Reviewer's report

Title: Restriction of meat, fish, and poultry in omnivores improves mood: a pilot randomized controlled trial

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Reviewer: Neal Barnard

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Discretionary Revisions
I would suggest changing the words “omnivore diets” to “omnivorous diets.”

It is helpful to use no more abbreviations than necessary. I would suggest not abbreviating “meat, fish, and poultry.”

Page 3: The heading “Findings” appears to be in error. I presume this should be labeled “Introduction.”

Page 3, line 3: I would suggest changing “Diets rich in seafood are an exclusive source of the anti-inflammatory long-chain n-3 fatty acids” to “Fish and shellfish are among the few dietary sources of long-chain n-3 fatty acids.” Long-chain n-3s have also been identified in seaweed, which is a nutritionally significant source for some populations.

Page 3, line 10: I suggest you qualify this sentence suggesting that vegetarian diets are low in n-3 or n-6. They may be in some cases, so it would be important to identify the source of these data. However, if the diet includes soy products, walnuts, and flax, the ALA content will be relatively high. Also, n-6 oils may be found in many common cooking oils.

Page 4, lines 19 and 21: I would suggest changing the ambiguous word “restrict” to the more explicit word “avoid,” if that would be correct.

Page 5, line 21: It is noteworthy that the n-6 to n-3 ratio in a vegetarian diet can vary dramatically, depending on the foods chosen. Greens have a much more favorable ratio, for example.

Page 5, lines 23-25: I would suggest moving the discussion of fatty acid conversion to the discussion section.

p. 7, lines 1-2: I would delete the suggestion that humans “evolved on a hunter-gatherer diet.” Such an era was only one phase of human evolution. You may wish to look at D.J.A. Jenkins work on the “simian diet,” in which he argues that early human diets were more like those of other great apes and that substantial increases in meat-eating were a later phenomenon. Similarly, Richard Leakey’s team showed that meat-eating probably began as scavenging, but not until humans had developed stone tools, suggesting that people were essentially
herbivores for much of our pre-Stone Age history.

Page 7, last paragraph: The “limitations” you mentioned are actually possible mechanisms that would explain your findings. It is good you’ve mentioned them, but I would take them out of this paragraph and describe them earlier.

Regarding EFAs in people following plant-based diets, I would suggest consulting the recent paper from the EPIC study, which describes blood levels of DHA and other fatty acids in vegans and others:


Also, a well-written review on fatty acids in vegetarians:


Page 8, line 4: The suggestion that “U.S. omnivores who will likely never adopt a vegetarian diet….” is overly pessimistic and does not follow from your results. It should be omitted. If the findings of your study hold true in further studies, then people who are troubled by persistent mood disorders may well wish to try a plant-based diet, as an increasing number of people are now doing for other reasons. After all, depression has is treated with drugs that have many side effects, as well as electroconvulsive therapy. In comparison, a diet change seems quite benign. The acceptability of plant-based diets in clinical research has been shown to be on a par with other therapeutic diets. For example:


Table 2. I would suggest adding descriptors to the scales to facilitate interpretation.

Thank you for the opportunity to read this important and interesting manuscript.