Review of: "Effect of Supplementation with Moringa Oleifera on Antioxidant and Oxidative Stress Biomarkers of Infertile Women: A Pilot Open-Label Case-Control Randomized Clinical Study"

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Potential competing interests: No potential competing interests to declare.

The manuscript « Effect of supplementation with Moringa Oleifera in antioxidant and oxidative stress biomarkers of infertile women: a pilot open-label Case-control randomized clinical study" of Onyeaghala et al. is a clinical trial to investigate the effect of Moringa supplementation on women with reduced fertility, and in particular, on oxidative stress circulating parameters.

The manuscript cannot be accepted in the present version; major revisions are needed to ameliorate the quality of the manuscript, and the presentation of the data is not appropriate.

Please address the following major issues:

1. *Moringa oleifera* is used in several countries in traditional medicine. What is the historical use of this plant in Lagos State, where the study is conducted?
2. Different parts of *Moringa oleifera (roots, leaves, seeds, flowers…)*can be used in supplementation, but it is not clear in the manuscript which part of the plant was used to make the *Moringa* capsules.
3. The composition of polyphenols, glucomoringin, and alkaloids of the capsules is not introduced in the manuscript. The composition of *Moringa* supplementation is very important for the potential antioxidant effects associated with it, as well as the period in the year to harvest the parts of the plant to make the capsules because this determines the concentration of the molecules with pharmacological effects.
4. 4 weeks of treatment is probably too short to see a statistical effect in vivo. Why did the authors use this period of treatment?
5. For women with altered levels of E2, progesterone, LH, and FSH, the measurement of these hormones could be made before and after the treatment. Indeed, some molecules contained in Moringa could have an action on the hypothalamic-pituitary axis.
6. The abstract merits to be better written. Sometimes it is repetitive in the redaction; for instance, the second sentence can be associated with the third sentence.
7. Moringa oleifera can be replaced with the abbreviation (MO) in the manuscript, as well as ROS and OS. After the first time the abbreviations are used, they have to be used consistently in the manuscript; several abbreviations are

defined several times.

8. The results are limited to 2 tables; moreover, the second table contains part of the data of the first table. Probably a graphical representation of the data could be better.
9. For table 1, the n is not 60 but n=30 for each group. I am not sure that the n of table 2 is 40. The n of each group must be written.
10. Infertility is linked to oxidative stress but also to inflammation. Did you test some inflammatory parameters such as CRP to verify the anti-inflammatory effect of MO supplementation? Indeed, several previous studies evidenced the anti-inflammatory effects of MO.