Reviewer’s report

Title: The Bangla clubfoot tool: development and repeatability

Version: 2 Date: 4 October 2013

Reviewer: Kelly Gray

Reviewer’s report:

To Whom It May Concern:

Thank you for inviting me to review the following paper:

The Bangla clubfoot tool: development and repeatability

This tool was developed to provide quick, easily and reliable mid-long term outcomes for children with clubfeet. Indeed, while several outcomes measures exist for older children, combined assessments are lacking.

This trial specifically evaluated the inter and intra-rater reliability of the Bangla tool.

While I found the reliability component of the project to be quite sound it would be worthwhile establishing the validity of this scale before progressing to publishing on reliability.

Major considerations

On page 4 (line 5-6) states –‘... the resulting Bangla clubfoot tool was developed and then validated prior to use’. Has this been previously published? If so could this please be referenced. If not, detail on validation would be recommended. This may be beyond the scope of this paper, but I feel it is essential to first show that this tool is valid in this population.

Appendix 1: 9. Up/down steps. With the current options of ‘yes/ not fully/ with assistance/ no’ it would be interesting to know if there is a lower age limit to which this scale can be applied. The authors have included one child who is 1.3 years of age. The Peabody Developmental Motor Scale (2nd Ed)(www.proedinc.com) state walking up and down stairs independently at around 21-27 months of age and I am wondering if this child may have required assistance due to developmental status, rather than clubfoot correction.

The total score guide in Appendix 1 references ‘Porecha 2011’. The total score system which was referenced from the Porecha article was the scoring guide for The Functional Scoring System. As the Ponseti scoring system does not have published validation, it would be interesting to know if the scoring system has been validated with the Bangla tool.

Abstract/ Results/ Line 2 states that the study was conducted in children who had commenced the Ponseti method at least 2 years earlier, however the results
section stated that the youngest child was 1.3 years of age.

I feel that the Methods section could be improved by adding the following. These would provide significant details to replicate the work. These have been cross-checked with the STROBE guidelines:

- Inclusion criteria. (currently only mentioned in the abstract).
- Were there any exclusion criteria? E.g. co-morbidies? or developmental delay (which may have precluded them from participating in the Gait assessment component?)
- The authors stated that the 37 children – ‘met the study criteria of the subsequent evaluation in 400 children’ (Page 5, methods section, line 2-3). Please expand on this inclusion or provide a reference.
- State the level and type of training of both examiners
- Dates when data was collected (year/ months as appropriate)
- State whether examiners were blinded to each other’s assessments
- Further detail on objective assessment is required to allow for replication.
  - How far were the children asked to walk and run?
  - How many steps were required? Did it matter whether one or two feet were placed on each step? (i.e. step to or step through gait?) A child with severe unilateral clubfoot may walk up and down stairs independently, but with poor quality. (for example, always leading with their good or bad leg on each step).
  - How was heel alignment assessed? If in standing was there a process to ensure children were evenly weight bearing prior to assessment?
  - How was dorsiflexion measured (knee flexion or extension; sitting or standing?)

Minor considerations

The age of participants in the methods section is 2.6 (SD 0.94), but in the results section is 2.4 (0.92).

I would suggest adding ‘SD’ to the Results section before 0.92. I am assuming this is the standard deviation.

As the age inclusion was at least 2 years post initiating Ponseti treatment and the SD is quite wide, I am wondering if the data were normally distributed. Did the authors explore whether the data were parametric or non-parametric?

Table 1- Up/down steps, Trial 1. There is a parenthesis missing before 90.37.

Discretionary Revisions:

The title of this paper refers to ‘development’. I am unsure as to whether ‘development’ is a reflection of the content of this paper. My impression is development has taken place prior to this study.

Was there any particular reason why 37 was chosen as the number to assess? I
noted in Table 1, the 95% CI for left ankle range was very wide (-0.04 to 0.77). It would be interesting to know whether there were a few outliers who skewed this result, or if an increase in numbers would improve this interval.

Discussion section states:
The Bangla clubfoot tool includes the signs (heel position, ankle range) which can indicate relapsing deformity, and also provides for gait observation (where foot supination, or adduction, may be seen).

While I agree completely that the presence of supination is a key observation in children with clubfoot, it is not mentioned in this tool. I am not sure whether this comment is beyond the scope of this paper.

Thank you for inviting me to review this paper.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
'I declare that I have no competing interests'