

CAHE JC Critically Appraised Article Summary

Journal Club Details

Date of submission	2008 August
Journal Club location	Australian Physiotherapy Association
JC Facilitator	Michelle Guerin

Clinical Scenario

Is there evidence for the effectiveness of whole body vibration in improving balance amongst old patients aged 60 (or 65) and older?

Review Question/PICO/PACO

- P Older adults (60 or 65 year old and above)
- I whole body vibration
- C any form of exercise
- O balance

Article/Paper

Rehn B, Lidstrom J, Skoglund J, Lidstrom B. Effects on leg muscular performance from whole-body vibration exercise: A systematic review. Scand J Med Sci Sports 2007; 17: 2-11.

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Article Methodology:	Systematic Review
Returned JC on:	27 August 2008
By CAHE staff member:	Lucylynn M. Lizarondo

Ques No.	Yes	Can't Tell	No	Comments
1	✓			<p>The study has a clearly focused question.</p> <p>Population: The article did not explicitly state the type of participants but has implied the inclusion of all adult human subjects.</p> <p>Intervention: The intervention of interest was whole body vibration or vibration training (vibration exercise).</p> <p>Outcome: The study focused on the effects of vibration on leg muscular performance (strength/power)</p>
2		✓		<p>The study did not specify which types of study have been included in the review. However, the authors have mentioned the use of a rating system by van Tulder, which includes only Randomised Controlled Trials (RCT).</p> <p>Is it worth continuing? YES</p>
3	✓			<p>The bibliographic search has included a wide range of electronic databases and the reviewers did a follow-up on the reference lists.</p>
4	✓			<p>The methodological quality of the included articles was assessed using a modified version of the criteria list originally presented by van Tulder. The quality rating was performed by two independent assessors. Any disagreements were resolved through discussion until consensus or by a third assessor.</p>
5				<p>The heterogeneity of studies (in terms of vibration exercise parameters, measures of muscle performance) did not allow pooling of results in a meta-analysis. The authors provided a narrative summary of the most important findings.</p>
6				<p>The results were presented using tables and narrative report. Quality rating was expressed as scores and the results for the specific exercises were presented as positive (+) or negative (-) if there was a significant change for at least one of the strength or power variables when compared with a control group or with baseline.</p> <p>Bottom line result: There is strong to moderate evidence that long term whole body vibration exercise can have positive effect on leg muscular performance of untrained and elderly, post-menopausal women.</p>
7				<p>Precision of results could not be determined as there is no statistical analysis used in this review for the effects of intervention (whole body vibration).</p>
8				<p>Applicability of the results to the local population can be best determined by the specific organisation/group.</p>

Ques No.	Yes	Can't Tell	No	Comments
9		✓		The only aim of the study was to look at the results of whole body vibration on leg muscular performance. Therefore, in this context, the most important outcomes, which are strength and power, were all considered. However, there may be outcomes from the point of view of other stakeholders which could have also been investigated.
10				Whilst there is evidence that long-term whole body vibration exercises can have positive effects on leg muscular performance among untrained people and elderly women, the results have not been sufficient as to warrant policy or practice change. Clinical significance and the precise mechanisms behind the beneficial effects remain unclear and should therefore be explored. The negative side-effects of whole body vibration also deserve attention in future research.