Author’s response to reviews

Title: Global prevalence of cardiometabolic risk factors in the military population: a systematic review and meta-analysis

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Author’s response to reviews:
Response to reviewers’ comments:
Thank you for excellent comments. We have addressed them below.

Reviewer 1: Simone Sartoretto

1- Quality of English written has to be improved, highly recommend a very careful review in the English written.
Response: Thank you. It was done.

2- Page 7 - Results: Qualitative synthesis:

• Second paragraph, last sentence: "The highest prevalence of overweight (66%) and obesity (62%) ..." actually this last information is being showed in the table as 61% and not 62%, as written in the results description
Response: Mentioned prevalence in the manuscript and table is correct. Please check “row 3 of the table 2” (Reference 20, Gasier, 2016) which is related to highest prevalence of obesity in the US submariners.

• Third paragraph: "The highest and lowest prevalence rates of HTN were observed in the U.S military staff (55%) and Iran (2.6%), respectively." Discrepancy between table results and results description, in the table 3 what is showing is that Brazilian military (Filho, 2014) has the highest prevalence rate of HTN (55.8%).
Response: Thank you. Third paragraph was revised based on review’s comment.
• Third paragraph, last sentence: "The highest and lowest prevalence rates of high TG were 50.9% (9) and 5% (32) for American personnel military, respectively." One studying is been missing, you say respectively, but only American personnel military was mentioned, which one is the one with High TG if the American military personnel are the lowest TG?
Response: Both mentioned figures are related to one study (American military personnel). For clarifying possible mis-understanding, we deleted “respectively” from the end of this sentence.

3- Page 9- Discussion:

• Last paragraph- "The prevalence rates of overweight and obesity were 53% in US navy (52)". What it shows in table 2 is that this information described is from paper #51, please check where is the mistake in the discussion or in the table.
Response: Thank you. Last paragraph of the discussion was corrected based on reviewer’s comment.

Reviewer 2: Pedro Paulo Da Silva Soares:
The study provides a revision, meta-analysis, on the prevalence of overweight, obesity and metabolic syndrome in military population. Several studies were included based on criteria that is in accordance with the aim of the work and the methods employed. The study seems to be correctly conducted, has an acceptable number of articles investigated and the use of tools of research and selection. The findings provide data from several countries were and show that overweight, obesity and some risk factors are prevalent among military personal sometimes in a higher proportion than in the general population. However, among those with higher physical activity levels Pre-HTN and HTN are lower. This is somehow expected since physical activity plays a key role on METs.

1- However, this fact, or was not considered directly in the study. So, do the authors believe the results show an overall military with low physical activity levels?
Response: Authors don’t believe that the results show an overall military with low physical activity levels. In page 10, paragraph 1, line 2, we have mentioned that “This might be due to unhealthy diet practice among military personnel.

2- Depending on the position administrative or operational, combat pilots and logistics for example, might have different training programs or routines.

• How do the authors consider these conditions? Is the military population homogeneous?
Response: Thank you for this point. Authors believe that military population are not homogeneous. So, we think last sentence of conclusion (page 11), would be the answer of this comment. (Highlighted in the manuscript).

• It is comparable to general population? Please give us some discussion on this.
Thank you for this point. Refer to page 9, last paragraph, line 7, 8 (highlighted part), because of the nature of their job military population are generally assumed to be healthier. In current study, main reason for comparing military population with general population was to emphasis on alarming trend of some risk factors in military personnel despite the intensive physical activity that they have.

3- Item 5 on Table 5 seems to be the one with repetitive answers N. What is the impact of this on the data interpretation?
Response: Thank you. This table is quality assessment of included studies based on the critical appraisal tool. It means that, diversity and repetitive answers of every single items has not directed effects on the data interpretation. So, total score will play a critical role in quality assessment. More detail about the tool is available in page 5, paragraph 2, line 5 of quality assessment and data extraction.