Reviewer’s report

Title: Lack of efficacy of pomegranate supplementation for glucose management, insulin levels and sensitivity: evidence from a systematic review and meta-analysis

Version: 0 Date: 09 Aug 2017

Reviewer: Pei-Min Chao

Reviewer's report:

This is a meta-analysis for RCT evaluating pomegranate supplementation effects on blood glucose management. Publication bias, subgroup analyses and sensitivity analysis were also conducted, which did not change the conclusion that pomegranate intake did not show a notably favorable effect on the improvements of blood glucose and insulin management. The methodology is fine, however, too many mistakes authors need to be more careful and some issue need to be addressed (see below).

1. In Abstract, there were some statements inconsistent with the main text.

   (1) HbA1c (WMD, -0.03 mmol/L; 95% CI, -0.29 to -0.22; P=0.79), these values were different from L235 and Figure 3.

   (2) The units used for WMD of insulin, HOMA, and HbA1c were incorrect. As authors stated all values for insulin were converted into "μIU/mL".

   (3) "Significant heterogeneity was detected for FBI and HbA1c." According to Results, heterogeneity occurred in FBI and HOMA.

2. The nature and composition of pomegranate juice, pomegranate seed oil, and pomegranate extract are quite different. Authors should elaborate on the major compounds in PJ, PE and PSO. The statement of "Pomegranate (Punica granatum L.) contains a high concentration of total polyphenols (e.g. ellagic acids, gallotannins, anthocyanins and other flavonoids)" in L108 is not informative since above mentioned compounds might not be found in PSO. In contrast, PSO is famous for a conjugated fatty acid, punicic acid. This should be indicated. Regarding PE, which part of plant was extracted? What are their major components?

3. L114, "glycemic etabolism" mis-spelling?

4. In M&M, it is confusing for trials with multiple intervention groups, as L155-166 stated "we grouped together all the experimental groups and compared them with the control group" However, in L202-205, it seems intervention groups with 2 different doses were regarded as two separate trials. Please clarify.
5. In Result, Identification of relevant studies, the information provided was not clear and enough:

(1) In Figure 1, "additional records identified through other sources" (what sources? should be indicated).

(2) "72 were excluded either because of duplication or because they were irrelevant to our meta-analysis (this description was not matched with Figure 1). In Figure 1, how come n=32 turns to n=24 after removing n=72?

6. Table 1, some values in column of "Mean age" seems to be range, not mean. I recommend to provide "mean" and also "range", if they were available. The same for BMI. The nature of placebo (starch, olive oil…?) would be better to provide.

7. In Results, L224-225, It was unclear "When we judged all three domains to have a low risk of bias, we designated the trial as having a low risk of bias."

8. The quality of Fig 3 is not good.

9. Shorten L247-258, there was no need to repeat the data in Table 2. Moreover, the data for parallel and crossover design list in text were not matched with those in Table 2.

10. L259-260, "the subgroup analyses indicated that differences in study design, type of intervention, …. did not appear to significantly influence pooled mean differences in FBI concentrations." This was not true. Table 2 shows there was a significant effect of supplement on FBI within PJ <250 ml/g subgroup.

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