

CAHE JC Critically Appraised Article Summary

Journal Club Details

Date of submission 2008 October

Journal Club location Masonic Homes (OT)

JC Facilitator Stacey Watson

Clinical Scenario

How do community exercise programs contribute to the improved health of older people who have chronic conditions living in the community?

Review Question/PICO/PACO

- P** Older people living in the community with chronic conditions
- I** Community exercise group
- C** No exercise
- O** level of health/implications of chronic conditions on quality of life

Article/Paper

De Vreede PL, Samson MM, van Meeteren NL, et al. Functional-Task Exercise Versus Resistance Strength Exercise to Improve Daily Function in Older Women: A Randomised, Controlled Trial. *Journal of the American Geriatrics Society* 2005; 53:2-10.

Please note: due to copyright regulations CAHE will supply details of articles that are available online. Where this is not the case CAHE staff will source author approval and supply the article with the CAHE CAP Summary to CAHE JCs.

Article Methodology: Randomised Controlled Trial

Returned JC on: 9 October 2008

By CAHE staff member: Lucyllynn Lizarondo

Ques No.	Yes	Can't Tell	No	Comments
1	✓			<p>The study asked a clearly focused question.</p> <p><i>Population:</i> Community dwelling, medically stable women aged 70 and older; no other specific inclusion criteria specified but reported on the following exclusion criteria: recent fractures, unstable cardiovascular or metabolic diseases, musculo-skeletal disease or other chronic illnesses that may limit training or testing, severe airflow obstruction, recent depression or emotional distress, loss of mobility for more than 1 week in the previous 2 months</p> <p><i>Intervention:</i> The different exercise programs were conducted in a leisure centre during three periods of 12 weeks. One physiotherapist and another sports teacher supervised the training sessions.</p> <ol style="list-style-type: none"> Functional-Task Exercise Program – Exercises were directed to improve daily tasks in the domains first affected in older adults, such as, moving with a vertical component, moving with a horizontal component, carrying an object, and changing between lying-sitting-standing position Resistance Exercise Program – Exercises were designed according to the ACSM recommendations for physical activity in older adults. This involved strengthening of the elbow flexors & extensors, shoulder abductors, adductors & rotators, trunk flexors & extensors, hip flexors, extensors, abductors & adductors, knee flexors, extensors and ankle dorsal & plantar flexors. Control Group – In this group, participants were just asked to keep their normal routine activity during the intervention period. <p><i>Outcomes:</i></p> <ul style="list-style-type: none"> Physical Functional performance as measured by ADAP (Assessment of Daily Activity Performance) Timed Up and Go Test Muscle function tests included isometric knee extensor strength, isometric elbow flexor strength, handgrip strength and leg extension power
2	✓			<p>This study was a randomised controlled trial which was an appropriate study design to address the objectives of the study.</p> <p>Is it worth continuing: YES</p>
3	✓			<p>The participants were randomly allocated to one of the 3 groups by computer using random numbers in table.</p> <p>No significant differences between groups were found in baseline scores for ADAP and muscle function. This homogenous distribution of participants demonstrated that randomisation was successful.</p>

Ques No.	Yes	Can't Tell	No	Comments
4	✓		✓	The examiners were blinded to the group allocation of participants, which was one of the many strengths of this study. However, it was not possible to blind the patients and the instructors who supervised the training sessions.
5	✓			<p>Between baseline and measurement at 3 months, 3 participants in the function group, 6 in the resistance group and 5 in the control group withdrew from the study. After 6 months of detraining, 3 participants in the function group, 2 in the resistance group and 3 in the control group dropped out.</p> <p>Instead of doing an intention-to-treat analysis to address these drop-outs, the authors analysed the baseline data of the participants who withdrew. T-test analyses of baseline scores demonstrated that the drop-outs did not differ from the participants who completed the study and hence, did not lead to an altered group composition.</p>
6	✓			Outcomes were measured and collected in the same way for all participants. All outcome measures were used at post treatment assessment (3 months after the introduction of intervention) and after a 6-month detraining period.
7	✓			Power calculation was done, so that a sample size of 30-35 participants per group was estimated to provide more than 80% power at a significance level of $p < .05$ to detect a difference between exercise group of 10%-15% in ADAP total score and IKES.
8				<p>Results were presented using mean, SD and p-values to allow comparison between scores at baseline and 3-month measurement and 6-month assessment (detraining period).</p> <ul style="list-style-type: none"> The function group had a significantly greater increase at the end of the 12-week training period in ADAP total score, lower body strength, balance and coordination, and endurance than the resistance group. No difference in the effect of exercise between the function group and the resistance group was found for ADPA upper body strength, upper body flexibility, or TUG. <p>Bottom line result: This trial demonstrated that functional-task exercise improves the performance of daily tasks by healthy community-living older women significantly more than the resistance strength exercise does. This improvement was sustained after a 6-month detraining period.</p>
9				Differences between groups were determined based on p-value computation. Results from this study can therefore be considered precise



University of South Australia

CAHE

Centre for Allied Health Evidence

a collaborating centre of



THE JOANNA BRIGGS INSTITUTE

Ques No.	Yes	Can't Tell	No	Comments
10	✓			<p>The applicability and overall generalisability of the results are high. The study has covered most of the important outcomes and its methodological quality is good. Despite the reported adverse events for the exercise groups, such as muscle pain, osteo-arthritic pain, low back pain, the participants were able to complete the exercise programs. This may indicate that these complaints either resolved spontaneously or did not cause much discomfort as to disrupt performance.</p> <p>The extent to which the results can be applied to a local setting is still a decision that is best made by those dealing with each individual setting.</p>