

Abstract

Adherence to French Dietary Guidelines Is Associated with a Reduced Risk of All-Cause, Cardiovascular Diseases and All, Breast and Lung Cancer Mortality in the E3N COHORT [†]

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[†] Presented at the 14th European Nutrition Conference FENS 2023, Belgrade, Serbia, 14–17 November 2023.

Abstract: Background and objectives: Diet is a modifiable risk factor of non-communicable diseases. The French dietary guidelines, updated in 2017, provide recommendations for a healthier diet. We aimed to study the association between adherence to these dietary guidelines and mortality in the E3N (Etude Epidémiologique auprès de femmes de l'Education Nationale) French cohort. Methods: We studied 72,585 women included in the E3N prospective cohort, which completed a food frequency questionnaire in 1993. Adherence to French dietary guidelines was estimated using the simplified "Programme National Nutrition Santé—guidelines score 2" (sPNNS-GS2, range: −20.4 to 12.6). We estimated the association between sPNNS-GS2 and all-cause or cause-specific mortality using Cox proportional hazard models, adjusted for age (as time-scale), BMI, physical activity, birth generation, education level, smoking status, menopausal status and recent menopausal hormone therapy use, and total energy intake. Results: During follow-up (1993–2014), we identified 6441 deaths. The mean sPNNS-GS2 was 3.8 (SD 3.0). In the fully adjusted model, we found a non-linear inverse association, with a plateau from the third quartile, between sPNNS-GS2 and all-cause (HRQ4 vs. Q1 [95%CI]: 0.79 [0.73; 0.86]), all cancers (HRQ4 vs. Q1 [95%CI]: 0.79 [0.70; 0.89]) and breast cancer (HRQ4 vs. Q1 [95%CI]: 0.73 [0.58; 0.91]) mortality. We also highlighted a non-linear U-shaped association with lung cancer mortality (HRQ3 vs. Q1 [95%CI]: 0.62 [0.45; 0.87] and HRQ4 vs. Q1 [95%CI]: 0.73 [0.52; 1.02]) and a linear inverse association with cardiovascular disease mortality (HRoneSTD [95%CI]: 0.86 [0.76; 0.97]). We observed no association with colorectal cancer mortality (HRoneSTD [95%CI]: 0.86 [0.70; 1.04]). Discussion: This study on a large prospective cohort following more than 70,000 women for over 20 years suggests that a higher adherence to the French dietary guidelines is associated with a reduced risk of mortality from all-cause cardiovascular diseases, all cancers, breast cancer and lung cancer. These results enable us to confirm the French nutritional recommendations. Finally, the reduced risk observed for various mortality outcomes is an important public health message.

Keywords: diet; guidelines; mortality; cohort



Citation: Marques, C.; Frenoy, P.; Laouali, N.; Shah, S.; Severi, G.; Mancini, F.R. Adherence to French Dietary Guidelines Is Associated with a Reduced Risk of All-Cause, Cardiovascular Diseases and All, Breast and Lung Cancer Mortality in the E3N COHORT. *Proceedings* **2023**, *91*, 53. <https://doi.org/10.3390/proceedings2023091053>

Academic Editors: Sladjana Sobajic and Philip Calder

Published: 17 November 2023



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Author Contributions: Conceptualization, C.M., G.S. and F.R.M.; methodology, C.M., G.S. and F.R.M.; formal analysis, C.M.; writing—original draft preparation, C.M.; writing—review and editing, C.M., P.F., N.L., S.S., G.S. and F.R.M.; supervision, G.S., F.R.M., C.M., P.F., N.L. and S.S. All authors have read and agreed to the published version of the manuscript.

Funding: This work was realised with the data of the E3N cohort of the Inserm and supported by the Mutuelle Générale de l'Education Nationale (MGEN), the Gustave Roussy Institute, and the French

League against Cancer for the constitution and maintenance of the cohort. This work has benefited from State aid managed by the National Research Agency under the program “Investment in the future” bearing the reference ANR-10-COHO-0006 as well as subsidy from the Ministry of Higher Education, Research and Innovation for public service charges bearing the reference n°2103586016. This work was also supported by a doctoral funding from the Paris-Saclay University Doctoral School of Public Health EDSF.

Institutional Review Board Statement: This study was approved by the CNIL (the French National Commission for Data Protection and Privacy).

Informed Consent Statement: All participants gave consent to this study.

Data Availability Statement: The data that has been used is confidential.

Conflicts of Interest: The authors declare no conflict of interest.

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