Response to Letter Regarding Article, “Trauma Exposure and Posttraumatic Stress Disorder Symptoms Predict Onset of Cardiovascular Events in Women”

We thank Drs Durmaz, Kucuk, and Kucuk for their interest in our article.1 Their thought-provoking comments speak to the importance of understanding the link between posttraumatic stress disorder (PTSD) and cardiovascular disease risk specifically in women, and the need to appreciate the link between psychological and physical health, as well.

Durmaz et al highlight the unique nature of our study sample, which comprised female US nurses from the Nurses’ Health Study II (NHS II). They note how certain aspects of being a health professional may impact vulnerability for developing PTSD and, subsequently, influence cardiovascular risk. In our study, we investigated exposure to a wide range of traumatic experiences in this community-based sample of civilian women (eg, natural disaster exposure, unwanted sexual contact, the sudden and unexpected death of a loved one) and how this trauma exposure and related PTSD symptoms were associated with risk of incident myocardial infarction and stroke over a 20-year period. Durmaz et al identify an important consideration to keep in mind when studying posttraumatic psychopathology and its consequences for physical health in health professionals, namely that nurses may encounter traumatic experiences as part of their occupation (eg, treating patients with traumatic injuries). Indeed, multiple investigations aimed at understanding the risk for developing PTSD after trauma exposure have studied first responders and emergency service personnel (eg, firefighters, police officers) given that these individuals are likely to face potentially traumatic duty-related incidents.2,3 Health professionals are an additional group of service providers whose occupational role may have implications for trauma exposure and the onset of psychopathology.

Durmaz et al further note the importance of appreciating contextual factors more broadly when investigating the link between trauma exposure, PTSD, and cardiovascular risk. In our study, we found that health behaviors and medical risk factors accounted for nearly half of the association between elevated PTSD symptoms and risk for incident cardiovascular disease,4 and we are currently investigating the role of physiological mechanisms that may underlie associations between trauma exposure, PTSD symptoms, and cardiovascular disease in the NHS II. However, it is important to remember that these individual-level processes operate within a larger context. For example, Durmaz et al highlight the role of cultural factors and how they can influence downstream variables that may have consequences for cardiovascular health, such as post-trauma coping mechanisms.

Ultimately, our work, and that of others,1-3 suggests that the effects of trauma exposure do not just end with the mind but rather extend to the heart. Durmaz et al’s comments emphasize that a one-size-fits-all model does not necessarily apply when trying to understand these relations. Going forward, research that incorporates both microlevel and macrolevel factors, and that examines how they play out for women in particular, is needed to comprehensively understand the associations between trauma exposure, PTSD, and cardiovascular disease risk in women. Ultimately, this information can be used to offset increased vulnerability to poor cardiovascular health in trauma-exposed women.

Acknowledgments

We acknowledge the Channing Division of Network Medicine, Department of Medicine, Brigham and Women’s Hospital, and Harvard Medical School for managing the NHS II.

Sources of Funding

This work was supported by the National Institutes of Health grants K01HL130650 (to JAS), R01MH101269-01A1 (to KCK, LDK), and UM1CA176726 (for NHS II infrastructure).

Disclosures

None.

Jennifer A. Sumner, PhD
Center for Behavioral Cardiovascular Health
Columbia University Medical Center
New York, NY

Department of Epidemiology
Harvard T. H. Chan School of Public Health
Boston, MA

Laura D. Kubzansky, PhD
Department of Social and Behavioral Sciences
Harvard T. H. Chan School of Public Health
Boston, MA

Mitchell S.V. Elkind, MD
Department of Epidemiology
Columbia University Mailman School of Public Health
Department of Neurology
Columbia College of Physicians and Surgeons
New York, NY

Andrea L. Roberts, PhD
Department of Social and Behavioral Sciences
Harvard T. H. Chan School of Public Health
Boston, MA

Jessica Agnew-Blais, ScD
Social Genetic & Developmental Psychiatry
Institute of Psychiatry
King’s College London
London, United Kingdom

Qixuan Chen, PhD
Department of Biostatistics
Columbia University Mailman School of Public Health
New York, NY

Magdalena Cerdá, DrPH
Department of Emergency Medicine
UC Davis Medical Center
Sacramento, CA

Kathryn M. Rexrode, MD
Division of Preventive Medicine
Brigham and Women’s Hospital
Boston, MA

Janet W. Rich-Edwards, ScD
Department of Epidemiology
Harvard T. H. Chan School of Public Health
The Connors Center for Women’s Health and Gender Biology
Brigham and Women’s Hospital
Boston, MA

Donna Spiegelman, ScD
Department of Epidemiology
Department of Biostatistics
Harvard T. H. Chan School of Public Health
Boston, MA
Shakira F. Suglia, ScD  
Department of Epidemiology  
Columbia University Mailman School of Public Health  
New York, NY  

Eric B. Rimm, ScD  
Department of Epidemiology  
Department of Nutrition  
Harvard T. H. Chan School of Public Health  
Channing Division of Network Medicine  
Brigham and Women’s Hospital and  
Harvard Medical School  
Boston, MA  

Karestan C. Koenen, PhD  
Department of Epidemiology  
Harvard T. H. Chan School of Public Health  
Psychiatric and Neurodevelopmental Genetics Unit and  
Department of Psychiatry  
Massachusetts General Hospital  
Boston, MA  
Stanley Center for Psychiatric Research  

Broad Institute of MIT and Harvard  
Cambridge, MA  

References  
Response to Letter Regarding Article, "Trauma Exposure and Posttraumatic Stress Disorder Symptoms Predict Onset of Cardiovascular Events in Women"


_Circulation_. 2016;133:e401-e402
doi: 10.1161/CIRCULATIONAHA.115.020198

_Circulation_ is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2016 American Heart Association, Inc. All rights reserved.
Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circ.ahajournals.org/content/133/7/e401

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in _Circulation_ can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to _Circulation_ is online at:
http://circ.ahajournals.org/subscriptions/