radiographic knee osteoarthritis progression: data from the Osteoarthritis Initiative. *Osteoarthritis and Cartilage*. 25(10), 1633-1640.

Materials and methods

Overall comment

Because this report is a preliminary study, the authors should describe the detailed methodology using figures to judge the right/wrong of study design.

Participants

A classification name 'early KOA' and 'mild KOA' is mixed in manuscript. The authors should unify the name.

Maximum quadriceps strength and RFD

1) Since a handheld dynamometer is useful tool, many previous studies using this tool have been reported. However, the test-retest reliability and inter-rater reliability are not high relative to other strength testing tools. The authors should explain the verifications.

2) Did you perform actual test several time? one trial only? When you performed the test more than two trials, was rest

time for fatigue control secured enough? Warming-up protocol? How was sample data for statistical analysis decided. The authors should clarify the detailed procedure.

Discussion

3rd paragraph

This paragraph is described by some reckless interpretations for the results. Although not denying the possibility of the contents, this study did not obtain the results that could conclude these explanations.

4th paragraph

This paragraph has by some reckless interpretations. This study did not consider the potential confounders related to weakness of quadriceps strength. Therefore, this study just indicate the possibility that weakness of RFD was associated the progression to severe KOA. The authors should describe what kind of study design is suggested for proving this.