Reviewer's report

**Title:** Vitamin supplement use and risk of total cancer and cardiovascular disease among the Japanese general population: A population-based survey

**Version:** 1  **Date:** 20 February 2011

**Reviewer:** Peter Wallström

**Reviewer's report:**

This is a description of a large and well-conducted cohort study in Japan. I like the size of the study, the strict inclusion criteria, the detailed background data and the use of it, and the emphasis in the Discussion on the group with consistent supplement use. The writing is fairly clear, but there is some room for improvement of clarity, at least to this reader. My suggestions are mostly minor.

**Minor Essential Revisions:**

Methods, 1st para, line 9: We excluded 5,809 persons… This seems to be incorrect. 95,405-5,809 does not equal 95,327.

Methods, 4th para, line 1: I am not familiar with the term “active patients’ notification”. Is this some sort of admission-to-hospital data?

Methods, 4th para, line 4: “Cases of cancer were coded according to the WHO”. I suppose this means that the ICD was used, but what version?

Methods, last paragraph (rather long…), description of multivariate model: Is “screening examination” one or more variables? Does each examination correspond to one yes/no variable? How was this information collected?

Results, 3rd para: I am not sure of what is meant by the term “ischemic infarction”. Is it an ischemic stroke/brain infarction, or a myocardial infarction? What ICD codes are included?

Discussion, 3rd para, 2nd sentence: “homocysteine may promote atherogenesis”. I am not an expert on cardiovascular pathogenesis by any means, but as far as I know there is very little evidence that lowering homocysteine in itself lowers cardiovascular risk. On the contrary, I believe there is fairly good evidence that it does not affect risk. References 39-41 are rather old (the most recent is from 1997). I strongly suggest an update here.

**Discretionary revisions:**

Results: I suppose the authors want to avoid unnecessary numbers, but this writer is fond of standard errors of proportion. For example, I would have liked to see the SE(p):s for the prevalence of vitamin supplement types, although I realize this probably would have meant another table.

Similarly, there are no statistical tests for the results in Table 1. Although not strictly necessary, this writer would like to have them. Maybe the material is so
large that all differences are significant at least on a 5% level, but if so, I think it should be mentioned.

Results, 3rd para: The 4th sentence, starting with “Although not…”: I think this sentence should be omitted. This seems like possible mass significance, since it is a subgroup analysis of an overall null association.

Same para, last sentence: A not very significant result, I suggest omission of this sentence.

**Level of interest:** An article of importance 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.