

CAHE JC Critically Appraised Article Summary

Journal Club Details

Date of submission	April 2008
Journal Club location	Lyell McEwin Hospital
JC Facilitator	Cassie Sealby

Clinical Scenario

What is the impact of exercise-based cardiac rehabilitation on the psychosocial health and well-being of post cardiac surgery patients?

Review Question/PICO/PACO

- P: Patients post cardiac surgery
- I: Cardiac Rehabilitation – exercise based
- C: Usual care without cardiac rehabilitation
- O: Psychosocial health; well-being; quality of life

Article/Paper

Ng JY, Tam SF. *Effect of exercise-based cardiac rehabilitation on mobility and self-esteem of persons after cardiac surgery*. Perceptual & Motor Skills. 2000; 91(1):107-114.

Article Methodology: Experimental Design (Non-randomised controlled trial)

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Ques No.	Yes	Can't Tell	No	Comments
1	✓			<p><u>Population</u></p> <p>Patients diagnosed with cardiac disease for at least one year and were free from other physical disabilities which originated from other pathological diseases such as neurological or musculoskeletal based</p> <p><u>Intervention</u></p> <p>Intervention, which consisted of 2-month exercise based cardiac rehabilitation, was clear and well-described.</p> <p><u>Outcomes</u></p> <ul style="list-style-type: none"> • Self-esteem as measured by the Adult Source of Self-esteem Inventory • Mobility Skill using the Mobility Scale of the New York Heart Association
2			✓	<p>The study was not a randomised controlled trial; it was a non-equivalent, post test only control group. It is important to note that randomisation technique ensures that every participant has an equal chance of being in either group to avoid systematic differences between participant characteristics at the start of the trial. We will, however, use this study even if it is non-randomised because the intervention and control groups showed similar baseline characteristics.</p>
3		✓		<p>It wasn't described in the paper how participants were allocated to intervention and control groups. However, participants were well-matched according to:</p> <ul style="list-style-type: none"> • Demographic characteristics (age, sex, education) • Type of cardiac surgery • Functional classification (New York Heart Association) • Duration of Disease • Self-estimate of influence on daily activities
4			✓	<p>Blinding of participants would not have been possible in this study. Both outcome measures were self-reported by patients. There was no mention of the telephone interviewers being blinded.</p>
5	✓			<p>All participants were followed up and there were no reported drop-outs for both groups.</p>
6	✓			<p>Outcomes were measured and collected in the same way for both groups.</p>
7		✓		<p>A power calculation was not carried out. Therefore, it will be difficult to say whether the number of participants involved in the study was adequate.</p>



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Ques No.	Yes	Can't Tell	No	Comments
8				<p>An analysis of covariance showed that there were significant differences on the mobility skill improvement and self-esteem between the rehabilitation group and the control group. Those in the rehabilitation group reported significantly better improvement in mobility skills and higher positive self-esteem than the non-rehabilitation group.</p> <p>Bottom line result: The exercise-based cardiac rehabilitation programme positively affected physical as well as psychological outcomes.</p>
9				<p>Results for both outcomes (mobility skills and self-esteem) were presented in terms of statistical significance at $p < 0.05$, using analysis of covariance. This statistical tool appears to be appropriate for this study.</p>
10			✓	<p>Mobility skills and self-esteem are important indicators of the potential benefits of exercise-based cardiac rehabilitation. Tests or inventories used to measure self-esteem are mostly, if not all, self reported scales. Therefore the use of Adult Source of Self-esteem Inventory was reasonable for this study. Mobility skills in this study were likewise based on patient self-reports. It would have been more appropriate and the results more accurate if objective measures of mobility were used.</p> <p>No harmful effects of exercise were documented in this study and appear to be generalisable to other settings.</p>