

This is the peer reviewed version of the following article:

Coffee and Heart Failure: a further potential beneficial effect of coffee / Mattioli, A.V., Farinetti, A.. - In: NMCD. NUTRITION METABOLISM AND CARDIOVASCULAR DISEASES. - ISSN 0939-4753. - 33:12(2023), pp. 2529-2530. [10.1016/j.numecd.2023.09.003]

Terms of use:

The terms and conditions for the reuse of this version of the manuscript are specified in the publishing policy. For all terms of use and more information see the publisher's website.

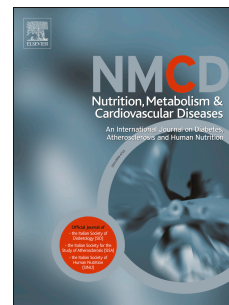
25/06/2026 05:42

(Article begins on next page)

Journal Pre-proof

Coffee and Heart Failure: a further potential beneficial effect of coffee

Anna Vittoria Mattioli, MD PhD, Alberto Farinetti, MD.



PII: S0939-4753(23)00345-9

DOI: <https://doi.org/10.1016/j.numecd.2023.09.003>

Reference: NUMECD 3423

To appear in: *Nutrition, Metabolism and Cardiovascular Diseases*

Received Date: 13 August 2023

Accepted Date: 4 September 2023

Please cite this article as: Mattioli AV, Farinetti A, Coffee and Heart Failure: a further potential beneficial effect of coffee, *Nutrition, Metabolism and Cardiovascular Diseases*, <https://doi.org/10.1016/j.numecd.2023.09.003>.

This is a PDF file of an article that has undergone enhancements after acceptance, such as the addition of a cover page and metadata, and formatting for readability, but it is not yet the definitive version of record. This version will undergo additional copyediting, typesetting and review before it is published in its final form, but we are providing this version to give early visibility of the article. Please note that, during the production process, errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

© 2023 The Italian Diabetes Society, the Italian Society for the Study of Atherosclerosis, the Italian Society of Human Nutrition and the Department of Clinical Medicine and Surgery, Federico II University. Published by Elsevier B.V. All rights reserved.

Coffee and Heart Failure: a further potential beneficial effect of coffee

Anna Vittoria Mattioli, MD PhD; Alberto Farinetti MD.

Department of Medical and Surgical Sciences for Children and Adults.

University of Modena and Reggio Emilia, Modena, Italy

Word count: 470

Ref: 10

Authors disclosure: no disclosure

Funding: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Address for correspondence:

Prof Anna Vittoria Mattioli,

University of Modena and Reggio Emilia

Via del pozzo, 71 41100 Modena (Italy)

Phone: 0039/59/4224281 Fax: 0039/59/4224323

E-mail: annavittoria.mattioli@unimore.it

Abstract

The present letter to editor comments the manuscript “Han Q, Chu J, Hu W, et al. Association between coffee and incident heart failure: A prospective cohort study from the UK Biobank [published online ahead of print, 2023 Jul 11]. *Nutr Metab Cardiovasc Dis.* 2023;S0939-4753(23)00280-6. doi:10.1016/j.numecd.2023.07.011

Key words: coffee, women, heart failure.

Journal Pre-proof

Dear Editor,

We have read with great interest the article “Association between coffee and incident heart failure: A prospective cohort study from the UK Biobank” by Han Q and coworkers and we found it of relevance with a view to caffeinated beverages consumption. [1] Authors found that moderate coffee intake could reduce the risk of heart failure (HF), but excessive coffee intake has no such effect. Furthermore, different types of coffee have different effects on HF incidence and ground coffee can greatest reduces the risk of HF.

We find this manuscript of great interest and would like to provide contribute to the discussion.

In recent times attention has focused on the early identification of heart failure risk factors including diet and components of specific diets. Coffee is undoubtedly the most popular drink among adults in various Western and non-Western countries. [2,3] It is clear that the impact of such a widespread and habitually consumed drink must be evaluated when analyzing the different components of the diet. [4] Numerous population-based studies have examined the health effects of coffee. [3,5,6] However, few studies have focused on heart failure.

We therefore thank Han Q. and coworkers for their contribution by noting some specific aspects. [1]

The first observation is related to the type of coffee in the study.

Many regions of Northern Europe use filtered coffee, however in other countries (i.e. in the Mediterranean area) espresso coffees is more popular. Espresso has a lower caffeine content and do not pass through the filter. The passage through the filter determines the extraction of some active ingredients contained in the coffee which have actions on the

microbiota and health. Furthermore, habits change in different countries, in Mediterranean countries coffee is taken in relation to the meal, thus influencing absorption and effect on the gut. [4,7]

The second point we would like to stress is related to sex differences. It is now established that there are differences between the 2 sexes in the absorption of macro and micro nutrients and in their bioavailability. [8]

These gender-specific aspects cannot be overlooked when addressing the effects of coffee on human health. Further studies on this topic are required to preserve women's health and not create confusion between the effects that can be found in the 2 sexes.

Most studies come to the conclusion that moderate coffee consumption appears to have favorable effects on health and at least has no negative effects on human health.

Specifically, the response to U-shape highlighted by the authors has also been previously described in relation to the effects of coffee on blood pressure.[2] This aspect suggests that a moderate dose of coffee has favorable effects compared to low or no consumption and high doses High doses of caffeine as occurs in energy drinks seems to be pro-arrhythmic and to favor hypertensive peak. [9,10]

References

1. Han Q, Chu J, Hu W, et al. Association between coffee and incident heart failure: A prospective cohort study from the UK Biobank [published online ahead of print, 2023 Jul 11]. *Nutr Metab Cardiovasc Dis.* 2023;S0939-4753(23)00280-6. doi:10.1016/j.numecd.2023.07.011
2. Mattioli AV, Farinetti A, Miloro C, Pedrazzi P, Mattioli G. Influence of coffee and caffeine consumption on atrial fibrillation in hypertensive patients. *Nutr Metab Cardiovasc Dis.* 2011 Jun;21(6):412-7. doi: 10.1016/j.numecd.2009.11.003. Epub 2010 Feb 18. PMID: 20167459
3. Marcus GM, Rosenthal DG, Nah G, Vittinghoff E, Fang C, Ogomori K, Joyce S, Yilmaz D, Yang V, Kessedjian T, Wilson E, Yang M, Chang K, Wall G, Olgin JE. Acute Effects of Coffee Consumption on Health among Ambulatory Adults. *N Engl J Med.* 2023 Mar 23;388(12):1092-1100. doi: 10.1056/NEJMoa2204737. PMID: 36947466.
4. Mattioli AV, Migaldi M, Farinetti A. Coffee in hypertensive women with asymptomatic peripheral arterial disease: a potential nutraceutical effect. *J Cardiovasc Med (Hagerstown).* 2018 Apr;19(4):183-185. doi: 10.2459/JCM.0000000000000626
5. Tikhonoff V, Casiglia E. Prognostic cardiovascular cut-off values of dietary caffeine in a cohort of unselected men and women from general population [published online ahead of print, 2023 Jul 15]. *Nutr Metab Cardiovasc Dis.* 2023;S0939-4753(23)00275-2. doi:10.1016/j.numecd.2023.07.006
6. Fan H, Xiong Y, Huang Y, et al. Coffee consumption and abdominal aortic calcification among adults with and without hypertension, diabetes, and cardiovascular diseases [published online ahead of print, 2023 Jun 23]. *Nutr*

- Metab Cardiovasc Dis. 2023;S0939-4753(23)00246-6.
doi:10.1016/j.numecd.2023.06.013
7. Machado F, Coimbra MA, Castillo MDD, Coreta-Gomes F. Mechanisms of action of coffee bioactive compounds - a key to unveil the coffee paradox [published online ahead of print, 2023 Jun 20]. Crit Rev Food Sci Nutr. 2023;1-23.
doi:10.1080/10408398.2023.2221734
 8. Coppi F, Bucciarelli V, Sinigaglia G, et al. Sex Related Differences in the Complex Relationship between Coffee, Caffeine and Atrial Fibrillation. Nutrients. 2023;15(15):3299. Published 2023 Jul 25. doi:10.3390/nu15153299
 9. Oberhoffer FS, Li P, Jakob A, Dalla-Pozza R, Haas NA, Mandilaras G. Energy Drinks: Effects on Blood Pressure and Heart Rate in Children and Teenagers. A Randomized Trial. Front Cardiovasc Med. 2022;9:862041. Published 2022 Mar 21. doi:10.3389/fcvm.2022.862041
 10. Mattioli AV, Pennella S, Farinetti A, Manenti A. Energy Drinks and atrial fibrillation in young adults. Clin Nutr. 2018 Jun;37(3):1073-1074. doi: 10.1016/j.clnu.2017.05.002.