Reviewer's report

Title: Vitamin D in health and disease: Current perspectives

Version: 1 Date: 25 September 2009

Reviewer: Olivier Bruyere

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The objective of the present study was to review the vitamin D in health and disease.

Major Compulsory Revisions

- Globally, this manuscript suffers from a lack of clear methodological approach. I would suggest to include the search methodology.
- Since the literature on this topic is very exhaustive, the selection of paper needs to be explained. For example, and in the case of osteoporosis for which I am more familiar, the selection of paper seems very biased. As a matter of fact, the authors only report one meta-analysis (out of more than 5 or 6). Moreover, the authors also report the result of single randomised controlled trials already included in the meta-analysis. I presume, but I do not know the whole literature on this subject, that such biased literature research has also been conducted in the other sections of the paper.
- From a general point of view, the analysis of the literature must be more critical.
- The authors state that sufficient vitamin D should reach a level of 30ng per ml or greater. Is it truth for all ages or for all diseases preventions?
- The authors state that children and adults require approximately 800 to 1000 IU per day. The rationale for such statement need to be exhaustively developed.
- I do not understand why a long part of the paper is devoted to UVB exposure. At least, a benefice-risk analysis must be performed.
- Statement such as “increasing vitamin D level is vital in the management of several diseases” should be deleted or must have appropriate references.
- A lot of trials (e.g. in the muscles weakness section) also relate to vitamin D and calcium supplementation. Moreover, this section only deals with fall prevention and muscles weakness is only one of the risk factors of fall.
- Where possible, I would suggest, from a general comment, to include meta-analysis instead of individual randomized controlled trial. In cases where no meta-analysis is available, then, randomized controlled trial could be included.
- A lot of sentences need references.
- Across the whole manuscript, a clear definition of doses and duration of vitamin D supplementation or exposure needs to be exhaustively reported.
- The authors need to be more systematic and report clearly the clinical interest
of vitamin D supplementation, sun exposure or UVB exposure, in each disease.
- Some references are not cited appropriately (see, for example, reference 71 in the conclusion).
- I would suggest to be much more exhaustive in the literature research regarding vitamin D. On the other hand, I would suggest to reduce the number of references regarding definition or physiopathology of diseases.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

For this particular manuscript, I declare that I have no competing interests.

However, below is my general competing interests.

Grant research, Consulting fees, lecture fees or reimbursement for attending meetings: Servier, GlaxoSmithKline, MSD, Theramex, Galapagos, Rottapharm, IBSA, Wyeth.