

iCAHE JC Critical Appraisal Summary

Journal Club Details

Journal Club location	Repatriation General Hospital
JC Facilitator	Caroline B
JC Discipline	Nutrition & Dietetics

Clinical Question

Does whey protein supplementation post resistance exercise increase muscular strength in older hospitalised adults, compared to placebo/no protein?

Article/Paper

Arnarson A, Geirsdottir OG, Ramel A, Briem K, Jonsson PV & Thorsdottir I 2013, Effects of whey proteins and carbohydrates on the efficacy of resistance training in elderly people: double blind, randomized controlled trial', *European Journal of Clinical Nutrition*, vol. 67, pp. 821-826.

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Article Methodology: Randomised Controlled Trial

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Ques No.	Yes	Can't Tell	No	Comments
1	✓			Did the trial address a clearly focused issue? The current randomized, controlled, double-blinded intervention study compared the effects of post-exercise whey protein and isocaloric carbohydrate supplements in elderly people who participated in a 12-week resistance exercise program.
2	✓			Was the assignment of patients to treatments randomised? Treatment assignment was randomized and double-blinded. Participants were randomly allocated to treatment groups following a stratified randomization procedure based on a computer-generated list of random numbers. Randomization was stratified by gender to make the proportion of men and women in each group equal.
3	✓			Were all of the patients who entered the trial properly accounted for at its conclusion? The participants who did not complete the trial were reported in the results section figure one. Twelve participants in the carbohydrate group and Is it worth continuing? YES
4	✓			Were patients, health workers and study personnel 'blind' to treatment? Investigators and other staff were kept blind to supplement assignment by the producer of the supplement until the intervention was completed. Furthermore, the supplement drinks were strawberry-flavoured to mask the contents. One of the leading investigators generated the allocation sequence, enrolled participants, assigned participants to interventions and took outcome measurements in collaboration with other staff.
5	✓			Were the groups similar at the start of the trial? The baseline variables are presented in Table 1 (p822). They were not significantly different between the two groups.
6	✓			Aside from the experimental intervention, were the groups treated equally? Both intervention arms were treated equally.

CONTACTS

www.unisa.edu.au/cahe
iCAHE@unisa.edu.au
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Fax: +61 8 830 22853

University of South Australia
GPO Box 2471
Adelaide SA 5001
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CRICOS Provider Number
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7			<p>What are the results?</p> <p>Results were presented using text, tables and figures. Mean values, Standard deviations and P-Values were provided. A significant results would have a P-value of ≤ 0.05.</p> <p><i>Bottom line result:</i> The primary outcomes, lean body mass, strength and physical function increased significantly during the course of the study.</p> <p>Type of dietary supplementation did not influence gains in lean body mass ($P = 0.365$), quadriceps strength ($P=0.776$) or performance during a 6-min walk ($P=0.726$) or a timed up-and-go test ($P=0.151$). Ingestion of 20 g of whey protein immediately after resistance exercise three times per week, does not lead to greater gains in lean body mass, strength and physical function in elderly people with sufficient energy and protein intakes when compared to isocaloric carbohydrate.</p> <p>How large was the treatment effect?</p> <p>As reported in the <i>bottom line results</i>, there was not significant differences found for the main outcomes.</p>
8			<p>How precise was the estimate of the treatment effect?</p> <p>Precision of the results for the main outcomes can be determined based the confidence intervals presented in Table 5.</p> <p><i>*Notes on confidence intervals [used to determine precision of results]</i></p> <p>Confidence intervals (CI) describe the uncertainty inherent in the observed effect and describe a range of values within which one can be reasonably confident that the true effect actually lies. If the CI is relatively narrow, the effect size is known precisely. If the interval is wider the uncertainty is greater, although there may still be enough precision to make decisions about the utility of the intervention. Intervals that are very wide indicate that we have little knowledge about the effect, and that further information is needed.</p> <p>The width of the CI for an individual study depends to a large extent on the sample size. Larger studies tend to give more precise estimates of effects (and hence have narrower CI) than smaller studies.</p>

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9	Journal Club to discuss	<p>Can the results be applied in your context? (or to the local population?)</p> <p><i>Consider whether</i></p> <p><input type="checkbox"/> Do you think that the patients covered by the trial are similar enough to the patients to whom you will apply this?, if not how to they differ?</p>
10		<p>Were all clinically important outcomes considered?</p> <p><i>Consider</i></p> <p><input type="checkbox"/> Is there other information you would like to have seen?</p> <p><input type="checkbox"/> If not, does this affect the decision?</p>
11		<p>Are the benefits worth the harms and costs?</p> <p><i>Consider</i></p> <p><input type="checkbox"/> Even if this is not addressed by the review, what do you think?</p>
12		<p>What do the study findings mean to practice (i.e. clinical practice, systems or processes)?</p>
13		<p>What are your next steps? (e.g. evaluate clinical practice against evidence-based recommendations; organise the next four journal club meetings around this topic to build the evidence base; organize training for staff, etc.)</p>
14		<p>What is required to implement these next steps?</p>

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