Reviewer's report

Title: Association of maternal omega-6 fatty acid intake with infant birth outcomes: Korean Mothers and Children's Environmental Health (MOCEH) study

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Reviewer: Undurti Das

Reviewer's report:
I read the answers of the authors. Some of the answers are acceptable.

But, I am not willing to accept the general answer of the authors that dietary recall method is sufficient to assess the intake of PUFAs. This is a crude method and needs to be validated by measuring plasma PUFAs. Since human diet is never devoid of any of the PUFAs (EFAS especially LA and ALA that need to be converted to their long-chain metabolites), it is essential that in the types of study that is under review authors should measure plasma levels of various PUFAs and correlate them to whatever parameters they are measuring. Thus, plasma levels of LA and ALA may be different but their metabolites such as GLA, DGLA, AA and EPA and DHA may be within the physiological range and sufficient for various physiological processes. In fact, I can go to the extent of saying that even measuring PUFAs alone may not be sufficient since they, in turn, are converted into various prostaglandins, leukotrienes, thromboxanes, lipoxins, resolvin, protectins and maresins. Thus, trying to arrive at a conclusion just based on dietary recall is rather crude and not acceptable. In fact, I go to the extent of suggesting that authors perform an animal study where they feed different and individual fatty acids and PUFAs in different ratios to the mothers and study the birth eight and growth of the F1 generation. It should also be understood that if there is ever a slight reduced levels of any one or more than one fatty acid, other fatty acids and/or their metabolites are likely to compensate for the same. Thus, the role of various PUFAs and their metabolites in growth and birth weight of fetus and the newborn is very complex and it is hazardous to conclude based on crude evaluation of PUFAS just by dietary recall method.
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Nil

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