

Proceedings of the Seventh International Congress on Vegetarian Nutrition: Introduction

Gina Segovia-Siapco, Sujatha Rajaram, and Joan Sabaté

Center for Nutrition and Healthy Lifestyles, School of Public Health, Loma Linda University, Loma Linda, CA

The proceedings of the Seventh International Congress on Vegetarian Nutrition (ICVN), held 26–28 February, 2018 at Loma Linda University, Loma Linda, CA, are presented in this supplement issue of *Advances in Nutrition*. Proceedings of the previous six congresses have been published in *The American Journal of Clinical Nutrition* (1–6). The ICVN has been convening every 5 y for >3 decades and continues to serve as the primary venue for discussing current and emerging issues on plant-based diets and their health effects. The theme for the 7th ICVN was *Plant-based Diets for Healthy People, Populations and the Planet*. This is a timely topic to cover in the context of vegetarian nutrition because of growing concerns over the sustainability of most dietary patterns worldwide and the implications of our food choices for the environment at large. As with previous congresses, the seventh congress continued the tradition of assessing the most recent advances in plant-based nutrition research in relation to disease prevention or health promotion, and its clinical and public health practice applications. In addition, it aimed to increase awareness on the impact of food production systems on planetary health. The scientific program included 4 plenary lectures, 8 symposia, 4 parallel mini-symposia for short oral presentations, 2 poster sessions, and 2 special events on culinary adventures that served as venues for practical application of plant-based nutrition, networking, and social interaction among the attendees. A special symposium specifically designed for health professionals, who serve clientele interested in or practicing vegetarianism, enabled practical applications and translation of scientific knowledge to the profession.

Published in a supplement to *Advances in Nutrition*. This supplement was sponsored by the Harding-Buller Foundation of Ohio. The contents are solely the responsibility of the authors and do not necessarily represent the official views of the sponsors. Publication costs for this supplement were defrayed in part by the payment of page charges. The opinions expressed in this publication are those of the authors and are not attributable to the sponsors or the publisher, Editor, or Editorial Board of *Advances in Nutrition*.

The authors reported not receiving funding for this study.

Author disclosures: The authors report no conflicts of interest.

The views expressed in the proceedings are those of the authors and do not necessarily reflect those of the organizers of the 7th ICVN.

Address correspondence to GS-S (e-mail: gsiapco@llu.edu).

An overview on the role of plant-based diets in mitigating the global disease burden and the enormous environmental impact of food production systems (7) set the tone for the congress. Updates on epidemiologic studies of vegetarians involved a panel of investigators from the largest vegetarian cohorts, the European Prospective Investigation into Cancer and Nutrition–Oxford (EPIC-Oxford) and the Adventist Health Study 2, and recent vegetarian cohort studies, the Tzu Chi Health Study in East Asia and the Indian Migration Study in South Asia (8). Considering the surge in the number of studies investigating the role of diet on longevity and growing interest in childhood obesity prevention with plant-based diets, a symposium on *Plant-based Diets and Life-cycle Stages* featured some recent findings regarding plant-based diets and their constituents and telomere length or aging (9) and how plant-based diets during gestation affect growth and development. A symposium on *Plant Foods, Plant-based Diets, and the Gut Microbiome* highlighted reviews on effects of dietary choices and specific dietary components on the microbiome and how the microbiome mediates or moderates the effects of plant-based diets or a dietary component, like flavonoids, on health or cardiovascular disease risk.

In an age when global climatic changes threaten food production and security, the symposium on *Plant-based Diets for the Health of the Planet* commenced with a presentation to resolve the diet–environment–health trilemma by making population-level changes to dietary choices (10). An optimization modeling of a review of recent studies from several countries showed that plant-based diets with reduced intake of ruminant meats, dairy products, sweet foods, savory snacks, white bread, alcoholic beverages, and soda drinks were optimized for sustainability and nutrition (11). However, translating these changes at the individual level—especially curbing intake of meat, a major contributor to global warming—would be very challenging as revealed in a presentation on findings from a review of 47 quantitative and qualitative studies.

The symposium on *Protein Quantity, Quality and Source Matters* focused on protein, a macronutrient that had been

put on the back burner (compared to carbohydrates and fat) on issues related to cardiometabolic health. Legumes, a rich source of plant protein that lie at the other end of the spectrum in the animal and plant protein match, have been highlighted in two presentations that looked into the beneficial effects of plant-based diets (12, 13). Another presentation posited that differences in the amino acid profiles of animal and plant proteins may explain the cardiometabolic effects of these protein types, although research in this area is still scant (14).

In the context of 'calamitous' prevailing dietary practices in the world today (15), a plant-based approach in the treatment and management of chronic disease took center stage during the congress. Optimal levels of plant-based food intake are unclear but there is evidence that intakes greater than recommendations for particular food groups may confer additional health benefits (16). Evidence on the important role that plant-based diets play in diabetes management (17), prevention or delay of end-stage renal disease (18), age-related cognitive decline (19), and weight loss were presented. An interesting presentation on dietary interventions aimed at preventing and treating a wide range of aging-related diseases featured the fasting-mimicking diet that also emphasized plant-derived protein sources and reduced quantity of protein intake (20).

Professional interest in plant-based diets has reached exceptional levels, but current understanding and scientific knowledge regarding the health effects of vegetarian diets are still far from being complete. The controversy surrounding soy and breast cancer had been revisited by a review of both animal and prospective epidemiologic data, concluding that soy intake recommendations for healthy women are applicable for breast cancer survivors. Also revisited was the alleged lack of conclusive evidence that saturated fat intake is linked to cardiovascular disease (21).

We anticipate that the information presented in this supplement will further enhance one's current knowledge in vegetarian nutrition and its role in personal, population, and planetary health. In addition, we hope that this supplement will serve as a reliable resource for researchers, academicians, health professionals, and laypeople who wish to transition to a plant-based diet.

Acknowledgments

We sincerely thank the members of the organizing and scientific planning committees, the international advisory board, all the speakers/presenters, the sponsors, and the internal reviewers of the abstracts and manuscripts. All authors are responsible for all parts of this manuscript, and read and approved the final manuscript.

References

1. First International Congress on Vegetarian Nutrition. Proceedings. Washington, DC, USA, March 16–18, 1987. *Am J Clin Nutr* 1988;48(3 Suppl):707–927.
2. 2nd International Congress on Vegetarian Nutrition. Symposium proceedings. Arlington, Virginia, June 28–July 1, 1992. *Am J Clin Nutr* 1994;59(5 Suppl):1099S–262S.
3. Proceedings of the 3rd International Congress on Vegetarian Nutrition. Loma Linda, California, USA. March 24–26, 1997. *Am J Clin Nutr* 1999;70(3 Suppl):429S–634S.
4. Proceedings of the 4th International Congress on Vegetarian Nutrition. Loma Linda, California, USA. April 8–11, 2002. *Am J Clin Nutr* 2003;78(3 Suppl):501S–668S.
5. Rajaram S, Sabate J. Fifth International Congress on Vegetarian Nutrition. Preface. *Am J Clin Nutr* 2009;89(5):1541S–2S.
6. Proceedings of the Sixth International Congress on Vegetarian Nutrition, February 24–26, 2013, Loma Linda, CA. *Am J Clin Nutr* 2014;100(Suppl 1):311S–502S.
7. Hemler EC, Hu F. Plant-based diets for personal, population and planetary health. *Adv Nutr* 2019;10(3):275S–83S.
8. Orlich MJ, Chiu THT, Dhillion PK, Key TJ, Fraser GE, Shridhar K, Agrawal S, Kinra S Vegetarian epidemiology: review and discussion of findings from geographically diverse cohorts. *Adv Nutr* 2019;10(3):284S–95S.
9. Crous-Boua M, Molinuevo JL, Sala-Villa A. Plant-rich dietary patterns, plant foods and nutrients, and telomere length. *Adv Nutr* 2019;10(3):296S–303S.
10. Fresán U, Sabaté J. Vegetarian diets: planetary health and its alignment with human health. *Adv Nutr* 2019;10(3):380S–8S.
11. Wilson N, Cleghorn CL, Cobiac L, Mizdrak A, Nghiem N. Achieving healthy and sustainable diets: a review of the results of recent studies using mathematical optimization. *Adv Nutr* 2019;10(3):389S–403S.
12. Vigiliouk E, Glenn AJ, Nishi SK, Seider M, Chiavaroli L, Khan T, Bonaccio M, Iacoviello L, Blanco Mejia S, Jenkins DJA, et al. Association between dietary pulses and cardiometabolic disease outcomes: an umbrella review and updated systematic review and meta-analysis of prospective cohort studies. *Adv Nutr* 2019;10(3):308S–19S.
13. Becerra-Tomás, Papandreou C, Salas-Salvadó J. Legume consumption and cardiometabolic health. *Adv Nutr* 2019;10(3):437S–50S.
14. Mariotti F. Animal and plant protein sources and cardiometabolic health. *Adv Nutr* 2019;10(3):351S–66.
15. Katz DL. Plant-based diets for reversing disease and saving the planet: past, present, and future. *Adv Nutr* 2019;10(3):304S–7S.
16. Aune D. Plant foods, antioxidants and the risk of cardiovascular disease, cancer and mortality: a review of the evidence. *Adv Nutr* 2019;10(3):404S–21S.
17. Salas-Salvadó J, Becerra-Tomás N, Papandreou C, Bulló M. Dietary patterns emphasizing the consumption of plant foods in the management of type 2 diabetes: a narrative review. *Adv Nutr* 2019;10(3):320S–31S.
18. Kramer H. Diet and chronic kidney disease. *Adv Nutr* 2019;10(3):367S–79S.
19. Rajaram S, Jones J, Lee GJ. Plant-based dietary patterns, plant foods, and age-related cognitive decline. *Adv Nutr* 2019;10(3):422S–36S.
20. Brandhorst S, Longo VD. Protein quantity and source, fasting mimicking diets and longevity. *Adv Nutr* 2019;10(3):340S–50S.
21. Lichtenstein AH. Dietary fat and cardiovascular disease—ebb and flow over the last half century. *Adv Nutr* 2019;10(3):322S–39S.