Press release

"A Hearty Debate" Concludes Plant-Based Meat Alternatives Are Healthier for Your Heart than Meat

June 26, 2024

Review article in the Canadian Journal of Cardiology *analyzes the impact of PBMAs on cardiovascular disease risk factors, such as cholesterol levels and blood pressure.*

Even though there is substantial variability in the contents and nutritional profiles of plant-based meat alternatives (PBMAs), the nutritional profiles tend to reflect a heart-healthy dietary pattern. A review article ↗ appearing in the *Canadian Journal of*

Cardiology ↗, published by Elsevier, of the available studies directly comparing the impact of plant-based and animal-based meats consistently suggests that the plant-based alternatives improve cardiovascular risk factors. PBMAs are highly processed plant-based food products that typically replace meat in the diet. In Canada, the growing demand for PBMAs coincides with public health recommendations to reduce ultra-processed food consumption, which prompts the need to investigate the long-term health implications of PBMAs. Lead author Matthew Nagra, ND, Vancouver, BC, Canada, says, *"While the plant-based meat market has experienced significant growth in recent years and more and more Canadians are enjoying plant-based burgers, surprisingly little is known about how these meat alternatives may impact health and in particular cardiovascular disease risk. Thus, we sought to review the available literature on the topic to identify what is currently known and to provide direction for future research."* The authors of the article reviewed the research published from 1970 to 2023 on PBMAs, their contents, nutritional profiles, and impact on cardiovascular disease risk factors, such as cholesterol levels and blood pressure. Their analysis shows:

- There is substantial variability in the contents and nutritional profiles of PBMAs.
- On average, PBMAs tend to have a more heart-healthy nutritional profile than meat, although the high sodium content of some products may be of concern.
- PBMAs have been shown to improve some cardiovascular risk factors, including cholesterol levels, in several randomized controlled trials.
- PBMAs have not been shown to raise blood pressure, despite the high sodium content of some products.
- There is currently a lack of long-term research evaluating how these alternatives may affect the risk of developing a heart attack or stroke.
- There is currently little research on the healthfulness of some common components of PBMAs, such as vital wheat gluten (seitan).

The authors of the review article were surprised to find that there is a near complete lack of research on vital wheat gluten, which is the primary protein source incorporated into many popular PBMAs, and cardiovascular risk factors.

Dr. Nagra continues, *"Further, the lack of research on cardiovascular outcomes as of 2023 is shocking, given that there are randomized controlled trials evaluating risk factors dating back to 1990. More detailed research is needed in light of the increasing consumption of PBMAs and our lack of knowledge of how these products impact risk."*

In an accompanying editorial ↗, J. David Spence, CM, MD, FRCPC, FAHA, Professor Emeritus of Neurology & Clinical Pharmacology, Western University, and Director, Stroke Prevention & Atherosclerosis Research Centre, Robarts Research Institute, London, ON, Canada, notes, *"In an excellent review of PBMAs, Nagra et al. focus on reduction of cardiovascular risk factors, and the effects of various individual dietary factors on cardiovascular risk."*

However, Professor Spence points out that, *"What really matters is not the effect of individual components of a diet, nor the effect of diet on cardiovascular risk factors; it is the effect of diet on the actual risk of cardiovascular events such as myocardial infarction and stroke. Most physicians markedly underestimate the cardiovascular benefit of diet and place far too little emphasis on diet in the management of patients at high risk of cardiovascular events."*

Senior author of the review article Ehud Ur, MB, FRCPC, Professor, Division of Endocrinology & Metabolism, University of British Columbia, Vancouver, BC, Canada, concludes, "*For those looking to reduce their meat intake, especially if it's red meat, replacing that with PBMAs is likely a heart-healthy choice. For those who already limit their meat intake, PBMAs can be incorporated into a healthy dietary pattern as an excellent protein source; however, it may be beneficial to choose options that are lower in saturated fat and sodium if consuming them regularly."*

Finally, Dr. Spence adds a note of caution regarding the dietary implications of egg consumption, saying, "*Persons at risk of cardiovascular disease should limit meat intake and avoid egg yolk, so plant-based meat substitutes and egg substitutes are helpful to patients wishing to reduce their cardiovascular risk. Their effect on reducing actual cardiovascular risk is undoubtedly much greater than their effect on cardiovascular risk factors.*"

Notes for editors

The article is “Animal vs Plant-Based Meat: A Hearty Debate,” by Matthew Nagra, ND, Felicia Tsam, RHN, Shaun Ward, MSc, and Ehud Ur, MB, FRCPC (https://doi.org/10.1016/j.cjca.2023.11.005 ↗).

The article is openly available for 30 days at https://www.onlinecjc.ca/article/S0828-282X(23)01882-2 ↗.

Journalists wishing to speak to the authors should contact Felicia Tsam at felicia.tsam@vch.ca ↗.

The editorial is "Reducing Cardiovascular Risk: The Potential of Plant-Based Meat Alternatives and Egg Substitutes," by J. David Spence, CM, MD, FRCPC, FAHA (https://doi.org/10.1016/j.cjca.2023.12.026 ↗).

The article is openly available for 30 days at https://www.onlinecjc.ca/article/S0828-282X(23)02042-1 ↗.

Journalists wishing to speak to the authors should contact Prof. David Spence at jdspence@uwo.ca.

Both articles appear online ahead of the *Canadian Journal of Cardiology*, volume 40, issue 7, (July 2024) published by Elsevier.

Full text of the articles is also available to credentialed journalists upon request. Contact Astrid Engelen at +31 6 14395474 or cjcmedia@elsevier.com ↗ for a copy of the PDFs or more information.

About the *Canadian Journal of Cardiology*

The *Canadian Journal of Cardiology* ↗ is the official journal of the Canadian Cardiovascular Society ↗. It is a vehicle for the international dissemination of new knowledge in cardiology and cardiovascular science, particularly serving as a major venue for the results of Canadian cardiovascular research and Society guidelines. The journal publishes original reports of clinical and basic research relevant to cardiovascular medicine as well as editorials, review articles, case reports, and papers on health outcomes, policy research, ethics, medical history, and political issues affecting practice.
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About the Editor-in-Chief

Editor-in-Chief Stanley Nattel, MD, is Paul-David Chair in Cardiovascular Electrophysiology and Professor of Medicine at the University of Montreal and Director of the Electrophysiology Research Program at the Montreal Heart Institute Research Center.

About the Canadian Cardiovascular Society (CCS)

The CCS ↗ is the national voice for cardiovascular clinicians and scientists, representing more than 2,300 cardiologists, cardiac surgeons and other heart health specialists across

Canada. We advance heart health for all by setting standards for excellence in heart health and care, building the knowledge and expertise of the heart team, and influencing policy and advocating for the heart health of all Canadians. For further information on the CCS visit https://www.ccs.ca/en ↗.

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