

A Study Assessing Omega 3 Intake in Vegans/Vegetarians for Cognitive Health

Susannah McDonagh and Dr Paula Conroy

Department of Sport, Exercise and Nutrition, Atlantic Technological University, Galway, Ireland

Introduction

The main aims of this project was to investigate

- If cognitive health is associated with omega 3 intake.
- To get a greater insight into the intake and knowledge of omega 3 in vegan and vegetarian diets and the micronutrients that affect cognitive health that these diets tend to be deficient in.

Omega 3 fatty acids are polyunsaturated acids and are essential as they cannot be produced by the body and must be obtained by food. There are different forms of omega 3 and each have a different chemical structure and chain length. The very long chains of omega 3 are known as docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) ¹ and the short chains of omega 3 are known as alpha-linolenic acid (ALA) ².

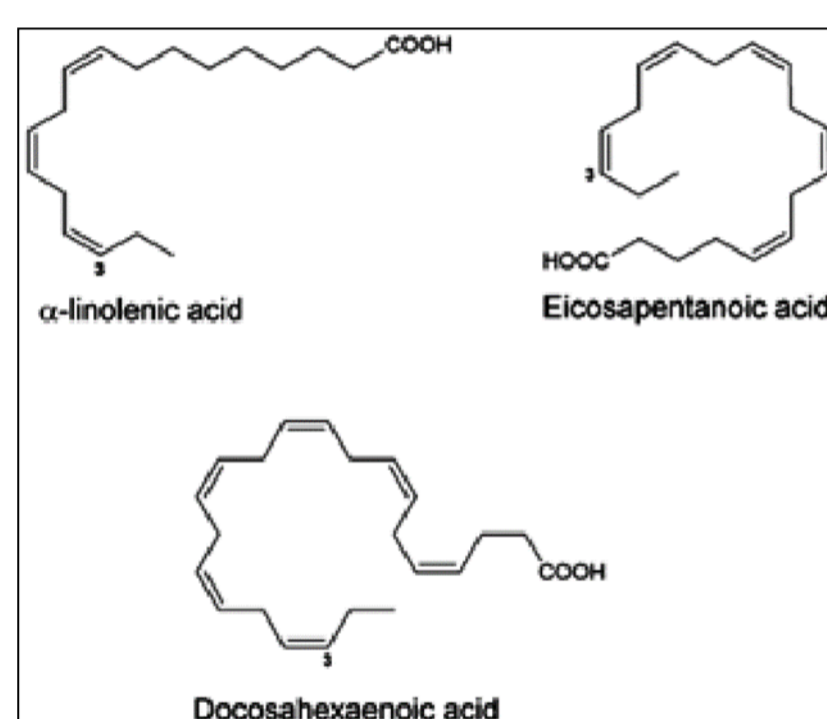


Figure 1: Chemical Structure of Omega 3 (Segatto *et al.*, 2014) ³.

Methods

Participants: N= 32 participants were recruited. N= 20 vegans and n= 12 vegetarians.

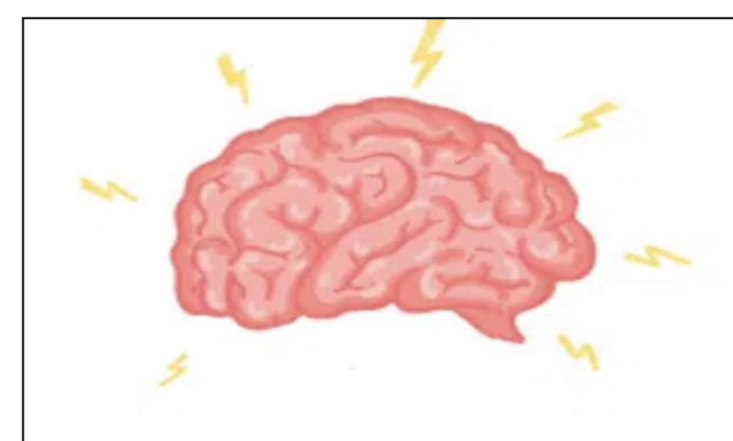
Omega 3 Knowledge= Knowledge rating was assessed on a scale of 1-10.

Questionnaire: Consisting of demographic questions, dietary data and specific vegan/vegetarian questions.

Cognitive Health: Assessed using an adaptive version of Becks Depression questionnaire-II (BDI-II) ⁴.

Dietary Intake: Assessed using 2-day 24h dietary recalls and were analysed in terms of omega 3, B12 and iron intake ⁵. The recalls were analysed using the nutrition software Nutritics.

Statistical Analysis: Tests such as Mann Whitney, Independent t-test, Spearman correlation and Cross-tabulation were carried out on SPSS.



Results

- The mean BDI score was 7.4 ± 8.6 with 78.1% of participants within the normal range and 9.4% within both mild mood disturbance and moderate depression range.
- There was no significant relationship between omega 3 and BDI scores ($p=0.626$).
- The average omega 3 intakes were significantly higher in vegans compared to vegetarians.
- The main sources of omega 3 among participants were chia seeds and flax seeds.
- Nearly 91% of participants met the RDA for omega 3.
- Average Omega 3 knowledge rating was 5.7.

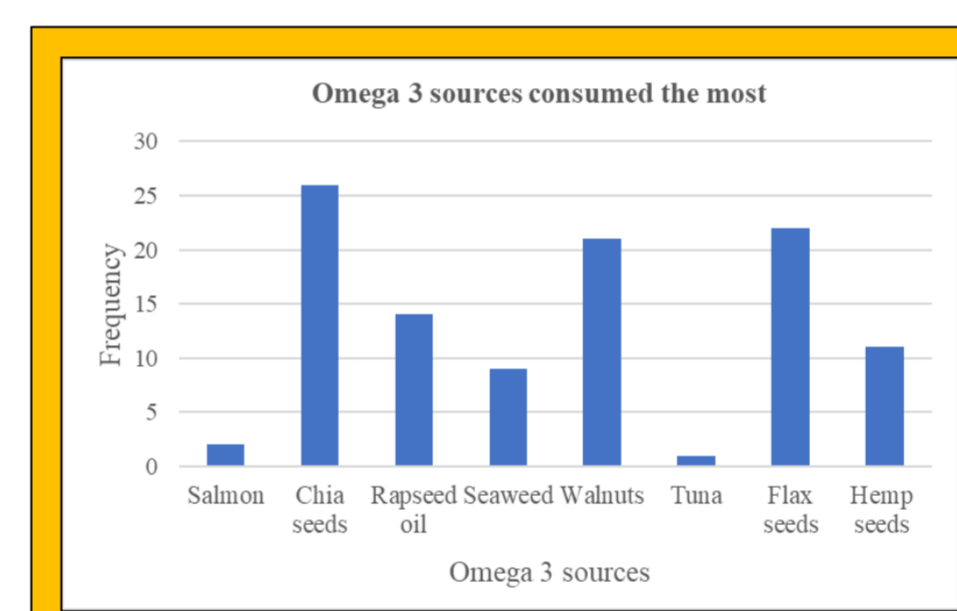


Figure 2: Omega 3 sources consumed the most.

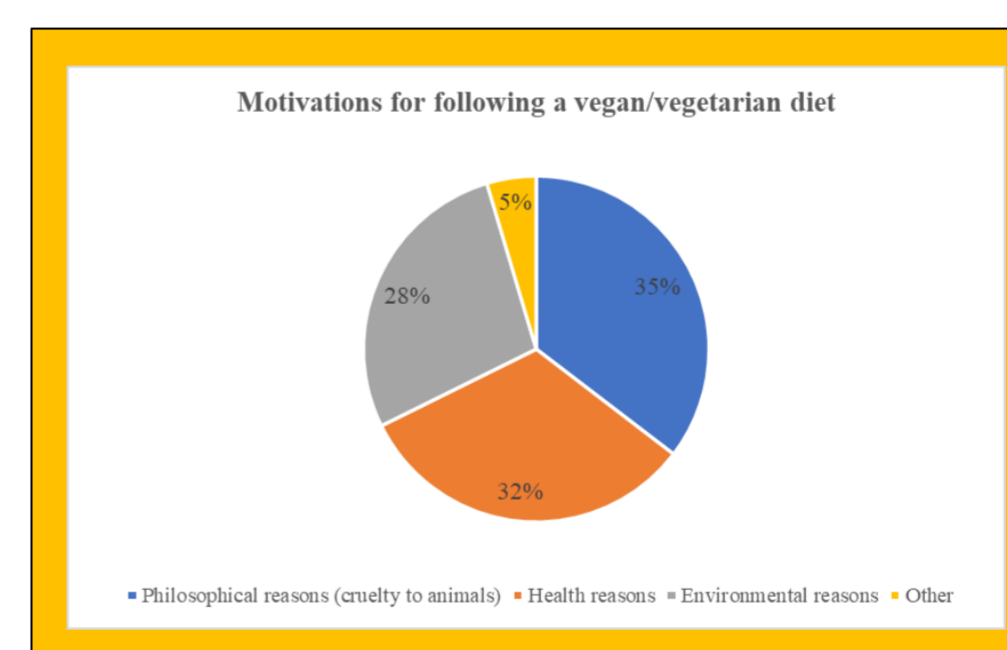


Figure 3: Motivations for following a vegan/vegetarian diet.

Conclusion and Discussion

- Due to the non-statistically significant relationship between BDI scores and omega 3 intakes, there was no relationship between omega 3 intakes and cognitive health. This may be due to the small sample size and future studies should have a larger sample size.
- As most of the participants met the RDA for omega 3, this indicates that this cohort has a low risk of omega 3 deficiency with vegans having a significantly higher intake than vegetarians.
- Vegans and vegetarians had an average knowledge of omega 3, with vegans having a higher median knowledge than vegetarians.
- The participants had a high risk of vitamin B12 and iron deficiency as the majority failed to meet the RDA.

References

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