

Reviewer's report

Title: A Natural Seaweed Derived Mineral Supplement Improved Range of Motion and Walking Distance Following a 50% Reduction in NSAID Dose: A Randomised, Placebo Controlled Pilot Study

Version: 1 **Date:** 8 December 2008

Reviewer: Robin Christensen

Reviewer's report:

Major Compulsory Revisions:

Statistical Peer Review:

A Natural Seaweed Derived Mineral Supplement Improved Range of Motion and Walking Distance Following a 50% Reduction in NSAID Dose: A Randomised, Placebo Controlled Pilot Study

Thanks for letting me review this very exciting paper.

I do indeed support publications on Pilot Studies. It doesn't matter whether the results are significant (e.g. $P < 0.05$) per se.

If the authors are able to cope with my rigorous suggestions, I will approve the paper for publication – independent of statistical significance per se; transparent reporting is more important!

This dilemma is actually my most important concern. I don't feel confident about the data procedures at present.

General concerns:

1. Please use and report data as recommended in the CONSORT statement when writing a paper following a RCT.
2. I'm very concerned about the number of participants (randomly?) allocated to each of the groups ($N_c=14$ and $N_e=8$); the authors state that they used an ITT approach (?). How come data is allocated like this? Was it a 1:2 allocation with a preference to Placebo?
3. It is not OK to introduce the use of a total N (=29) in the Abstract when that isn't the ITT population.
4. When looking at CLINICALTRIALS.GOV it looks like the WOMAC index was the (most) primary outcome as I would expect a priori. Please do not downplay the importance of a primary outcome. I wouldn't hesitate to report non-significant results as the first one in the Abstract.
5. Please provide a Table with the Efficacy data; e.g. N, Mean (SE) for each group and a column with group mean differences.

Among epidemiologists there is a saying

“Keep torturing the data until it confess” meaning that you might find something significant if you do lots of tests. (i.e. please don't).

Comments:

1. [Title] I would suggest the following title:

A Natural Seaweed Derived Mineral Supplement (Aquamin F) for Knee Osteoarthritis: A Randomised, Placebo Controlled Pilot Study

2. [Abstract]: Please correct the ABSTRACT according to the number of patients included.

Refer to WOMAC (e.g. pain, disability and global) as the co-primary outcome.

When referring to the number of patients being randomly allocated, please provide those numbers. (e.g. $N_e=8$ & $N_c=14$).

The number of patients included in each (ITT) group would be considered a results (i.e. CONSORT).

Although not significant - state the Primary outcomes before ROM and 6MWD.

When reporting ROM and 6MWD, I would also like to see the group mean differences (with 95% confidence intervals).

[METHODS]

On page 5, the authors report specifics on the patients enrolled in the study; this should be in the results section. Please correct.

I am concerned about how the patients were randomized: Please state!

I am concerned about the allocation concealment; how was the result of the randomization implemented (i.e. Describe whether there was a Concealed Allocation)

In the statistics section please be more explicit on how/when/why the authors used the different tests.

I approve the ITT note for robustness; however, it is important for the ITT approach that the authors state which patients were considered eligible for this “population”. The ITT population should be all the individuals being randomized – independent of whether they received any therapy etc.

Again: Move all the patient specific data (including Baseline Characteristics) to the results section (As recommended in the CONSORT statement). The idea is that until the results section you only include prior knowledge; and in the results section you show “what happened”.

I am happy with FIGURE 1 (although it should be presented in the Results section) – however, I'm concerned about the allocation scheme (1:2?)

RESULTS:

Minor note: When referring to the patients' body weight I would prefer kilograms instead of pounds (use S.I. units).

In Table 2 – a minor correction; it is incorrect to report SE's when referring to descriptive statistics – it should be SD's.

When reporting efficacy data – on the other hand – it is "elegant" to provide the Mean values with the SE's (applicable to hypothesis tests).

Thanks

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Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

'I declare that I have no competing interests'