General Comments

This systematic review was conducted to analyze the existing evidence on the effects of strength and complex training on repeated sprint ability (RSA) in team sports players compared to a control group. It is an interesting manuscript with a robust research design, however some sections need some major revisions.

Specific comments

Please, consider the following point-by-point revisions:

- **Line 34–36** (***Abstract***): Please remove compared to a control group. As this is a systematic review, you can choose to include only controlled trials (where control groups can be used for comparisons).
- **Lines 45–49** (***Abstract***): The authors report effects for best time (from which test?), mean time (also...), fatigue index (calculated as) and total time (also?). However, there are two crucial points missing from the study: (1) which strength and complex training were analyzed (the evidence will be extrapolated to these contexts...); (2) which tests are used for repeated sprint ability (RSA) and under what conditions and methodological procedures?
- **Lines 51–53 (*Abstract*):** It was important to specify what it is about strength and complex training that brings benefits. Which methodologies? Which FIIT variables? What do you understand about complex training? The auhors should clarify this critical point, because the conclusions can't be so general.
- **Lines 26–44** (**Introduction**): The physical demands vary greatly from different team sports and the same goes for maximum speeds and accelerations (duration, distance, curved or linear movement, etc.). This refers to match-related "worst case" scenarios and to the training load for each team sport; therefore, the authors should clarify what differentiates team sports.
- **Lines 142-144 (Introduction):** The literature already reports on repeated sprints in different lengths of bouts during training and competition. The reference is quite old (Girard, Mendez-Villanueva & Bishop, 2011), it is necessary to clarify this point a little more. Additionally, no reference was used to refer to complex training (lines 169-171). It's important to understand what it is and what differentiates it from traditional strength training. Specifically, the authors need to differentiate between the types of team sports in the introduction.

- **Lines 187-191 (Introduction):** In addition, the objectives of the study should be subdivided into three (because that's what it actually evaluates next): (1) : (i) effects of strength training on the RSA; (ii) effects of complex training on the RSA; (iii) effects of strength and complex training on fatigue. How it assesses and what type of fatigue it assesses should also be clarified (central or peripheral fatigue?).
- **Lines 195-201 (Materials & Methods, Search strategy):** The search strategy should be registered on a platform (Insplasy, Prospero or other equivalent).
- **Lines 203-205 (Materials & Methods, Types of participants):** The inclusion criteria do not describe critical points such as: population (which team sports are included?); intervention: Is the lower extremity strength training programme the same as strength and complex training? How can we characterise strength and complex training? Based on what recommendations/guidelines did you define the target strength training methodology? Comparator: what regularity of training was considered for analysis?
- **Lines 207-209 (Materials & Methods, Intervention):** Here you should put a table characterising the populations of the articles, because in reality the type of participants are reported in the eligibility criteria based on the PICOS methodology. I suggest you remove this subchapter.
- **Lines 227-237 (Materials & Methods, Selection of articles):** Putting this information in a table would make it easier to read. I suggest that the filters be described in full and the connectors only be placed as supplementary material.
- **Lines 239-244 (Material & Methods, Extraction and evaluation process):** Inter- and intra-observer reliability should also be ensured.
- **Lines 246-256 (Material & Methods, Data Extraction**): It should clarify the extraction of information for table 4, which considers the variables of Strength and complex training intervention, specifically: Frequency, duration, total number of sessions, type of training (i.e. Strength, Complex, Repeated, Maximum power), General characteristics of training, Rest between sessions (hours), and Intervention time (minutes). Maximum repeated power, General training characteristics, Rest between sessions (hours), and Intervention time (minutes). What methodological reference do you use to subdivide training into Strength, Complex, and Repeated Maximum power? It would be important to include this

in the theoretical framework as mentioned above. Also, it should also frame the three analysis sub-dimensions: (i) effects of strength training on the RSA; (ii) effects of complex training on the RSA; (iii) effects of strength and complex training on fatigue in order to frame the results.

- **Results:** In general, the results are well described; you should try to improve the way you describe the results in the abstract. However, I should point out that the comparison of inferences should have a meta-analysis process behind it. Thus, in the discussion, you should ensure that the comparison is based on different types of samples, methodologies and even statistical procedures.
- **Discussion and conclusions:** The attempt to compare the studies reviewed on each type of effect of strength and complex training on RSA and fatigue is understandable. However, my question is: Can I apply these assumptions to all team sports? Which studies actually evaluated these effects in what context? What's more, you should anticipate future studies (the review also serves to do this) and the limitations of the research. The conclusions should also be improved, in line with what has already been described for the abstract conclusions.
- ***Reference:*** Please adapt the citation and referencing rules to the author guidelines.

Good Work!