Reviewer’s report

Title: Associations of fish oil and vitamin supplementation with cardiovascular outcomes and mortality in people receiving haemodialysis: a review

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Reviewer: Theodoros Eleftheriadis

Reviewer’s report:

The manuscript by Bassell et al. is very interesting since it reviews what is known about fish-oil or vitamin supplementation in HD patients. This tactic, although widely applied, has not confirmed to be beneficial for this population and consequently, as the authors concluded more and larger well-designed randomized studies are required for definite conclusions.

In the manuscript the authors reviewed the literature adequately, and their comments are right and straightforward. The manuscript is also well-written. Thus, I think that the manuscript is suitable for publication.

Minor clarifications could be added.

1. The extrapolation of the beneficial effect of interventions on general population could not be always applied in HD patients. An excellent example is the disappointing results of trials evaluated the effect of statins in this population. Although statins lowered serum LDL level the benefit regarding CV events or mortality was negligible or absent in HD patients (4D study and AURORA study).

2. Also the beneficial effect of vitamin E, B and C on CV or all-cause mortality has not been confirmed in the general population as well (excellent reviewed in “Vitamin, Mineral, and Multivitamin Supplements for the Primary Prevention of Cardiovascular Disease and Cancer: A Systematic Evidence Review for the U.S. Preventive Services Task Force [Internet]. Editors Fortmann SP, Burda BU, Senger CA, Lin JS, Beil TL, O'Connor E, Whitlock EP. Source Rockville (MD): Agency for Healthcare Research and Quality (US); 2013 Nov. Report No.: 14-05199-EF-1. U.S. Preventive Services Task Force Evidence Syntheses, formerly Systematic Evidence Reviews. PMID: 24308073 ”

3. The role of fish-oils in preventing CV events in general population has not been confirmed yet. Although fish consumption offers benefit (the replacement of other foods with fish may have a role), #-3 fatty acids supplementation were not found to protect from primary or secondary prevention of coronary heart disease (Nestel P et al., Heart, Lung and Circulation 2015).

4. The evaluation of the exact role of #-3 fatty acids in HD patients is of extremely importance because these are commonly used in the treatment of heavy hypertriglyceridaemia that characterize many HD patients, in whom administration of fibrates is contraindicated.
Level of interest: An article of outstanding merit and interest in its field

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