Reviewer’s report

Title: Motor and cognitive functioning in children treated for idiopathic clubfoot at the age of 3 years

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Reviewer: Susan Mahan

Reviewer's report:

This paper investigates the motor and cognitive skills of 3 years old with idiopathic clubfoot and compares to a cohort of similar aged normal children.

This is an interesting idea, but has some significant procedural flaws and inappropriate conclusions.

In the methods section, they note that they matched each of the 10 children with clubfoot with a randomly chosen age and gender match child from the "address list of the department of Developmental Psychology". Its not clear how these "normals" came to be on the address list of this department.

Most concerning, it was not mentioned in the methods whether or not the experimenters who assessed the children (half with clubfoot, half "normals") were blinded to the clubfoot diagnosis; we find in the discussion that they were not. This is, to me, a major weakness of the project because of the subjective nature of the assessment.

In the results the discussion of the cognitive assessment was not clear what in fact the difference were and what they were measuring.

In the discussion, the authors initially claim that since the 40 month old children have decreased gross motor limitations, that this would lead to low self esteem. This is a tremendous leap. First, the references articles linking decreased motor skill with low self esteem were in a much older age group (youngest age 8). There is no evidence in this paper to suggest that these 40 month old children will continue to have decreased motor function. And there is no evidence that there is low self esteem in 40 month old children. So that is an incorrect leap of faith.

More discussion on how motor development and "visual-spatial-memory" cognitive performance is warranted, including what is meant by "visual-spatial-memory" cognitive performance. It is also not clear if this is a lasting deficit or if this difference resolves by school age years.

While this paper has some interesting ideas, the lack of blinding by the assessor is a major procedural flaw. And inappropriate conclusions in the discussion further weakens this study.
Are the methods appropriate and well described?  
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?  
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?  
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?  
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I recommend additional statistical review

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