Reviewer's report

Title: Muscle strength does not explain standing ability in children with bilateral spastic cerebral palsy: a cross sectional descriptive study

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Reviewer: Daniel Lumsden

Reviewer's report:

Lidbeck and Colleagues have investigated the possible contribution of differences in muscle strength as a cause for differences in standing ability in children with cerebral palsy. They present a well written cross sectional study, examining a sample of 25 children, 14 requiring support to stand, 11 able to stand without support. Strength was measured using a hand-held dynamometer with children in 2 postures in the seated position. No difference in muscle strength was found between the groups, which the authors conclude suggests that difference in lower limb muscle strength do not account for differences in the ability to stand.

Abstract:

Data is presented clearly, with a nice summary of the manuscript as a whole.

Introduction:

The background to the study is well presented. The aims of the study are clear, as is the underlying hypothesis

Discretionary revisions –

1) The authors could consider including a definition of CP in the introduction.

Methods:

Major compulsory revision:

2) Could the authors explain why multiple trials of muscle group power where undertaken if only the first trial was used for analysis? This is detailed in the Discussion, but I believe it should be explained within the methods section.

Discretionary revision:

3) Could the authors comment on why a cut off of 30 seconds standing ability was used for inclusion in the study? The ability to stand for 30 seconds without support may not necessarily translate into the ability to stand unsupported more functionally (though 30 seconds standing does accommodate much care potentially).

4) Could the authors comment on their choice of sitting position for muscle
testing?

Results:

Minor Essential Revision

1) Muscle Strength – In Table 3 it suggests that only 9 children were able to complete measurement of plantar flexor strength in the Standing Without Support group. Could the authors confirm this was the case and, if so, explain why?

Discussion:

The discussion covers possible explanations and the context of the experimental results well.

Major Compulsory Revision:

2) Could the authors explain what the rationale for using the 1st trial of strength was used and not the trial producing the “strongest” measurement. The authors state that the analysis of the highest measurement did not result in a different result overall – why then is this data not presented in the results section – could this be included as supplemental data? I do not necessarily disagree with the authors decision, but I would recommend it is more clearly stated why this decision was made, or that the alternative analysis is available for examination.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests