

Author's response to reviews

Title: Fatty acid status and behavioural symptoms of Attention Deficit Hyperactivity Disorder in adolescents: A case-control study

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Author's response to reviews: see over

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Editor
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Dear Sir:

We hereby submit a revised version of our article entitled “Fatty acid status and behavioural symptoms of Attention Deficit Hyperactivity Disorder in adolescents: A case-control study” by Ashley Colter, Caroline Cutler and myself. We have addressed the major concerns of the referees and provide rebuttal responses to some of the criticisms of reviewer #1. The specific responses and places in the manuscript where changes have been made are reviewed in point by point fashion below.

Reviewer #1

1. The reviewer was critical that we had missed two recent studies of interventions using omega-3 supplements in ADHD sufferers. One of these only appears a couple weeks before our original submission so indeed we had missed this. The other was not revealed in a systemic review initially. Both of these important studies are referred to in the revised manuscript and appropriately referenced in the introduction and discussion sections of the manuscript. We apologize for this oversight in the initial submission.
2. Both the introduction and discussion sections have been substantially shortened, and only critical and substantive details described. Reference to studies that did not use appropriate behavioural analysis have been removed from the review of the literature.
3. The reviewer suggests that we needed to do non-parametric statistical testing because we did not have the same number of subjects in each group (this is only true for the dietary intake data). The assumptions for the T-test do not require equal numbers of subjects in each group. What it requires is that errors be normally distributed and that the SDs between groups was not statistically different. These criteria were met by our data set and thus non-parametric analysis was not necessary. We did use two-tailed testing and this information has been included in the methodology section of the revised manuscript.
4. The reviewer questioned whether it was appropriate to use red blood cell phospholipid fatty acid composition rather than serum phospholipid. The reviewer is correct that my colleague, Dr. Bruce Holub is an expert in this area. Dr. Holub and I are in agreement that the the “best” indicator of long-term fatty acid status is red blood cell phospholipid. Serum phospholipid fatty acid determinations are easier to accomplish and more amenable to the development of rapid-assay technology but are more likely to reflect short-term fatty acid intake rather than long-term intake. The literature is quite clear in demonstrating that red blood cell fatty acid composition reflects very well, long term intake and also usually reflects storage composition in adipose tissue. Thus the red blood cell fatty acid composition is certainly an appropriate compartment to measure and we and others have demonstrated that changes in this compartment are sensitive to dietary manipulation and similar to changes that are expressed in liver, brain and other tissues.

5. We have corrected Table 4, as the reviewer suggested. There was a mistake in the original and this has been remedied. In addition we have broadened the spectrum of fatty acids included in the table, to better reflect those measured by other researchers. We have also clarified in the table legend that fatty acid composition is on a mole percentage basis, which is the standard format for presenting such data.

Reviewer #2

1. The numbers of subjects are clearly outlined in the manuscript in several places. The possibly limitations of subject number to some of the outcomes is discussed in the discussion section of the manuscript.

2. As indicated in response to Reviewer #1 both the Introduction/Background and Discussion sections of the manuscript have been dramatically shortened and are much more tightly focused on the actual outcome measures.

3. The results of the correlation analysis did describe both the coefficients and the the significance in the results section of the original, and now the revised, manuscript.

We trust that the changes we have made to this manuscript have improved both its quality and readability by other researchers and hope that it is now deemed suitable for publication.

Kind regards,

Kelly Meckling, PhD