Author's response to reviews

Title: Mediterranean Diet Effect: An Italian picture

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Dear Editor,

we are pleased to submit a revised version of the manuscript MS: 6408707065791802 titled “Mediterranean Diet Effect: An Italian picture”, in line with the Editor request. We are very thankful to the referees for their comments and for their very constructive suggestions. Please see underneath how we have dealt with them.

The authors

A detailed list of all changes made follows.

Referee 1:

2. Most of the methods are appropriate and well described, and sufficient details are provided to replicate the work, with the exception of the MDS. This statement in Methods is confusing: “According to the proposed method, for comparison purposes the nutrients intake was corrected for energy intake of 2500 kcal / day for men and 2000 kcal / day for women.” It would be useful to have a sentence explaining the rationale. Were intakes corrected as presented in tables 2 and 3? It seems not, but if they were, a footnote would be helpful.

As suggested the sentence was rewritten and a footnote was added in tab 4

3. The data seem sound, but please double check the units for Vitamin E (µg/day) in Table 3; probably should be mg/day.

The units for Vitamin E was checked and properly corrected as mg/day

7. The writing is not entirely acceptable. There are many typographical errors, spelling errors and Italian words, in both text and tables. For example, table 4 has some typographical errors (e.g., vegatables should be vegetables; diary should be dairy) and Italian words (e.g., Alcool).

As suggested a correction of typographical errors was done.

Referee 2:

i. the statistical power or methodological/sponsoring reasons why out of 300 subjects the half was selected for the study;

We have corrected in the text: “After this screening only 164 subjects were considered eligible for the study; only 131 of them agreed to undertake the blood collection”

ii. why was gamma-tocopherol not assessed, as several studies show its importance possibly even higher than alpha-;

The antioxidant activity of vitamin E is derived primarily from α-tocopherol and γ-tocopherol, of which α-tocopherol is most biologically active and the predominant form found in blood, the concentrations of α-tocopherol in human blood are generally four times higher than those of γ-tocopherol, in contrast γ-tocopherol has been found to be more effective than mixed tocopherol in protecting against certain specific types of oxidative damage. In fact several research have demonstrated the potential synergistic effects between γ-tocopherol and other antioxidants suggesting a protection from oxidative damage and a degenerative disease prevention. Unfortunately we have assessed only α-tocopherol, we are planning its analytical evaluation for next studies
iii. how did FRAP and TAC correlate with the antioxidant/oxidant/inflammation indexes measured;

Even if pigments and other phytochemicals could contributed to total antioxidant activity our results have shown that subjects upon high diet quality consumption exhibited an increase in TAC and decrease in MDA, as well as a decrease in TNF$\alpha$ and increase of IL10. In addition TAC values correlate with antioxidant status (urate, ascorbate and $\alpha$-tocopherol).

iv. the limitations of the total antioxidant capacity measurements;

The total antioxidant capacity measurements gives information regarding the total charge of antioxidants present in the tissue or fluid considered. The index is a measure of the system's ability to regulate the damage associated to the ROS production and even if there are a large number of ROS and their relative reactivity toward a series of compounds can vary, the parameter obtained is frequently considered a useful indicator of the system's ability to regulate the damage due to ROS. In particular, it must be considered that a given index can be an indication of the total amount of antioxidants (without a discrimination regarding their reactivity), or be an indication of the quantity and reactivity of the antioxidants present in the tested sample.

v. the importance of controlling the oxidant/antioxidant balance for diet but also for physical activity, job, alcohol consumption, smoking habit; the subjects who have a high ADI have often a better lifestyle in general and are more health-conscious;

The importance of the correlation between a balanced diet respect to socioeconomic status and cultural factors will be elaborate on a next paper

2) carefully check style throughtout the text, in particular i. there are several sentences in italian, especially figures and tables ii. the tables are not formatted iii. the figure is presented twice, once before and once after the reference list.

A complete revision was done