Reviewer's report

Title: Consumption of whole grains and cereal fiber and total and cause-specific mortality: prospective analysis of 367,442 individuals

Version: 1 Date: 28 November 2014

Reviewer: Michel de Lorgeril

Reviewer's report:

This is an interesting study evaluating whether consumption of whole grains and cereal fiber is associated with reduced total and cause-specific mortality.

The study is huge (n=367,442), follow-up is long (14 years) and the number of death is considerable (>46,000).

Major aspect
They show several significant inverse associations confirming that whole grain consumption is safe and likely protective against several types of deaths.

The authors however cannot (with such a study) answer to their apparent main question (end of the second paragraph in the Introduction): is protective effect of whole grain due to its cereal fiber components?

Despite many statistical adjustments, a causal relation cannot be demonstrated with such a study and I suggest to delete this hypothesis. They can however prudently discuss the issue in their discussion section.

Minor aspects
In the Abstract, data about follow-up and number of death should in the result section not in the design section.

Methods: it is not clear why extreme consumers (about 7,000) have been excluded, as they could provide some information. Was exclusion done before the first analyses? What were the exclusion criteria?

We need to know how alcohol intake and physical activity have been quantified.

We would like to read in the article what are the main cereals consumed by that US population: proportions of wheat, whole wheat, rye, whole rye and so on.

We would like to read in the article what are the main fibers quantified in that study. Two simple Tables would be welcome.

In the discussion section, it would be important the authors discuss a little bit more what are the biological properties of the fibers they are supposed to have measured. If, as an epidemiological study, they report interesting data, they should mention that the issue is extremely complex. As an example, fibers are involved in the regulation of gut microbiota which is appearing as a major health issue.

In addition, beside their own properties, certain fibers are intrinsically linked to
grain polyphenols (arabinoxylans vs. ferulic acid) and their metabolism are ineluctably interconnected and also connected to the gut microbiota ...

**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