Reviewer’s report

**Title:** Vitamin D3 and Gargling for the Prevention of Upper Respiratory Tract Infections: A Randomized Controlled Trial

**Version:** 1  **Date:** 30 December 2013

**Reviewer:** Melissa Li-Ng

**Reviewer’s report:**

**Major Compulsory Revisions:**

1. Almost one-third of the URTI events (44 out of 150) were adjudicated -- please explain the adjudication process. Did the two clinicians contact the subjects? How did the clinicians decide whether the subject had URTI or not?

2. Please explain which nasal swab was cultured -- was it from day 1 of the 7 consecutive daily nasal swabs from symptom onset?

3. When did the URTIs occur? The events were recorded 1 week after randomization -- was the frequency of URTIs the same throughout the 8 weeks? Were there less infections after more doses of vitamin D in the vitamin D group? Would you expect vitamin D supplementation to work this quickly and in such a short duration (8 weeks)?

**Minor Essential Revisions:**

1. Under "Background” 1st paragraph, I would mention that URTIs are caused by a number of viruses. I would also mention that the peak of rhinovirus infection is in September. This would explain why the study was done in September to October.

2. Under "Discussion” 4th paragraph, if vitamin D supplementation reduced rhinovirus load, why did the vitamin D group experience more severe symptoms? How could your explanation of vitamin D preventing "milder infections" be valid if you are referring to rhinovirus infection? This leads to another question: does severity of URTI symptoms correlate with viral load? One thing to take note of is that though the common cold is caused by viruses, the symptoms are caused by the body’s immune response to the virus.

It would be interesting to know the cultures from the asymptomatic subjects. I am sure that if their nasal swabs were cultured, we would find positive cultures. We may view these positive cultures as contaminants or the asymptomatic subjects may not have had an inflammatory response to the viruses.

**Discretionary Revisions:**

1. Why is there an asterisk (*) next to Vitamin Use in Table 1? I do not see a comment for the asterisk.
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.