Reviewer’s report

Title: Chromium supplementation in non-obese non-diabetic subjects is associated with a decline in insulin sensitivity

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Reviewer: ZBIGNIEW KREJPCIO

Reviewer’s report:

The manuscript has some weaknesses to be considered before its publication, as follows:

1. A small number of subjects (31) participating in the trial, power analysis not mentioned.

2. Assuming that the total elemental Cr (and it bioavailability) provided with a Cr compound is decisive for its biological effects (mainly pharmacological effects), the dosages of CrPic used in this trial (1000 µg/person/day) provided only 124 µg elemental Cr/day, which is not very high, in comparison with that used in other trials (eg. 400 or 500 µg Cr/day; Racek etal. 2006; Krol et al. 2011;), thus no positive “pharmacological” response was observed. This should be discussed in greater detail.

3. The literature review provided in this manuscript, although fully appropriate, is not “impressive”, mostly “old” literature is mentioned, and does not reflect information provided by more recent papers (only 1 source from 2011), missing many newest reports or reviews (2010-2012) on this subject, eg.
   - Golubnitschaja O, Yeghiazaryan K., EPMA J. 2012
   - Drake TC, Rudser KD, Seaquist ER, Saeed A. Endocr Pract. 2012
   - Kleefstra N, Houweling ST, Groenier KH, Bilo HJ. Metabolism. 2010
   - Etc.

4. References 45 and 50 (page 10) – are not included in the reference list (pages 19-21)

5. Information - whether and how quality assessment of Cr analysis (urine, blood) was performed, are lacking – should be provided.
In my opinion, after improving/correcting these weaknesses, this work can be published in the BMC Endocrine Disorders

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:

I declare that I have no competing interests.