Reviewer’s report
Title: Prognostic factors of a favorable outcome following a supervised exercise program for soldiers with sub-acute and chronic low back pain

Version: 1 Date: 01 Jan 2018

Reviewer: Mark Hancock

Reviewer's report:
The authors have taken on most of my previous suggestions and I believe the manuscript is substantially improved. Given the major changes requested by myself and the other reviewers I have a few further comments on the revised manuscript, mostly relating to the analysis/modelling.

1. The model building process is still unusual and requires further justification/clarity. I understand the desire to not be held to statistical significance in this hypothesis testing study, but the criteria for retaining variables is still unclear. Could the authors base the decision to retain variables in multivariable model on the strength of association (i.e OR). Maybe OR greater than 2 even if not statistically significant. The methods should be modified to provide more clarity.
2. Given the final model includes variables that are not statistically significant, remove/modify statements that refer to identifying 5 prognostic factors, especially in key sections like abstract, first sentence of discussion and conclusion. Consider language something like, "The final model included 5 variables…"
3. Related to points above the manuscript would be clearer to me if the word multivariable was used consistently in methods and results (and tables) do differentiate from the univariate analyses.
4. In methods paragraph starting on line 219, can the word collinearity be included as this term would be more familiar to most readers and I think this is the key element here.
5. Line 230-231: avoid the terms "carried both common and unique information", and instead provide clear information of the criteria used when deciding whether variables remained or
not in the multivariable model (consider the OR suggestion above, or provide some other criteria). P> 0.5 on the previous sentence is very high p value.

6. Line 288: similarly, to above avoid "had a clear contribution" and use statistically significant which is much clearer. There are other parts of manuscript where similar changes would enhance clarity.

7. Make it clearer which model the tables refer to.

8. Line 384: remove likely to benefit as the authors have done in the rest of the manuscript.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.
Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.
I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:
Acceptable

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