Author's response to reviews

Title: Specific exercise training for reducing neck and shoulder pain among military helicopter pilots and crew members: a randomized controlled trial protocol

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Author's response to reviews: see over
Dear Ms Eloisa Nolasco

We greatly appreciate the peer review comments regarding our manuscript (MS: 2042918719149170) “Specific exercise training for reducing neck and shoulder pain among military helicopter pilots and crew members: a randomized controlled trial protocol”.

We have addressed each comment provided by the referees and the editorial requests, and forward a revised manuscript with “tracked changes”, and one with “accepted changes”. Enclosed in this cover letter, please find a point-by-point response to peer review and editorial comments.

- Referee 1: (http://www.biomedcentral.com/imedia/1727683547169715_comment.pdf)
- Referee 2: (http://www.biomedcentral.com/imedia/2106471989174351_comment.pdf)
- Editorial requests:
- Additional changes to the manuscript:

I hope you will find the revised manuscript satisfactory and that you will consider it for publication in the journal of BMC Musculoskeletal Disorders.

Sincerely yours
Mike Murray, Ph.D. stud. (Corresponding author)

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Point-by-point description of the all changes made to the manuscript

Reviewer 1:
− No changes made to the manuscript.

Reviewer 2:

General comments
1. Although the paper appears satisfactorily structured in its logical sequence and the methodological approach was correctly developed with a clear report of results, the rationale has not been well introduced as the protocol deserved. From a personal point of view, I would more stress the importance of exercise and the tailored approach on that, which is object of this investigation.

− See our replay under specific comment number 1.

Specific comments (majors and minors)

1. Lines 81-82. Please, stress the importance of exercise in prevention of neck and upper limb work related musculoskeletal disorders. Further, try to explain the reason because a personalized approach can have a higher value (with respect to a general exercise program) in order reduce and/or prevent neck/shoulder pain. For your convenience, please, read and cite these investigations. These studies demonstrated the importance of a tailored exercise protocol in treat and prevent neck and upper limb pain on workers.


− We thank the referee for information on valuable papers. We have now stressed the importance of tailored exercises in our methods and design section (line 198 - 199) and cited the two recommended studies.

2. Despite the paper is well written, I realized that Authors are not native English speakers; I suggest a further editing passage from a scientific writer to better arrange the final draft.
The revised manuscript has been edited by an expert scientific writer (see additional changes to the manuscript).

Editorial requests:
1. Please confirm that the pictures in Figures 2, 3 and 4 are of the corresponding author and that consent was given for the images to be published.

- I hereby confirm that the pictures in figures 2, 3, and 4 are of the corresponding author (Mike Murray). Full consent has been given for these images to be published.

2. Please add a date of registration to the TRN (please also reflect this change in the abstract in the online submission system).

- Clinical Trail Registration (NCT01926262): 16 August, 2013
- Ethical committee of Southern Denmark (S-20120121): 29 August, 2012

3. Bring the table into the main manuscript, rather than presenting as a figure.

- Table 1 has been included at the end of the main manuscript (line 610 – 611), after figure legends. The following changes have been made, to enable the table to be presented in an upright position.
  - The word “Reps” has been removed.
  - The word “RM” has been removed.
  - The title of all exercises has been changes from “Exercise” to “Exe”.
  - The sign “*” has been removed.
  - “Reps: Repetitions, RM: Repetitions maximum” has been removed from the table legend.
  - “RM*: Repetitions maximum performed for both right and left side” has been removed from the table legend.
  - Line 614: The sentence “Exe” has been added to the table legend.
  - Line 614: The sentence “Exercise 1 and 2 are given as number of repetitions” has been added to the table legend.
  - Line 614 – 615: The sentence “Exercise 3 to 10 are given as repetitions maximum” has been added to the table legend.
  - Line 616 – 617: The sentence “The range indicates that there is an undulation in load during that week for this exercise”, has been added to the table legend.
4. As a minor point, please move the funding information from the title page to the Acknowledgements section.

- All information regarding funding has been moved to the acknowledgements section.

5. Please also ensure that your revised manuscript conforms to the journal style (http://www.biomedcentral.com/info/ifora/medicine_journals). It is important that your files are correctly formatted.

- The following changes have been made to the title page to conform to the items on the BMC-series medical journals - authors' checklist for manuscript formatting:
  - Line 1: The word ”Title” has been removed.
  - Line 5: The word “Authors” has been removed.
  - Line 6: The sign “,” has been removed between authors names.
  - Line 8: The word “Institute” has been replaced with “Department”.
  - Line 9: City name “Odense” has been written in the affiliation.
  - Line 10: City name “Odense” has been written in the affiliation.
  - Line 12: The affiliation “Tactical Air Command Denmark, Karup, Denmark” has been corrected to “Royal Danish Air Force, Air Force Staff, Defence Command Denmark, Denmark”
  - Line 15: The sign “§” for corresponding author has been added.
  - Line 16: the word “addresses” was written after the word “email”.
  - Line 17: the word “corresponding author” was removed.
  - Line 17: “Mike Murray” was shortened to “MM”.
  - Line 18: “Britt Lange” as shortened to “BL”.
  - Line 19: “Bo Riebling Nørnberg” was shortened to “BRN”.
  - Line 20: “Karen Søgaard” as shortened to “KS”.
  - Line 21: “Gisela Sjøgaard” as shortened to “GS”.

**Additional changes to the manuscript**

**Abstract:**
- Line 31: the word “and” was added.

**Background**
- Line 81: “in line with that” has been added “as well as” has been removed.
- Line 85: The word “og” has been changed to “of”.
Methods and design:

- Line 106 – 107: A mistake has been corrected, regarding the amount of participants that was initially invited to participate within our study. "Ninety-five pilots and crew members” was changed to “One-hundred and eight pilots and crew members (50 pilots and 58 crew members)” This error has also been corrected in the flow diagram (Figure 1).

- Line 146: The word “spine” has been added.
- Line 147: The word “spine” has been added.
- Line 153: The word “five” has been corrected to “six”.
- Line 168: The word “spine” has been added to places.
- Line 171: The word “spine” has been added.
- Line 171: The word “cervical spine” has been added.
- Line 175: The word “spine” has been added.
- Line 175: The word “low lateral spine” has been added.
- Line 218: The word “training” has been removed.
- Line 236: The word “intensity” has been changed to “load”.
- Line 240: The word ”intensity” has been changed to “load”.
- Line 282: The word “Participants” was changed to “participants”.
- Line 283: The sign “,” was added.
- Line 304: Reference “8” was added.

Statistics

- Line 380: The words “mean of” and “at” has been removed.
- Line 381: The words “least” and “(≥ 66.7% of the total amount of training sessions)” has been removed.
- Line 381: The word “between 1-3” has been added.

Discussion

- Line 387: The word “as demonstrated for fighter pilots” has been added.
- Line 390: The words “neck pain is found to” has been removed, and the word “experience” has been added.
- Line 391: The words “in nature” has been removed and the word “pain” has been added.
- Line 394: The word “cases” has been removed.
- Line 396: The word “was” has been removed and the word “is” has been added.
- Line 398: The word “influence” has been removed and the word “attenuate” has been added.
The sentence “if proven effective, any change, measured as intensity of neck pain, will be most likely to show highest in relative terms compared to a measurement in absolute values” has been removed.

Line 403: the words “of the scale” has been added.

Line 406 - 407: The sentence “Previously a pain reduction equal to 1.0, measured on an 11 point numeric box scale, has been considered the minimal clinical important change [50]” has been added.

Line 407 – 409: The sentence “Previously, a reduction in the range from 0.5 to 1.5 on the numerical rating scale, in patients that were burdened by sub-acute and chronic neck pain, has been documented as clinically important” has been removed.

Line 415: The word “inflected” has been changed to “inflicted”.

Line 419: The word “Finally” has been added.

Line 419: The word “due” has been changed to “Due”.

Authors’ contributions

Line 437: The letters “BN” has been changed to “BRN”.

Figure legends

Line 593: The title “figure legends” was been removed
Line 594: The sign “:” has been removed, and the sign “-“ has been added
Line 596: The sign “:” has been removed, and the sign “-“ has been added
Line 600: The sign “:” has been removed, and the sign “-“ has been added
Line 605: The sign “:” has been removed, and the sign “-“ has been added
Line 610: The sign “:” has been removed, and the sign “-“ has been added

Figure 1

Number of participants assessed for eligibility was changes from: “n = 91 (39 pilots, 52 crew)” to “n = 108 (50 pilots, 58 crew)”.

Number of participants the declined to participate was changes from “n = 22 (8 pilots, 14 crew)” to “n = 39 (19 pilots, 20 crew)”.

Lost to follow-up was changed from “Did not answer the questionnaire” to “No questionnaire”.

“No PPT test” was added to “lost to follow-up” for both the training group and reference group.

Lost to follow-up was changed from “Did not complete MVC test” to “No MVC test”.

Lost to follow-up was changed from “Did not complete the RFD test” to “No RFD test”.

Lost to follow-up was changed from “Did not complete the sway test” to “No postural stability test”.

No questionnair e.

“No PPT test” was added to “lost to follow-up” for both the training group and reference group.