Reviewer’s report

Title: Effects of valproic acid on skeletal metabolism in children with epilepsy: a systematic evaluation and meta-analysis based on 14 studies

Version: 0 Date: 11 Jun 2019

Reviewer: Barbara Blackie

Reviewer's report:

The methods would appear to describe the statistics used in analysis well, however there are gaps overall. The inclusion and exclusion criteria use 6 months of valproic acid as a necessary factor, however it is not clear at all the timeline on which all of the blood values were done. Were they compared on the same timeline? Ie did all of the studies included use 6 months as the time for testing? Or were there studies that used shorter or longer windows? In the Extraction of Study Variables section, "...and (5) 18 Key detection data on bone metabolism indicators: calcium, serum phosphorus, ALP, PTH, 19 osteocalcin, 25-OH-VitD and BMD..." is stated but nil about when in follow up these were done.

There is no mention of looking at any control group in the body of the study, however Figures 2, 4 and 5 mention control groups. All of the studies were retrospective, did they all have control groups? How many of the 14 did?

As it is not clear what exactly the timeline is, and there is some clarity needed on the statistics, the only part of the conclusion that is sure is the statement re the need for more study.

The english grammar needs a considerable amount of work, there is misuse of the, it, on, in etc in much of this paper, there is awkward language that makes it difficult to read, the tense is inconsistent, sometimes present, sometimes past, and there are spelling mistakes.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Unable to assess
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review? If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

Quality of written English
Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited

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