Reviewer's report

Title: Effects of Greek Orthodox Christian Church fasting on serum lipids and obesity.

Authors:

Ms Katerina O. Sarri (katsarri@med.uoc.gr)
Nikolaos E. Tzanakis (tzanakis@med.uoc.gr)
Manolis K. Linardakis (linman@med.uoc.gr)
George D. Mamalakis (geor40@yahoo.com)
Anthony G. Kafatos (kafatos@med.uoc.gr)

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Reviewer: Prof Abayomi Akanji

Level of interest: A paper whose findings are important to those with closely related research interests

Advice on publication: Unable to decide on acceptance or rejection until the authors have responded to the compulsory revisions

Compulsory:
- The text is unnecessarily long. The Introduction section gives too much information that should have been summarised into a few paragraphs. Similarly, the discussion lacks focus and contains far too many repetitions. The authors should have focussed on the implications of their findings without too much speculation.
- details should have been given on the dietary compositions (calories, fat, protein, fiber etc) during and after fasting periods, including ascertainment of compliance. With regards to the controls, maybe a cross over design might have reinforced the authors' conclusions
- nuns and priests are ordinarily very highly disciplined, and for them, the fasting may not necessarily be voluntary. It would have been better to see a higher percentage of free living individuals
- the authors should note that similar apo E polymorphisms between controls and fasters does not mean that genetic composition is similar. There are so many other genetic variables that influence body mass and lipid levels
- A tablke showing lipid and other values (especially weight and not BMI) at the pre- and post-fast period for each of the 3 fasting periods would have provided important clues on temporal changes!

Discretionary:
The methods for the measurement of TC and HDL are dated - maybe the authors should indicate their assay reproducibility data. What happens to subjects with Tg values > 4.5mmol/L in whom the Friedewald formula is invalid? Information on apolipoproteins A-1 and B could significantly complement what is provided in relation to HDL and LDL, especially the worrying findings on low HDL levels in the fasters. Any information on glycaemic status and comorbidities in the subjects e.g. BP, current medications, thyroid disease, alcohol (red wine) intake, physical exercise etc

Competing interests:

None declared.