*i*CAHE JC Critical Appraisal Summary

Journal Club Details

Date of submission	2013
Journal Club location	Lyell McEwin Hospital
JC Facilitator	Anna Ritan
JC Discipline	Nutrition & Dietetics

Clinical Scenario

Does Dietetic intervention and nutrition support reduce the impact and prevalence of malnutrition in Adult patients with Chronic Obstructive Airways Disease?

Review Question/PICO/PACO

P   Adult patients with chronic obstructive airways disease

I   Dietitian intervention and Nutrition Support

C   COAD patients who do not receive nutrition support

O   Decreased prevalence and impact of malnutrition

Article/Paper

Collins, P, Stratton, R, & Marinos, E (2012) Nutritional support in chronic obstructive pulmonary disease: a systematic review and meta-analysis, *Am J Clin Nutr*, 95; 1385-95.

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Article Methodology:	Systematic Review
Returned JC on:	2013

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Ques No.	Yes	Can't Tell	No	Comments
1	✓			**Did the review address a clearly focused question?** The objective was to conduct a meta-analysis of randomized controlled trials (RCTs) to clarify the efficacy of nutritional support in improving intake, anthropometric measures, and grip strength in stable chronic obstructive pulmonary disease (COPD).
2	✓			**Did the authors look for the appropriate sort of papers?** The databases searched included PubMed, Web of Science and OVID using a broad search strategy to identify a large number of trials. In addition to an electronic database search, a manual search of previous reviews on nutritional support in COPD as well as references of identified trials was undertaken. **Is it worth continuing?** YES
3	✓			**Do you think the important, relevant studies were included?** This review had very specific inclusion criteria (only looking at randomised trials). These inclusion criteria also included: 2) intervention with food strategies, DA, ONS, or ETF; 3) duration of intervention .2 wk; 4) control group receiving placebo or no dietary intervention (eg, usual care, which could include advice and encouragement to eat); 5) stable patients with a diagnosis of COPD (not exacerbating); 6) human studies only; and 7) English language only. Using a strict search strategy and searching both the electronic databases and pearling reference lists, all relevant studies which fit the inclusion criteria should have been located.
4	✓			**Did the review's authors do enough to assess the quality of the included studies?** The methodological quality of the included studies was assessed using the Jadad scoring system. This was performed by one researcher and was independently verified by another assessor with disagreements resolved by discussion with a third assessor.
5	✓			**If the results of the review have been combined, was it reasonable to do so?** Yes, the studies have been combined by meta-analysis. There was also sensitivity test and meta-analysis analysing publication bias (if any studies which haven't been publishd had an impact) which found no evidence of publication bias.

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6				**What are the overall results of the reviews?** The results are presented using text, tables and figures. The mean, range, percent, p-value and confidence intervals were reported. *Bottom line result*: An analysis of the changes induced by nutritional support and those obtained only at the end of the intervention showed significantly greater increases in mean total protein and energy intakes with nutritional support of 14.8 g and 236 kcal daily. This was also reflected in the meta-analysis with the meta-analysis showing improvements in favour of nutritional support for body weight and grip strength, which was not shown by ANOVA at the end of the intervention (may have been due to bias associated with baseline imbalance between groups). Nutritional support, mainly in the form of ONS, improves total intake, anthropometric measures, and grip strength in COPD.
7				**How precise are the results?** Precision of the results can be determined by the confidence intervals. **Notes on confidence intervals [can determine precision of results]* Confidence intervals (CI) describe the uncertainty inherent in the observed effect (e.g. risk of falling), 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. 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. For continuous outcomes (e.g. scores on functional scales), precision depends also on the variability of measurements across individuals; for dichotomous outcomes (e.g. fallers versus non fallers) it depends on the risk of the event. The width of a CI for a meta-analysis depends on the precision of the individual study estimates and on the number of studies combined. Precision may decrease with increasing heterogeneity of included studies and CI will widen correspondingly.
8	Journal Club to discuss			**Can the results be applied to the local population?**
9				**Were all important outcomes considered?**
10				**Are the benefits worth the harms and costs?**

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