Reviewer’s report

Title: Associations between sport participation and knee symptoms: a cross-sectional study involving 3,053 undergraduate students

Version: 1 Date: 31 Jan 2020

Reviewer: Brooke Patterson

Reviewer's report:

I commend the authors in responding to all comments adequately, and obtaining assistance with language editing. The definitions of participation, knee symptoms are much clearer throughout. However, I have a few persisting issues with some sections:

Abstract Conclusions
"Certain sports types and high levels of competitiveness in sports were associated with knee symptoms." As per previous comment, high levels of competitiveness may imply that there were multiple levels of competitive sport you asked about and compared. But this was not the case, it was compared to recreational players. Suggest editing this sentence to shortened version of what is in the results section (i.e. "self-rated competitive" and adding compared to recreational players)

Introduction
Page 4, Line 18: "Early life knee pain is known to last for years, and youth knee pain or sports-related knee injuries may increase the risk of future knee osteoarthritis, poor quality…. Better use of appropriate references, and succinct. However, "early life knee pain is known to last for years" could be reworded. Knee pain in children and adolescents often persists

Page 6, Line 7
….. the present study aimed to: (1) investigate the relation between sports participation hours and current knee symptoms among undergraduates; and (2) determine whether the number of sports engaged and/or self-rated competitiveness in sports were associated with the risks of experiencing knee symptoms among undergraduates

As per previous comment to be consistent include your aim of investigating the type of sport

Methods
I do not think the large addition of text to explain the skip logic is required. With the addition of the survey in Appendix 2 I think this should be suffice, and it should be logical to the reader that pending on answers different questions would be asked in this type of survey. However, if Reviewer 1 and the Editor feel strongly that this should be included, then include.

Results
Page 10, Line 13: "Fifty-six point eight"- when writing numbers as text do not need to include decimal, round up

Page 12, Line 12: This is the largest population-based study to evaluate the associations between the
Discussion
Suggest inserting comma after "number"

Page 14, Line 9-15: (comment on combat sport paper injury mechanisms)
This section I did not comment on prior, but on second read it doesn't fit with the aims or results of the paper, and gets off topic. This could be completely removed, or if this paper cited the knee injury/symptom rates this would be more useful information to compare to the current study. I.e. could you pull the prevalence of knee symptoms for combat sports only from current study and compare to their study?

Clinical implications paragraph:
I think you should consider speaking generally here, and use the term knee injury/symptoms as you have now mentioned that you cannot discern between acute vs chronic injuries
I.e. To lower the risk of sports-related knee symptoms/injury
I.e. sports. Undergraduates should be aware of the potential risk of increased knee symptoms/injury if they participate in combat sports

Page 19, Line 1-3: I do not understand what you mean by this sentence
Additionally, undergraduate with knee symptoms may not benefit from multiple-sport participation, if their sports competitiveness and participation hours remain unchanged.
And even so, I am not sure you can make this strong statement re multiple sport participation

General comments:

The findings of symptoms in other regions of the body being significantly associated with risk of current knee symptoms is quite interesting and may warrant discussion. You could perhaps comment on this in the clinical implications paragraph. I.e. undergraduates with current knee symptoms/injury have an increased risk of having pain in other body regions (i.e. ….). This extends previous research (i.e. look up subsequent musculoskeletal injury papers - known relationship between lower-limb musculoskeletal injury and increased risk of another injury)... therefore injury prevention strategies for undergraduates may include optimising management of other musculoskeletal injuries...

I also wonder whether you can make some more cross-cultural comparisons, and specific sport comparisons to US college data from their national injury surveillance papers. I.e. they have papers separate for various sports. This may be difficult in the way that the data is collected and presented, however, this piece of work should be acknowledged given college age students are comparable to your population.


Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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