



Informing doctors of the evidence on plant-based diets

A recommendation by **Zoltan Dienes**  based on peer reviews by **Bence Palfi**, **Alaa Aldoh** and **Joshua Tasoff** of the STAGE 2 REPORT:

Romain Espinosa, Thibaut Arpinon, Paco Maginot, Sébastien Demange, and Florimond Peureux (2022) Removing barriers to plant-based diets: assisting doctors with vegan patients. Missing preprint_server, ver. V2.4, peer-reviewed and recommended by Peer Community in Registered Reports.

https://osf.io/kq6eh?view_only=66eab29c7acb4aebbcec4631cbcb9217

Submitted: 27 August 2022, Recommended: 17 November 2022

Cite this recommendation as:

Dienes, Z. (2022) Informing doctors of the evidence on plant-based diets. *Peer Community in Registered Reports*, 100307. <https://doi.org/10.24072/pci.rr.100307>

Published: 17 November 2022

Copyright: This work is licensed under the Creative Commons Attribution 4.0 International License. To view a copy of this license, visit <https://creativecommons.org/licenses/by/4.0/>

What the best diet is has always been an area of contention. But one thing is clear: Meat is not necessary for health or fitness, and a diet high in plant proteins may well be especially healthy (e.g. Herpich et al., 2022). Further, plant- rather than animal-based diets leave a lower carbon footprint. So what might hold people back from adopting a plant-based diet? One reason is that people may understandably approach their doctor for advice; and the doctor may advise against it, given that many doctors are not well trained in nutrition (Crowley et al., 2019).

Espinosa et al. (2022) conducted a randomised control trial on French general practitioners with 200 doctors given a leaflet and access to an online platform, and 200 controls. The information in the materials concerned the health benefits of plant-based diets, and what nutrients (e.g. B12) may be deficient and what may not be. Attitudes towards and knowledge about plant-based diets was assessed. On a scale of 0-100% expressing whether they would advise for or against (0 = not at all, 100 = absolutely), the intervention shifted attitudes making them more positive about plant based diets by 17 percentage points. However, knowledge of specifically what is worth testing for (e.g. is zinc deficiency more probable or not?) did not change much. The research shows just what can be achieved by a small leaflet (shifting attitudes) and what may require more extensive training (knowledge of relevant medical practice).

The Stage 2 manuscript was evaluated over one round of in-depth review. Based on the responses to the reviewers' comments, the recommender judged that the manuscript met the Stage 2 criteria and awarded a positive recommendation. **URL to the preregistered Stage 1 protocol:** <https://osf.io/fc9gp> **Level of bias control achieved: Level 6.** No part of the data or evidence that was used to answer the research question existed prior to Stage 1 in-principle acceptance. **List of eligible PCI RR-friendly journals:**

- [F1000Research](#)
- [Peer Community Journal](#)
- [PeerJ](#)
- [Royal Society Open Science](#)
- [Swiss Psychology Open](#)

References:

1. Crowley, J., Ball, L. & Hiddink, G. J. (2019.) Nutrition in medical education: a systematic review. *Lancet Planetary Health*. 3, e379–e389. [https://doi.org/10.1016/S2542-5196\(19\)30171-8](https://doi.org/10.1016/S2542-5196(19)30171-8)
2. Herpich, C., Müller-Werdan, U., & Norman, K. (2022). Role of plant-based diets in promoting health and longevity. *Maturitas*, 165, 47-51. <https://doi.org/10.1016/j.maturitas.2022.07.003>
3. Espinosa, R., Arpinon, T., Maginot, P., Demange, S. & Peureux, F. (2022). Removing barriers to plant-based diets: assisting doctors with vegan patients, acceptance of Version 2 by Peer Community in Registered Reports. https://osf.io/kq6eh?view_only=66eab29c7acb4aebbcec4631cbcb9217

Reviews

Evaluation round #2

DOI or URL of the preprint: https://osf.io/t4akf?view_only=66eab29c7acb4aebbcec4631cbcb9217
Version of the preprint: V2.3

Authors' reply, 16 November 2022

Dear recommender,
We proceeded to the suggested changes.
Thank you very much for your help,
Best regards,
Romain Espinosa

Decision by [Zoltan Dienes](#) , posted 16 November 2022, validated 16 November 2022

Minor Revision

Thank you for your revisions; I am now happy with the manuscript, which I hope has an impact on helping promote plant based diets. But there are just a few things to tidy up: 1) p 60 " it persists strong opinions against vegan diets," -> "strong opinions against vegan diets persist" 2)"complemented -> supplemented and: complements -> supplements 3) p 56, line 508, delete the returns in the middle of the sentence 4) In my experience typical practice is to use past tense for results. If this is not true for for your area then you may leave as present tense.

Evaluation round #1

DOI or URL of the preprint: https://osf.io/w65hz?view_only=66eab29c7acb4aebbcec4631cbcb9217

Authors' reply, 09 November 2022

[Download author's reply](#)

Decision by [Zoltan Dienes](#) , posted 31 October 2022, validated 31 October 2022

Minor Revision

The original reviewers for the Stage 1 have now evaluated your Stage 2. Each reviewer some some points of clarification or elaboration I urge you to address.

Reviewed by [Joshua Tasoff](#), 15 October 2022

[Download the review](#)

Reviewed by [Bence Palfi](#), 04 October 2022

It is great to see this interesting project completed, and the results are very promising. The analyses were mostly executed as stated in the Stage 1 manuscript, but I believe that the manuscript could be improved by expanding the Discussion section, changing some of the exploratory analyses, and clarifying the result of the outcome-neutral test. See my comments below:

Have the authors provided a direct URL to the approved protocol in the Stage 2 manuscript? Did they stay true to their protocol? Are any deviations from protocol clearly justified and fully documented?

- Link is provided
- There were two minor changes in the protocol. These changes were transparently reported and were approved before data collection. I find these changes well justified as they improved the clarity of the questionnaire and added a data quality check.

Is the Introduction in the Stage 1 manuscript (including hypotheses) the same as in the Stage 2 manuscript? Are any changes transparently flagged?

The introduction and methods sections remained the same. Only modifications are a new summary of results paragraph at the end of the Intro, and changes of future to past tense in the Methods section.

Did any prespecified data quality checks, positive controls, or tests of intervention fidelity succeed?

- Partly yes. The third pre-registered hypothesis (test of VPI scores) was not tested as the power was not sufficient.
- However, the pre-registered outcome neutral tests that meant to check ceiling and floor effects are not reported (only on the pilot data), so this cannot be assessed

Are any additional post hoc analyses justified, performed appropriately, and clearly distinguished from the preregistered analyses? Are the conclusions appropriately centered on the outcomes of the preregistered analyses?

- The exploratory section introduces post-hoc comparisons, but these are only based on descriptive statistics and not on statistical tests. I agree that these comparisons are interesting, as it may reveal that the information campaign did not improve the understanding of all issues (e.g., Zinc test), but, I think these comparisons need proper post-hoc statistical tests to substantiate any claims made in that section or later. That is if you want to claim that the information campaign improved the understanding of all medical tests but that of the Zinc test, then you need to back this claim up with statistical analyses.

- The rest of the exploratory analyses look good
- I believe that the Discussion section could be expanded, mostly focusing on the results of the confirmatory analyses and their interpretation.

Are the overall conclusions based on the evidence?

I agree with the conclusions regarding the first hypothesis.

However, regarding the second hypothesis, I have two issues:

- you should bear in mind that you ran a vignette-based study rather than measured actual performance in general practice. Hence, I would refrain from saying that the information campaign improves medical practice, instead, I would say that it has the potential to improve it. This is especially relevant for the abstract, which does not reveal that it is a vignette-based study (perhaps, it would be nice to add this too to the abstract)
- the observed effect size was half of the pre-registered SESOI. I had the impression that this is not well pronounced in the abstract and the discussion section. More attention should be given to this and explained why the observed effect is still interesting (see also my comment later about the lack of information on how the observed effect sizes should be interpreted).

Issues/requests:

- Data sharing link (<https://github.com/EspinosaRomain/DoctorsVeganDiets>) is not accessible to me so I could not verify the data and analyses
- It was a bit unfortunate that the VPI scores were not analysed. I think the power analysis of the VPI scores may have used an unfairly large effect size as the smallest effect size of interest. Doubling an observed effect size is likely to produce an overestimation of a realistic effect, so this analysis was bound not to meet the 80% power criterion. In my opinion, even a 6-percentage point improvement in donations could be worthwhile. I understand that the approved protocol should be followed, but it would be nice to see this analysis in the exploratory section, now that you have collected the data.
- It would be great if the discussion would connect the findings to the existing literature on information interventions. There are no references in the discussion section now. I believe that the discussion could also provide an interpretation of the observed effect sizes of the confirmatory analyses. The smallest effect sizes of interest were defined, so it would be great to put the observed effects in context.
- The analyses presented in the Discussion section should be moved to the exploratory analyses sections, and the results could benefit from more interpretation/link to other findings within this study or by other studies.
- It would be great to expand more on the limitations of the current study (e.g., using vignettes, how results may generalise to French doctors [is the sample truly representative of French doctors?]) and future directions

Minor issues:

- r 150: "diet" is missing after plant-based
- r 177: the control condition is called baseline condition here
- There is no reference to Figure 5 in the text.
- The caption of Figure 5 should clarify that the presented data only includes doctors from the control group

Reviewed by Alaa Aldoh, 05 October 2022

The study is well executed and the authors have carefully considered my prior feedback. The reporting of the statistical analyses could be clearer: a) report the statistical results fully (not just p-values), and b) report the SD/SEs alongside every mean. I am slightly confused by why the authors conclude that information had a weakly positive effect on PMPI scores when the scores were lower than the SESOI. My understanding is that you would suspend judgement in this case, but it is likely that I've misunderstood. Although the study did

not have enough power to test effects of the intervention on VPI, I think it is worth including the results of the analysis either in the exploratory analyses section or in the supplementary materials. The report ends somewhat abruptly and I think a conclusion paragraph is needed to tie all the findings together. Lastly, the analysis code is not available. Otherwise, the results of the study are promising and the authors have done a good job visualizing their data. Well done.