

Effects of Exercise Intervention on Dynamic Knee Valgus: A Systematic Review

Reviewer Comments

Abstract

L35: I'm curious to know why you didn't use the search term "knee abduction" alongside "knee alignment" and "dynamic knee valgus". The term "knee abduction" is often used interchangeably with the term "knee valgus" when referring to the collapsing action of the knee that often leads to injury during tasks such as landing and cutting. I feel as if this was a missed opportunity to potentially find other studies that would have possibly fit your search criteria.

L38: Remove "the" from the phrase "...DKV mechanisms on the knee kinematics". It will save you a word in the word count.

L39 – 40: Consider revising this sentence, it reads as an incomplete thought.

L45: Remove "which" from the phrase "...which met the inclusion criteria...".

L53: You don't discuss the implications of training volume or load prior in the abstract, so this conclusion is slightly off-base. The only thing that you allude to in the abstract is that interventions that focus on muscles that directly cross the knee joint were more successful than interventions that focus on trunk muscles. Please revise.

L53: Change "The results..." to "These results...".

L54: Remove "the" from the phrase "...that could minimize the knee valgus...".

Introduction

L63: Remove "the" from the phrase "...DKV can be caused by the hip abductor weakness...".

L68: Revise to say "Two types of kinetic chains that play...".

L78: Remove "the" from the phrase "excessive DKV and the internal joint loading".

L78: What do you mean when you say "internal joint loading"? Are you referring to specifically ACL loading? Cartilage loading? Please clarify.

L88: Please clarify with what you mean when referring to "asymptomatic females". Does this mean they were free of injury? Free of knee pain?

L91: Is this critique of narrative reviews inclusive of all narrative reviews? Or specifically the one written by Ford et al.? Please revise for clarity.

L97: Change "exercises training program" to "exercise training programs".

L97: I don't believe it is critical to investigate how exercise training programs may improve the mechanism of knee mechanics, but rather it is critical to understand how these exercise training programs may improve the mechanisms behind knee injury. Please revise.

Methods

L110: Again, I think some context here as to why “knee abduction” was not used as a search term is warranted. This could just be a comment back to the reviewer. But I would like to know why this wasn’t used, and if you believe this could impact the implications of your systematic review?

Table 1: Do you think it is appropriate to include a study (Horsak et al. 2019) that focused on obese children as part of the 8 studies included in the review? The reason I ask this is because obesity is a special population where the obesity component is one of the primary drivers behind DKV. Comparing interventions with obese children to the other 7 studies that feature average-weight adults that are recreationally active might not be an appropriate comparison.

Results

L175: The sentence “...used visually confirm the presence of knee valgus” is confusing. Please revise to clarify.

Discussion

L193: Remove “the” from the phrase “...may alter the DKV...”.

L206 – 207: This is an incomplete sentence, please revise.

L254 – 256: This sentence is a bit confusing to read. Please revise for clarity.

L283 – 284: I would double-check this finding. Quadriceps-only strengthening should affect the knee extensors, not the knee flexors.

An overall comment for both the discussion and conclusion: In L94 – 96 of the Introduction, the point is made that there has been no systematic review that has focused on exercise interventions from a top-down or bottom-up perspective. In the discussion, the 8 studies used in the review are identified as top-down or bottom-up. However, there is no discussion by the authors on their perspective of if a top-down or bottom-up approach is more appropriate when using exercise interventions to improve DKV. Since this emphasis was made in the Introduction, a few sentences to acknowledge and discuss this should be added to the Discussion or Conclusion section. This would greatly strengthen the systematic review.

Conclusion

N/A