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OPEN PEER REVIEW

Validity of the STarT Back Tool in Patients with Low-Back Pain Using Spinal Flexibility Measures

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About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

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1 Original submission

4 comments · 3 Jun 2020 – 3 Jun 2020

Majid Mirmohammadkhani Reviewer

MAJOR REVISION 3 Jun 2020

Dear AE,
As the authors claim, the objective of this study was to assess the "correlation" between the STarTback Screening Tool (SBST) prediction of "functional disability" and the "spinal flexibility levels" in patients with low-back pain. Indeed, except for contextual variables including gender, weight, height, and pain severity—which played no role in the analysis—only two measurements were made: functional disability measured with SBST and ROM in different directions to assess flexibility. Here are all the results reported: The range of motion was generally poor or moderate (Table 3); patients were generally defined as being at medium risk of functional disability (Table 4), and no correlation was seen between the two (Table 5).
I can't comment on the importance of the issue because I'm not a physiotherapist. But there are a couple of concerns about the statistical methods used, which I will explain below:
1- As I said, what is the inferential role of contextual variables in the analysis?
2- What is the reason for comparing women with men in Tables 1 and 2?
3- The authors used the Pearson Chi-square test to show associations. This method is not sound for two reasons: First, the variables are ordinal (not nominal), and the ranks should be considered. Indeed, we should use the Pearson Chi-square test to evaluate independence between two nominal (categorical) variables. Second, for small samples, chi-squared statistics are generally not suitable because of the "spars-data problem", and one can perform inference using tests based on exact distributions, such as Fisher's exact test. I suggest using nonparametric correlation tests for ordinal variables, such as Spearman's correlation coefficient, with which some significant correlations can be reported in this case (for example, see the results for Backward Extension). If necessary, the analysis can be repeated in subgroups.
4- With changes to the results, the discussion should be revised and rewritten.
Thanks.

Referee 1 Reviewer

MINOR REVISION 3 Jun 2020

Dear AE,
This is a cross-sectional study to investigate the correlation between the STarT Back screening tool and spinal flexibility in patients with low-back pain. The manuscript has been well organized and well written, although there are some concerns that should be resolved as follows.
ABSTRACT
1) It is not common to introduce the statistical method used in the ABSTRACT section.
2) The authors should use MESH to choose KEYWORDS.
BACKGROUND
1) There is too much information about LBP and the other tools, while the authors should introduce the STarT Back screening tool in detail and provide a literature review about it.
METHODS
1) The authors should provide information about ethical approval and the consent form in the main text.
2) Did the authors exclude patients with muscle weakness or paresthesia in the lower limb?
3) Did the authors use an x-ray to exclude patients?
4) What about the previous history of LBP or the duration of LBP?
Discussion

1) What were the limitations of the study, and how might those limitations affect the results?
Thanks.

Associate Editor MAJOR REVISION 3 Jun 2020

Dear EIC,
According to the reviewer's comments, the manuscript needs major revision.
Thanks

Editor-in-Chief MAJOR REVISION 3 Jun 2020

Dear Author,
The reviewers' comments are provided. Please carefully correct the details mentioned above according to the reviewers' requests.
Thanks.

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Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Dear Prof. Amir Hoshang Bakhtiary
Editor-in-Chief
Middle East Journal of Rehabilitation and Health Studies

Thank you for your correspondences on our manuscript and your interest towards making it better and suitable for your readership.

We commend the review of the screening department and the EIC for their painstaking effort to go through the manuscript in general. Please find below our responses to the comments raised.

Comment	**Response**
In the full manuscript file, you have mentioned Table 4 but have not inserted it in the file.	This has been corrected
In the full manuscript file, you have mentioned 8 Figures but have inserted two Figures.	This has been corrected
No. of Illustrations In a research article the maximum Number of illustrations/Tables is 5.	Numbr of Tables has been ensured to be 5
Word Counts We have detected the maximum allowed word count in your manuscript was not in line with the journal standards. For example, maximum allowable of word counts in a research article must be 3500 words while in your manuscript is 5700	This has been addressed appropriately. Manuscript word count is now 3486.

We thank the editor-in-chief and the reviewers for opportunity to get valuable contributions toward making the paper better.

Dr. Chidozie E. Mbada

2 Revision 1

4 comments · 8 Aug 2020 – 11 Aug 2020

Referee 1 Reviewer

ACCEPT 8 Aug 2020

Dear AE,
All comments have been addressed clearly.
Thanks.

Majid Mirmohammadkhani Reviewer

ACCEPT 11 Aug 2020

Dear AE,
The corrections made are acceptable, and the article is acceptable for publication.
Thanks.

Associate Editor

ACCEPT 11 Aug 2020

Dear EIC,
According to the reviewer's comments, the manuscript is ready for publication.
Thanks.

Editor-in-Chief

MINOR REVISION 11 Aug 2020

Dear Author,
Your article has been carefully reviewed by the reviewers. According to their comments, this document needs minor revision. Please follow their comments as requested.
Thanks.