Reviewer's report

Title: How effective is good domestic kitchen hygiene at reducing diarrhoeal disease in developed countries?: A systematic Review and reanalysis of the UK IID study

Version: 2 Date: 22 June 2007

Reviewer: Allison Aiello

Reviewer's report:

General

This manuscript is a both a review of the literature as well as a novel research study assessing the relationship between domestic kitchen hygiene and development of diarrhea. The review is novel in that it focuses specifically on domestic kitchen hygiene as opposed to overall household hygiene characteristics. The topic of the study is interesting and timely. The objectives are clear but the methods, results, and conclusions require further organization and focus. There are several issues that should be addressed in order to enhance the overall methodology and presentation of the manuscript.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

• Methods: There is very little information on the UKIID study. What was the methodology for this study? What kind of study was it? How were the subjects selected? How many individuals participated? Who funded the study? What was the purpose? How were subjects interviewed? How did they define illnesses and collect illness data? What are the strengths and limitations of the dataset as it applies to the questions that are being asked in this study? In addition, further information on demographics of the subjects included in the analyses (compared to those excluded) should be presented (i.e. age range, gender, income, education, etc). Also, all factors assessed in the analyses should be described. Was there no need to control for age and gender?

• The overall conclusions of the review do not coincide with the results. The results indicate that there is a very limited body of research in this area and that there are no randomized studies that have compared rigorous kitchen hygiene education components to a control group that received no education (and no hygiene products). Note that E. Larson's study is really a comparison of product types (antibacterial versus plain)-- not changes in kitchen hygiene habits. Given that the author's results show that there is a lack of rigorous research on this topic, it is not possible to firmly conclude that "poor domestic kitchen hygiene
practices are not important risk factors for diarrhoeal disease". It is clearly premature to conclude that domestic hygiene is "not important" since the research used to assess the questions of interest is generally flawed, limited, and inconsistent.

• In the discussion the authors mention issues regarding the use of expert opinion. This is an interesting commentary. However, an introduction to the argument including a definition and example of an expert opinion would assist with the flow of the discussion.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

• Results section, second sentence. This sentence is not clear. What does "only one high quality study, 9 medium and one high quality studies" mean? Does this mean there were two high quality studies?

• There are several grammatical and spelling errors that should be fixed. See first sentence of the introduction (use of "and" instead of "an"). See methods "Children and Adults" in second sentence are capitalized in the middle of the sentence. There are more instances of these errors throughout the manuscript and should be corrected.

• Version of SPSS and source of this program should be stated.

Discretionary Revisions (which the author can choose to ignore)

• Methods: The combination of a systematic review with a novel analysis is somewhat confusing. It seems as though the review could be condensed further, summarized, and possibly used as background material for the novel results presented from the UKIID analyses.

• Methods: The study quality parameters are somewhat limited. The authors might consider examining other study quality factors, such as selection bias, statistical power, and loss to follow-up.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published
**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests