Author’s response to reviews

Title: Adherence to Mediterranean and low-fat dietary interventions in thoracic transplant recipients: a randomized feasibility study

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Author’s response to reviews:

Reviewer #1: The authors address the timely topic of nutritional intervention in medicine and, in particular, in thoracic transplant recipients. The role of dietary intervention was neglected for years. This interest for this approach is increasing. Therefore, I find this feasibility study to be of particular interest for the readers.

Some minor points to be addressed before considering the paper for publication:

1. The authors are clearly presenting the education approach, very important to increase adherence. I would suggest the authors to briefly include this matter in the conclusions.

We have revised part of the conclusion paragraph to emphasize how the education approach assisted the adherence of the dietary regimens.

“The educational approach with visual aids and practical information, along with the comprehensive support strategy, are likely to have assisted in patients’ adoption and maintenance of their allocated diets during and after the intervention.” (page 17, line 305–307).”
2. The panel of parameters used to define the nutritional status could be enlarged (if possible - anthropometrics, serum albumin), to offer a better picture of the effects of the nutritional interventions.

We have now added BMI as a nutritional parameter (serum albumin was not assessed). (lines 228–231).

3. The differences between the two types of dietary interventions should be better emphasized.

We have now stated “The main difference between the two diets was the intake of oil and fat which was encouraged to a moderate degree in the Mediterranean diet but discouraged in the low-fat diet.” (page 8, lines 118–120)

4. Inflammatory state would also be interesting.

We agree with the reviewer that data about inflammatory state would be interesting. We did assess patients’ Hs-CRP but the values were highly skewed because inflammation status was so greatly influenced by other factors, especially by background health status (generally high inflammation) and routine medication (Prednisolone). Thus, these data did not provide useful information by diet group. In addition, we also initially considered the immune/T-cell network. However, a large blood volume was required so we were unable to assess these markers and the study sample size was too small to reliably interpret the results [1].

5. The use of a co-morbidity score would also be of interest.

Unfortunately, we did not collect all the data needed to calculate a co-morbidity score.
Reviewer #2: This randomized feasibility study examines adherence to a low-fat diet and a Mediterranean diet among heart and lung transplant patients. Results showed that participants assigned to the Mediterranean diet or low-fat diet had an increase in the median adherence score at each of follow-up time points, though this was more pronounced in the Mediterranean diet group, and a decrease in weight and serum triglyceride levels. Though the manuscript is well written and the study addresses a gap in the literature by examining adherence to dietary changes among lung transplant patients, I have a few concerns with the manuscript in its current form.

1. The details of the intervention administration require greater clarification. For example, when were the sessions held (e.g., during a routine outpatient visit)? Who administered the intervention (e.g., dietitian)? Was it administered in groups? How many participants brought an adult member of the same household to the baseline session? Were follow-up questionnaires sent via mail or completed at the hospital? If they were completed at the hospital, was it part of a routine visit? Were all participants available for the additional advice and support provided at later intervals? What was the content of this additional support? When did study recruitment end?

All of these details about the intervention have now been added in the Methods or Results section (as follow):

When were the sessions held?

On specified dates outside routine outpatient visits. (lines 89–90)

Who administered the intervention (e.g., dietitian)?

A nutritionally-trained investigator administered the education sessions (line 90)

Was it administered in groups?

Several 5-hour education sessions were conducted for each diet group (line 88)
How many participants brought an adult member of the same household to the baseline session?

In the Mediterranean diet group, 13 (65%) had a family member attend the education session and in the low-fat diet group 16 (84%) were accompanied by a family member. (lines 192–194)

Were follow-up questionnaires sent via mail or completed at the hospital? If they were completed at the hospital, was it part of a routine visit?

These questionnaires were completed at the hospital in routine visits, except for the post-intervention questionnaire that was sent by mail and completed at home. (lines 125–127)

Were all participants available for the additional advice and support provided at later intervals?

Yes, additional advice and support was provided to all participants.

Advice and support were provided at 6- and 12-months outpatient visits, and during six 15-minute telephone consultations spaced evenly through the intervention period. This information was stated in original paper (in lines 98–100 of revised version).

What was the content of this additional support?

Participants could raise any questions or concerns, and when dietary recommendations (e.g. plant-based diet, consume minimally processed food) were reinforced. (lines 100–102)

When did study recruitment end?

Recruitment was completed in October 2014 (line 71)
2. Though heart and lung transplants are both thoracic transplants, the authors need to be explicit about the rationale for combining the two types of transplant patients. That is, are these patients similar enough to be combined?

Both heart and lung transplant recipients typically suffer from systemic inflammation and metabolic issues which increase morbidity and mortality from cardiovascular disease [2, 3]. This information was stated in the Introduction (lines 33–43). Hence, a priori both types of organ transplant recipients should benefit from the two dietary interventions.

In relation to the overall feasibility study, assessing adherence was one of the main aims [1]. While there may be differences in long-term health complications between these two organ-transplant groups, their adherence to the assigned diets were no different. As Table 2 shows, their reported dietary changes over the 12-months of the trial, and in the 6-weeks after, were similar for both diet types in the heart and lung transplant recipients.

Also, if the literature is lacking for lung transplant patients, then why include heart transplant patients in the study population?

Literature is lacking for both heart and lung transplant recipients. Although there are a few published studies that assessed adherence of diet among heart transplant recipients, none of these studies were randomized and none assessed active interventions to change dietary habits [4, 5]. Our study is thus the first study to conduct a randomized study and actively intervene in the dietary habits of heart as well as lung transplant recipients. We have now clarified this (lines 243–245).

3. On p. 6, line 66, please provide examples of competing dietary issues.

We have now given examples of competing dietary issues as follows:

“Patients with any competing dietary issues (i.e. food allergies or following medically prescribed diets that conflicted with the interventions) were also excluded. (lines 66–67).
4. In the Methods, please specify that the trial was registered retrospectively.

Now stated (line 77)

5. For the one-sided t-tests reported for the FFQ and study questionnaires (p. 8, line 129; p. 9, line 142), it would be more appropriate to say that the two methods were not significantly different.

We used statistical methods to test equivalence of two dietary methods for agreement [6]. The agreement was assessed using Bland-Altman limits of agreement and then these limits were formally assessed using two one-sided t-tests [7]. When equivalent region of the two methods is within the pre-specified limits, these methods are “equivalent”. Thus, we believe the term “equivalent” is more appropriate in this context. (lines 141–142 and 154)

6. An additional limitation of the study is healthy volunteer bias. Of the 116 people contacted, 64 refused participation. How representative in this sample of the general thoracic transplant population?

To assess this, we retrospectively assessed those who were eligible but had declined participation (and remained clinically stable) by routinely measured clinical parameters (n=49). Although patients who did not take part of this study tended to have greater time since transplantation compared with those who participated to this study, all other characteristics of these two groups were generally similar. Nonetheless, due to the small sample size and the nature of this study, we have now mentioned the potential non-representativeness of the participants as a limitation (line 298).

7. Please double check the lines in the tables.

We assume the reviewer means line numbers in the tables, and these are set as continuous and not displayed in tables. (There is no problem with the lines per se in the tables.)
8. On p. 16, line 277, the authors are missing an "and".

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Now inserted. (line 294)

9. In Figure 1, some of the font appears to be a different size.

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Figure 1 font size has now been amended.

Also, please provide a reason for the loss to follow-up of the 1 lung transplant patient in the Mediterranean diet.

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This is now stated: “due to dislike of unfamiliar food types” (line 189).

10. In Figure 2, 100 should be the maximum on the y-axis, since the scales were standardized to be out of 100.

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Figure 2 has been revised accordingly.

References


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