Reviewer's report

Title: Preventing mental health problems in offspring by targeting dietary intake of pregnant women

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Reviewer: Nick S Macklon

Reviewer's report:

This is a concise review of an emerging but important field. The authors set out to argue the case that periconceptional, perinatal and postnatal diet may impact on the risk of the mother and/or offspring developing depression later in life, and much of the paper is given over to citing data from descriptive studies which indicate that there may be link. The underlying mechanisms remain unclear and much of the discussion in this area is speculative and associative. Despite this the authors propose that this evidence is sufficient for them to 'call for the application of targeted, primary prevention strategies that focus on dietary intake'.

Points requiring attention:

1. While the suggested link between diet and mental health appears significant, and this group have made considerable efforts to investigate this, the reader must infer that this conclusion is based largely on cohort studies which are open to bias from both known and unknown confounders. Therefore, the requirement demanded by the authors to focus on diet as the key preventative agent, rather than as one of a number of social determinants, is not sufficiently founded on data.

2. The postnatal period referred to is ill defined. Does this mean the period between birth and developing mental health issues, or the true postnatal period, which is normally taken to end before weaning?

3. More information on the impact of breastfeeding, including duration, would be of value.

4. Given the clear recommendations made to use diet as a preventative measure, it is notable that no specific dietary intervention is proposed; either in terms of content or duration. If there is insufficient evidence to support a specific intervention it begs the question as to whether their recommendation is sufficiently founded at this time. This should be addressed.

Minor points:

The authors may wish to cite more extensively the work that has come from the Southampton Women's Survey, which has investigated the link between preconceptional factors and a number of cognitive outcomes.
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.