Reviewer's report

Title: The impact of religious fasting on human health

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Reviewer: Tze-Pin Ng

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Review: “The impact of religious fasting on human health”

In this manuscript, the authors completed a narrative review of investigations of various types of religious fasting, summarizing the evidence for their health-specific effects and providing suggestions for future research.

The principal types of religious fasting, Islamic Ramadan, Greek Orthodox Christianity and Biblical-based Daniel Fast, are characterized and distinguished by their effects on energy, protein and fat, and micronutrients intakes, and their correspondence with calorie restriction, alternate day calorie restriction, and dietary restriction. The documented health effects were summarized for each of the three categories of religious fasting for body mass, total cholesterol, LDL-C, LDL-C/HDL-C ratio, blood pressure, insulin sensitivity, and oxidative stress, haematological, endocrinological and other health-related biomarkers. The search of the published research findings was extensive and thorough.

The review provides very comprehensive information that serves well as a handy reference source for researchers interested in the health-related effects of fasting.

Major comments.

The scientific accuracy for some statements is doubtful.

Introduction, paragraph 2: “Additionally, CR lowers the likelihood of developing the following diseases: autoimmune diseases, atherosclerosis, cardiomyopathies, cancer, diabetes, renal diseases, neurodegenerative diseases, and respiratory diseases [2,3]. In humans, CR has been shown to improve cardiovascular and glucoregulatory health [4,5].” Certainly, the statement stretches the point too far and is not substantiated by the citations of references 2 and 3.

The statements, “In humans, CR has been shown to improve cardiovascular and glucoregulatory health [4,5].”, and “In humans, ADF improves cardiovascular health, but the effects of ADF on glucoregulatory health are mixed [7] should be re-written to be more specific about what “cardiovascular health” and glucoregulatory health” mean.

There is clearly a very large number of study findings for Ramadan fasting which was narrated in the text, but may be more clearly listed in a tabulated format.
This will allow for more focused and detailed discussion of the consistency and strength of the available evidence.

While reviewing the evidence for Daniel Fasting, the authors added the findings of their own investigations into the health effects of the Daniel Fast. These findings are however unpublished. Until they are accepted for publication after peer review, it would not be justifiable to include these data in the review.

**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 declare that I have no competing interests