Reviewer's report

Title: Essential oil purified from Schisandraceae Semen has an inhibitory effect on tumor necrosis factor-alpha-induced matrix metalloproteinase-9 activation and migration of human aortic smooth muscle cells

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Reviewer: Damião P De Sousa

Reviewer's report:

The study submitted for publication entitled "Essential oil purified from Schisandraceae Semen has an inhibitory effect on tumor necrosis factor-alpha-induced matrix metalloproteinase-9 activation and migration of human aortic smooth muscle cells" describes the anti-atherosclerotic effects of Schisandraceae Semen essential oil in human aortic smooth muscle cells (HASMCs). The manuscript is written properly and is of interest to readers of the BMC Complementary and Alternative Medicine.

Minor Essential Revisions
1) The author wrote "Essential oils, which are concentrated hydrophobic liquids containing volatile aromatic compounds from plants". In fact, there are several products that get this concept, but are not essential oils. For example, some commercial products are synthetic flavoring oils containing volatile compounds from aromatic plants. A proposed concept is: "Essential oils, which are complex mixtures of volatile compounds produced by aromatic plants."

2) In the description of the method of extraction of Schisandra chinensis essential oil was cited the reference 36. This reference is on pharmacological activities of Rosmarinus officinalis L. While the reference 35 reports a chemical study of Schisandra chinensis. Please check the citation of these references in the text.

Major Compulsory Revisions

3) In the Introduction, the authors did not explain why to study the essential oil instead of vegetable alcoholic extract of the plant. Justify the choice of the essential oil for the study.

4) On the medicinal use of the plant by the population, is the essential oil used to therapeutic treatment? or tea? Please describe.

5) Please, write in the methodology the month and year of collection of plant seeds.

6) In the methodology, describe the name of the method of extraction with 100% ethanol. For example, maceration?

Discretionary Revisions

7) The authors should comment on the chemical composition of the essential oil as well as if there are reports in the literature of pharmacological activities of
components from oil related to the present pharmacological study.

8) Authors need to comment on some pharmacobotanical aspects of the study. For example, are there species of this plant genus or family with popular medicinal use related to this study? Is this pharmacological study related to the pharmacological studies of other species of the family?

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I have no conflict of interest with the subject of the manuscript or authors.