Reviewer’s report

Title: Low level of physical activity in women with rheumatoid arthritis is associated with cardiovascular risk factors but not with body fat mass - a cross sectional study

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Reviewer: Antonios Stavropoulos-Kalinoglou

Reviewer’s report:

This is a very interesting paper that adds significant information in the study of cardiovascular risk, obesity, and physical activity in patients with RA. In this cross-sectional study, the authors report that increasing levels of physical activity associate with improving cardiovascular profile but not with disease activity or body composition. The authors discuss the similarities and differences with the existing literature adequately. Overall, the paper is very well written, easy to follow and interesting to read. The methods and analyses are suitable and the discussion is very detailed.

I only have some minor comments for the authors.

1. It would be very interesting to have a mechanistic explanation of how exercise might affect risk factors without affecting inflammation or obesity (two of the potential causes of risk factors)

2. One more difference between your study and that of Stavropoulos-Kalinoglou et al. is that they also included male participants. Could that explain some of the discrepancies?

3. The energy intake of your patients seems to be very low (<1700kcal/per day). This is almost in the range of calorific restriction/diet. If you calculate total daily energy expenditure from your data (age, height, weight for REE, physical activity from IPAQ scores and thermal effect of feeding from FFQ), you might find that some patients (especially those in the higher activity quartiles) might be in negative energy balance. If this has been happening over a year, these people should be very lean. If not, this could be an indication of misreporting food intake or physical activity. In other studies where energy intake in RA was reported (Stavropoulos-Kalinoglou et al. do as well), it was >2000kcal and closer to the average for the general population. Could this have affected your results?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests