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CORRESPONDENCE

Correspondence to "Development and validation of the sitting balance assessment for spinal cord injury (SitBASCI)"

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We read with interest the paper by Guizzardi et al. published in Spinal Cord on the development and validation of the sitting balance assessment for spinal cord injury (SitBASCI) [1]. Functional sitting balance and trunk stability are high priority constructs related to quality of life in individuals with spinal cord injury (SCI) [2]. Valid and reliable assessments of seated balance are required to aid clinicians in selecting appropriate interventions and monitoring progress over the lifespan of individuals with SCI. The development of the SitBASCI may be important to the advancement of the field and help clinicians working with individuals with SCI to provide targeted care. However, we believe that concerns exist regarding the validity of the SitBASCI that needs to be further clarified to avoid any misunderstanding among researchers and clinicians working in the field.

In the recent manuscript, Guizzardi et al. touch on some advancements in the field stating in their introduction: "… the Scale Community Balance & Mobility Scale (CB&M), the Activities-specific Balance Confidence (ACB) Scale, the Function in Sitting Test (FIST) and the Sitting Balance Score (SBS), adapted and validated for SCI populations, were tested only for limited types of injury (iSCI) or chronic SCI and needed major revisions."[1] While sitting balance assessments in SCI used to be an important limitation due to the lack of valid and reliable outcome measures specific for this population, several recent studies have covered this topic and a range of clinically and ecologically valid outcome measures have been validated for this population [3]. However, Guizzardi et al. fail to refer to these important updates in their study. The authors fail to mention that the Function in Sitting Test (FIST) for example, initially investigated in the SCI population [4], has undergone modification and adaptation for individuals with SCI (FIST-SCI) and is reliable and valid in the chronic SCI population [5]. Further, both the Trunk Control Test (TCT) [6] and FIST-SCI [5] were identified as appropriate assessments for the non-chronic and chronic SCI populations in a recent review by Ciardi and Nicolini [3]. These authors view the lack of comparison of the SitBASCI with a functional sitting balance assessment (i.e., the TCT or FIST-SCI) or with a biomechanics gold standard assessment (i.e., force plate assessment) as a crucial limitation of the work completed by Guizzardi et al. [1]. Therefore, validity of the SitBASCI cannot be 'yet' claimed and consequently, recommending its use in clinical setting and in future research is questionable.

In addition to the lack of a comparison to well accepted SCI-based functional sitting balance assessments or a biomechanics gold standard assessment, the title of the current work may be misleading as no peer-reviewed report on the development or validity of the SitBASCI were presented. The inter-rater reliability and internal consistency evaluated by Guizzardi et al. [1] are not equivalent to development or validity of the SitBASCI. Inter-rater reliability and internal consistency are important measurement properties that inform about the degree to which a measurement is free of error as indicated by the COSMIN [7]. However, before evaluating the measurement error of the SitBASCI, documenting the itinerary of the development of the measurement, as well as the content, criterion, and construct validity that inform about the construct the measure purports to assess is crucial. Rather, Guizzardi et al. discuss unpublished methods and results in their introduction stating that "The scale underwent several steps of validation which were not published." [1] The unpublished work is then detailed, stating that the development and validity assessment of the SitBASCI included evaluations of 80 people with SCI. The unpublished validation findings reported in the introduction raise two questions:

1. Why have the developmental and validity methods and results not been previously published?
2. What precedent does the publication of non-peer reviewed findings set for future sitting balance assessment studies?

We urge Guizzardi et al. to submit their development and validity methods and results for peer review to properly validate the SitBASCI for future clinical and research use. The SitBASCI should not be considered a valid test without the peer review of the development and validity results reported in the introduction of the current paper.

Publications relating to sitting balance assessments specific to people with SCI are increasing but the clinical utility of new assessments is unknown because they are often not compared to already accepted functional assessments (i.e., TCT and FIST-SCI) or a gold standard assessment. The goal of research published in this area should be to improve upon accepted functional seated balance measures or to provide additional information relating to the clinical utility of existing assessments (i.e., responsiveness of the sitting balance measures). A focus on improving existing outcome measures will aid in clinical translation, as clinicians will easily understand the appropriate outcome measures to improve the care of individuals with SCI.

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AUTHOR CONTRIBUTIONS

AEP and LA jointly discussed, drafted, and edited this correspondence.

COMPETING INTERESTS

The authors declare no competing interests.

ADDITIONAL INFORMATION

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