

Reviewing Manuscript 93755v0

TITLE: Atherosclerosis, gut microbiome, and exercise in a meta-omics perspective

Overview

Dear authors, I've read with interest your work that has some potential. Nonetheless, there are some methodological and other concerns that the authors need to address.

I suggest adding to the title, the type of article (Narrative review?).

Specific comments

Abstract

the abstract presents only a broad background followed by the objective of your work. The sections on the methodology used, the results obtained, and the conclusion (what was briefly inferred from this review) are missing.

Keywords are missing.

Article structure: even a review article should follow the so-called IMRAD (Introduction, Methods, Results and Discussions) approach. I do not see a results section in this manuscript, and the methods section appears limited (see below).

Introduction

the abstract section represents a stand-alone section. Abbreviations given in the abstract should be restated, in extenso, in the rest of the manuscript, the first time they are used (e.g., CVDs on line 32).

Line 40: The quote used (Clarke et al., 2014) is perhaps the least reliable to support the statement "Given the susceptibility of the gut microbiome to the influence of exercise". There is much literature, more recent and with stronger data to support this claim (e.g. 10.3390/nu14163293 - 10.3390/biology11030479).

line 41: The possible interactions between gut microbiota and AS, under causative aspect remain associations. I suggested not to take it as a given (which impacts AS).

The introduction section should be enriched, elaborating on the various aspects you intend to analyze in your work. For example, how exercise can affect cardiovascular disease, the bidirectional relationship between exercise and microbiota, as well as the various aspects related to technologies. Not in detail as in the discussions section, but initial inputs should be given to the reader.

Methods

the paragraph should be called "Methods" or "Materials and methods."

As previously mentioned, this section is quite limited. There is no semblance of a real (basic) methodology used for a review. E.g.:

- When did the search for articles begin and when did it end? (Searches were performed from..to...)?
- Was only PubMed used as the database? if yes, why?if not, what others were investigated?
- No need to indicate the PubMed site (<https://www.ncbi.nlm.nih.gov/pubmed/>)
- What were the inclusion/exclusion criteria?
- What was the relevant information extracted from the selected articles?

Probably not using 'sport' as a keyword, precluded the identification of several studies.

Validity of the findings

It lacks a results section, where at least reports how many studies were extracted, how many were discarded and why, and so on.

A table with the main characteristics and outcomes of the studies reviewed could be useful for the reader.

You should state the strengths and limitations of your work and, maybe, indications for future research.

The conclusion section must be shorter. Here you should briefly state the main findings of your work (the take-home message).