Reviewer's report

Title: An immediate effect of PNF specific mobilization on the angle of trunk rotation and the Trunk-Pelvis-Hip Angle range of motion in adolescent girls with double idiopathic scoliosis – a pilot study

Version: 1 Date: 24 Feb 2017

Reviewer: Gozde Gur

Reviewer's report:

The study has some glimpses of being interesting and new topic for scoliosis rehabilitation area. But still the main idea is not clear and concise. Range of motion limitation should have been assessed before the start of the study (and maybe made comparison with health group) and placed into "inclusion criteria". The paper is now better structured and written with the revision version. The methods appear to be adequate and the analysis and interpretation of results is more appropriate. But I'm still confused for the preparation period of the study.

You mention that the study was conducted on 83 girls with 32 double adolescent idiopathic scoliosis with a right-sided thoracic curve (mean 25.10±13.9) and 33 a left-sided thoracolumbar or lumbar curve. Did you found limitation in range of motion in the trunk-pelvis-hip angle and trunk rotation angle for all type of scoliosis patients and for all 83 girls? I am asking because for telling that "we reduced the limitation", you have to have the limitation at baseline or have a control group and comparison with scoliotic patients. Please clarify this.

In abstract's results section: "In adolescent girls with double scoliosis significant differences between the left and 42 right side of the body concerning the Trunk-Pelvis-Hip Angle ranges were noted" Why did you perform PNF unilaterally instead of bilaterally? How would you know that their concave side don't have motion limitation?" Because in the manuscript you reported that "The criteria for inclusion were as follows: female, double idiopathic scoliosis with a right-sided thoracic curve and a left-sided lumbar/thoracolumbar curve diagnosed on antero-posterior radiogram, absence of systemic diseases, age 10-17 years, participation consent." You did not measure the range of motion first. You had to assess range of motions and then put the "range of motion limitation" for your inclusion criteria, at the beginning of the study. With this version, your study look like having bias.

What is the normal range of motion for the TPHA (Test 2)? What are normal values and which values are considered limitation? What was your participant score at baseline? How did you decide that you participant has limitation? In addition, what is clinically important difference for the tests?
In line 225-227, as you reported "Power and sample size analysis revealed that with the number of subjects N=83, the test power for all the examined parameters was higher than 90%." It is better to report sample size calculation in "statistical analyses" section. It is also still no clarified. How did you calculate the sample size? With pilot study or with previous study conducted? Please add clarification.

In line 320-326 you reported "The changes probably resulted from the choice of a PNF movement pattern suitable for the vertebra orientation in the horizontal plane in double scoliosis and limitations of TPHA motion noted in previous studies. The unilateral bilateral lower extremity PNF patterns were used in a precisely selected position of the patient's body, with bending at the thoraco-lumbar junction and rotation......" What are these previous studies, you need citations. It is not still clear that how PNF changes vertebral orientation. It may be related with muscular tensions, isn't it? Please clarify this explanation.

The discussion section should emphasize to a greater extent the issue of the interpretation of the results.

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