International Centre for Allied Health Evidence

*i*CAHE JC Critical Appraisal Summary

Journal Club Details

Journal Club location	Repatriation General Hospital
JC Facilitator	Cassandra Ofner
JC Discipline	Dietetics

Background

There has been a lot of debacle about saturated fat (full fat dairy, meat products, butter) vs unsaturated fats from margarines

Clinical Scenario

Examine above in an Australian context

Review Question/PICO/PACO

P any age, any gender

I saturated fat in diet

C unsaturated fat in diet

O measures of cardiovascular disease, e.g. stroke, blood lipids (e.g. total cholesterol, LDL, HDL)

Article/Paper

Siri-Tarino, P., Sun, Q., Hu, F., & Krauss, R., 2010 'Meta-analysis of prospective cohort studies evaluating the association of saturated fat with cardiovascular disease', *American Journal of Clinical Nutrition,* vol. 91, no. 3, pp. 535-546

Please note: due to copyright regulations CAHE is unable to supply a copy of the critically appraised paper/article. If you are an employee of the South Australian government you can obtain a copy of articles from the DOHSA librarian.

Article Methodology: Systematic Review

Click here to access critical appraisal tool

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Ques No.	Yes	Can't Tell	No	Comments
1	✓			**Did the review address a clearly focused question?** Yes – the aim was to conduct a meta-analysis of prospective epidemiologic studies to estimate the risk of CHD, stroke or total cardiovascular disease associated with increased dietary intakes of saturated fat. This question follows PICO formatting
2	✓			**Did the authors look for the appropriate sort of papers?** Yes – A comprehensive search of two databases was conducted (Medline and Embase) **Is it worth continuing?** Yes
3	✓			**Do you think the important, relevant studies were included?** Yes – authors included a comprehensive list of search terms used to find the studies for inclusion, with strict inclusion/exclusion criteria which supported their research question.
4	✓			**Did the review's authors do enough to assess the quality of the included studies?** Yes – In examining the effect size characteristics with the STATA METAREFG Module, a quality score was incorporated. The following information was used to determine study qualities: *"Dietary assessment method (where 5 points were given for diet records, 4 for validated FFQs, 3 for FFQs that were not formally validated, 2 for diet history, and 1 for 24-h recall), number of dietary assessments, and number of adjusted established risk factors for CVD. Points were totaled to construct a composite quality score for each study"*
5	✓			**If the results of the review have been combined, was it reasonable to do so?** Yes – The authors used random-effects models when evidence showed heterogeneity among the studies. Random-effects models were used to pool the RRs into one composite estimate when several RRs were given for subgroup analysis within a single study.

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6	✓			**What are the overall results of the reviews?** *During 5–23 y of follow-up of 347,747 subjects, 11,006 developed CHD or stroke. Intake of saturated fat was not associated with an increased risk of CHD, stroke, or CVD. The pooled relative risk estimates that compared extreme quantiles of saturated fat intake were 1.07 (95% CI: 0.96, 1.19; P = 0.22) for CHD, 0.81 (95% CI: 0.62, 1.05; P = 0.11) for stroke, and 1.00 (95% CI: 0.89, 1.11; P = 0.95) for CVD. Consideration of age, sex, and study quality did not change the results.*
7	✓			**How precise are the results?** Results are reported with a 95% CI **Notes on confidence intervals:* 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 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?** *Consider whether* *- the patients covered by the review could be sufficiently different to your population to cause concern* *- your local setting is likely to differ much from that of the review*
9				**Were all important outcomes considered?**
10				**Are the benefits worth the harms and costs?**
10				**What do the study findings mean to practice (i.e. clinical practice, systems or processes)?**

11		**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.)**
12		**What is required to implement these next steps?**

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