Author's response to reviews

Title: Comparing lumbo-pelvic kinematics in people with and without back pain: a systematic review and meta-analysis

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Version: 2
Date: 19 June 2014

Author's response to reviews: see over
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Comparing lumbo-pelvic kinematics in people with and without back pain: a systematic review and meta-analysis

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Version: 2 Date: 19th June, 2014

Author's response to reviews:

Reviewer (Mark Hancock) see over

Reviewer (Tasha Stanton) – no changes required
Reviewer's report
Title: Comparing lumbo-pelvic kinematics in people with and without back pain: a systematic review and meta-analysis
Version: 1 Date: 31 May 2014
Reviewer: Mark Hancock
Reviewer's report:
The authors have responded to my previous comments and I am happy with the changes they have made.

Minor essential revisions:
In my first review I missed the point raised by the editor regarding the defining of cases vs controls. I agree this is a very important issue for this review. For example hypothetically these changes in movement control may occur after the first episode of LBP and then not resolve. In this case you would expect to see differences between cases and controls that have no history of LBP but not when controls had a previous history of low back pain or even mild ongoing pain which may be classified as a case in some study. Many other potential scenarios exist depending on how cases and control are defined. The authors have made some changes in response to the editor’s comment, but I think this limitation (based on poor definition in primary studies) should be highlighted more clearly in the manuscript as it is crucial to sensible interpretation. If there had been clear enough definition in primary studies, then arguably the meta-analysis should have only combined similar definitions (e.g. controls with no history of LBP vs those with past history). I suggest the last sentence of the abstract explains this limitation in more detail.

Abstract amended to include the following additional sentence:
Considerable heterogeneity exists between studies, including a lack of detail or standardization between studies on the criteria used to define participants as people with LBP (cases) or without LBP (controls).

The discussion touches on this point in the second paragraph but again I think this can be strengthened and expanded on.

Discussion amended to include the following paragraph (p 15, third paragraph):
The lack of detail or standardized definition for control subjects is also problematic. For example, it is hypothetically possible that altered movement characteristics occur as a result of a LBP episode and persist after pain resolves. If this is the case, people that were pain free but with persistent altered movements, would have been eligible as control subjects for many of the included studies, provided the episode had been prior to the pain-free time period required for that study. This would have diluted differences between the groups. Similarly, it is not known if certain ‘aberrant’ movement characteristics exist prior to the onset of LBP and are risk factors for an episode of LBP, in which case these characteristics may have also been present in people classified in the included studies as control subjects.

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