Author’s response to reviews

Title: Cross-sectional area of the paraspinal muscles and its association with muscle strength among fighter pilots: A 5-year follow-up

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Author’s response to reviews:

Ref.: No. BMSD-D-17-01196R2 “Cross-sectional area of the paraspinal muscles and its association with muscle strength among fighter pilots: A 5-year follow-up” Request for revision of the paper.

Dear Editor,

We have now revised our manuscript according to the editor's and reviewer's comments. We found them justified and thus, we feel that the modifications improved the quality and clarity of the manuscript. I hope that these corrections will now fulfil your concerns and you see the revised paper worth of publishing in BMC Musculoskeletal Disorders. Below you will find detailed responses to all comments.

Sincerely,

Tuomas Honkanen, MSc
Editors comments (12.3.2019)

1. The consent form is now removed from the supplementary files.
2. The copy of cover letter is now removed from the supplementary files.
3. The Declarations subsections are now properly labeled.

Reviewer comments (2.3.2019):

COMMENT 1. “Most comments are revised well. However, about "…why increased CSA, due to flight exposure, could not be the issue in any such young sample" (comment 4) is not really addressed, the authors refer it to exercising (and not to flight), but their sample is young and such increase could happen in absence of exercising and flight in any young sample since they are young and growing…”

RESPONSE: Thank you for your valuable comment. In this re-revised version, we have also addressed that the flight exposure itself may have a role in CSA increase. (Page 16, Row 396)

COMMENT 2. “About the importance of muscle strength (comment 5), they suggest further longer follow-ups (but we know from other studies that muscle strength is sometimes not important in the complexity of musculoskeletal pain). They choose, of course, to discuss as they like, but sometimes it becomes a bit fetched about the hypothesis that strength MUST be important in dealing with pain or risk for pain.”

RESPONSE: We agree with your comment that musculoskeletal pain is complex and there are controversial results in previous studies. In the re-revised version, we have now also discussed that bigger muscles may not have a preventive role in LBP. (Page 19, Row 472)

COMMENT 3. “About SD vs CI, it is not just a choice between them as they were equally comparable; they should be used as intended. There is extensive scientific literature describing SD as an index of the variability of the original data points, and should be used to, for example, describe your data sample as recruited. Confidence intervals (CIs) indicate a range of values within which the "true" value lies in, for example, your own computed data (your results) - it shows the reader how accurate the estimates of the population values actually are, and hence assist the reader in determining the meaning of the findings. It is, of course, up to the editor to decide on this."
RESPONSE: Thank you again for valuable comment. You are correct that CI and SD are not equally comparable. However, referring to our previous revision we thought that SD is adequate for these variables. We have now added the CI’s in to the Table 2, where they were missing. You can now find both SD and CI from that table. We also agree that it is up to the editor to decide whether we should use SD or CI or both. We have now provided them both. (Page 13, Row 315)