

iCAHE JC Critical Appraisal Summary

Journal Club Details

Date of submission	March 2011
Journal Club location	Noarlunga
JC Facilitator	Claire A
JC Discipline	Multi D

Review Question/PICO/PACO

- P** Over 60/65 with balance issues or hospital inpatients
- I** Use of a Wii
- C** No treatment or conventional balance intervention or activity groups
- O** Improvement in balance score, QOL, fear of falling, functional mobility or ADLs etc

Article/Paper

Nitz J, Kuys S, Isles R & Fu S (2010) Is the Wii Fit™ a new-generation tool for improving balance, health and well-being? A pilot study, *Climacteric*, 13; 487-491.

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Article Methodology:	Quasi-Experimental Study
Returned JC on:	2011
By CAHE staff member:	Olivia Thorpe



Ques No.	Yes	Can't Tell	No	Comments
1	✓			<p>Outline the purpose of the study.</p> <p>To investigate the Nintendo Wii Fit™, examining if there is any improvement in balance, strength, flexibility, fitness and general well-being.</p> <p><i>Intervention:</i> 30 minute session using the Wii Fit, twice weekly for 10 weeks.</p> <p><i>Participants:</i> 10 women aged 30-58 years.</p> <p><i>Outcome:</i> balance, strength, flexibility, fitness and general well-being after using the product.</p>
2	✓			<p>Describe the justification of the need for this study.</p> <p>There are no controlled trials published to support the claims that the Nintendo Wii Fit™ purported to improve balance, strength, flexibility, fitness and general well-being. Therefore a pilot study on this topic can help to reveal insufficiencies in the design and it can be addressed in the pilot before time and resources are expended on large scale studies.</p>
3	✓			<p>Was the design appropriate for the study question?</p> <p>The study used a within-subject repeated measures trial which was appropriate to address the objective of the study. A repeated measures design is a study where same measures are collected multiple times for each subject but under different conditions.</p>

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4	✓		<p>Sampling (who; characteristics; how many; how was sampling done?) If more than one group, was there similarity between the groups?</p> <p><i>Inclusion Criteria:</i> Healthy females aged between 30 and 60 years and must have access to a Wii Fit.</p> <p><i>Sample:</i> 10 women aged 30-58 were recruited via a sample of convenience comprising of staff and friends in the Division of Physiotherapy at the University of Queensland.</p> <p>There were calculations in the results section concerning the number of subjects required for an adequately powered study.</p> <p>Describe ethics procedures. Was informed consent obtained?</p> <p>The study was approved by the University Medical Ethics Review Committee and all participants provided informed consent.</p>
5			<p>Specify the frequency of outcome measurement (i.e., pre, post, follow-up)</p> <p>Subjects were assessed pre-intervention and post-intervention after the 10 week intervention.</p> <p>Outcome measures were used to measure fitness, balance and lower limb strength. The outcome measures used were the: 6-Minute walk test; Timed Up & Go; Timed Up & Go Cognitive; Step Test; Modified Clinical Test for sensory integration of balance; Limits of stability and a 5-point Likert scale to measure self perceived well-being.</p>

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6			<p>Intervention described in detail?</p> <p>The study provided a description of the intervention and also a description of ‘adherence with the intervention’ which was a report on how many sessions the participants completed.</p> <p>The intervention was a 30 minute session using the Wii Fit, twice weekly for 10 weeks and included activities from yoga, balance, strength and aerobic options with a log kept by each participant stating what they have done.</p>
7	✓		<p>Results were reported in terms of statistical significance?</p> <p>The results were presented using p-values and standard deviations, therefore reported in terms of statistical significance. Confidence Intervals were also given in the results section.</p> <p>Unilateral stance (eyes open) balance and lower limb muscle strength showed significant improvements ($p < 0.05$, with relatively narrow confidence intervals) but changes in touch, cardiovascular endurance, mobility, weight change, activity level and well-being were not significant.</p> <p>What was the clinical importance of the results?</p> <p>Journal Club to answer.</p>
8	✓		<p>Did any participants drop out from the study?</p> <p>Two women dropped-out of the study, leaving a total number of participants at 8. Reasons for drop-outs were illness and work commitments. The characteristics of those who dropped out were not given, therefore it is hard to determine if the drop-outs characteristics are similar to those who remained in the study.</p>
9			<p>What did the study conclude?</p> <p>Although there was an immediate effect on balance and strength that needs confirmation by statistically powered studies.</p>