Reviewer's report

Title: A case-crossover study of alcohol consumption, meals and the risk of road traffic accidents

Version: 1  Date: 3 June 2009

Reviewer: Daniel C Vinson

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I have no Major Compulsory or Minor Essential Revisions.

The study’s research question was precisely defined. Quantifying the relationship between alcohol consumption and the risk of a road traffic accident is challenging. The only at-risk times are, as the authors clearly explain, are times when the injured person was driving. They creatively addressed that by being appropriately flexible in selecting a control interval, by appropriately controlling for time-of-day, and by acknowledging the potential for residual confounding in their analyses.

The authors state the study’s strengths and weaknesses clearly and fairly. Data collection and analyses were well done.

It might be wise to ask a statistician to review their method of controlling for time-of-day, but it seems reasonable to me.

The writing is clear. This is an enjoyable paper to read. The title and abstract convey the paper’s methods, results, and conclusions accurately.

Like the authors, I wish they had had more participants so the confidence intervals around the odds ratios were narrower, but their main conclusion is valuable and the subgroup analyses (Table 4) appropriate.

Discretionary Revisions

1. Some who study injury don’t like the term “accident,” saying it implies inevitability. I think it’s fine and will let the journal’s editors decide whether to keep or revise it.

2. Similarly, the term “odds ratio” might be preferred over “relative risk” because conditional logistic regression calculates the former, not the latter. But since it’s reasonable to assume the odds ratios are close approximations of relative risks, this is a only a quibble.

The study was well conceived and well conducted. It makes an important contribution to an important area of public health, especially in its finding that even < 20 ml of ethanol can increase risk of causing a road crash.

Thanks for the opportunity to review this!
Dan Vinson

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.