Reviewer's report

Title: Effects of Ramadan fasting on cardiovascular risk factors: a prospective observational study

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Reviewer: Franco Arturi

Reviewer's report:

Thank you very much for giving me the chance to review the paper entitled “Effects of Ramadan fasting on cardiovascular risk factors: a prospective observational study " by Mohsen Nematy et al. The aim of this study was to investigate the effect of Ramadan fasting on cardiovascular risk factors. The authors conclude that the Ramadan fasting induce a significant improvement in cardiovascular risk.

Major Compulsory Revisions

1. Abstract: The Abstract should be revised.

In the section “Methods”, the authors report that the “study was carried out in a group of individuals with at least one cardiovascular risk factor”. However, it is not indicate as risk factors were considered. The same limitation is present in the section “ Subjects and Methods” (page 5, line 20).

Also, the authors report that "individuals with a previous history of either coronary artery disease, metabolic syndrome or cerebrovascular disease were recruited”. However, it is not report if these patients (and not individuals) used drugs (i.e. statins, metformin, antihypertensive and/or antiplatelet drugs). The same limitation is present in the section “Subjects and Methods” (page 6, line 3 and following).

In the Conclusion has been reported that this study shows a significant improvement in cardiovascular risk. This affirmation is not correct. Indeed, in the paper the authors do not calculate the cardiovascular risk (i.e. they no used the Framingham risk score that is considered a useful tool for quantitative assessment of the risk for CVD) but evaluated only the effect of Ramadan fasting on cardiovascular risk factors.

2. Introduction: The Introduction should be revised. The aim of the study was to elucidate the possible role of Ramadan fasting on several cardiovascular risk factors. However, the role of main cardiovascular risk factors as type 2 diabetes, obesity and/or insulin-resistance is not mentioned although in the paper the authors assessed body weight, BMI, fasting glucose, fasting insulin and HOMA-IR.

3. Results: In my opinion,the data should be expressed as mean + standard deviation.

Paragraph “Lipids profile”: It is reported that the value of LDL-Cholesterol was
significantly decreased after Ramadan fasting. On the contrary, in the table 1 it is showed that the value of LDL-Cholesterol was increased after Ramadan fasting (98.0 vs 99.0 mg/dl, before and after Ramadan fasting respectively). This data is unclear and the authors should clarify this point.

In the Paragraph “FBS, insulin, HOMA-IR, homocysteine, hs-CRP” the authors reported that FBS, insulin, and HOMA-IR showed no significant difference after Ramadan fasting. These data were associated with a significantly reduction of the body weight, BMI and waist circumference (paragraph Anthropometric parameters, page 9, line 25 and following). The authors should give (in the Discussion) an explanation for these data. Indeed, it is well known that a reduction in body weight and/or in waist circumference is associated with a reduction of both plasma insulin and insulin-resistance.

4. Discussion: This manuscript section should be rewritten. Generally, in the Discussion the results are not reported but only discussed and explained.

Minor Compulsory Revisions

5. Abstract, page 3, line 6 and through the entire manuscript: " individuals " should be "patients" .

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

**Quality of written English:** Needs some language corrections before being published

**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'