THE AUTHORS REPLY

We thank Dr. Trovato and his colleagues (1) for their interest in our study and for raising an important issue for consideration. Physical activity has been reported to reduce the risk for all subtypes of stroke. This reduction has been attributed to changes in several risk factors influenced by physical activity, such as blood pressure, lipid profile, and endothelial function (2).

In our study (3), we assessed the level of physical activity among participants by recording, on a precoded lifestyle questionnaire, the frequency and duration of participation in occupational and leisure-time activities. We computed an energy-expenditure index by assigning a multiple of the resting metabolic rate to each activity (a metabolic equivalent (MET) value). The time spent on each of the activities was then multiplied by the MET value of the activity, and all MET-hour products were summed to produce an estimate of daily physical activity, indicating the amount of energy per kilogram of body weight expended during an average day by...
each participant (4, 5). Physical activity was included as a covariate in our analysis of the relationship between diet and risk of stroke, allowing for adjustment for a possible confounding effect by physical activity. We also reported multivariate Cox regression-derived hazard ratios for different levels of physical activity. There was an inverse association between increased physical activity and risk of stroke, without a clear trend (3). We did not examine the interaction between diet and physical activity in this study, nor did we assess the correlation between adherence to the Mediterranean diet and level of physical activity. Our stated objective was to examine the independent effect of the Mediterranean diet on risk of stroke, taking into account the potentially confounding effects of other known risk factors.

It has been recognized that there is a tendency for favorable (or detrimental) lifestyle risk factors for cardiovascular disease to cluster in individuals, and—as suggested by the work of Trovato et al. (6) and others (7)—there is seemingly a parallel relationship between adoption of healthier lifestyle choices, such as the Mediterranean diet, and increased physical activity. The coexistence of several behavioral risk factors indicates that complex interventions may be required to tackle the problem and that there is a need for further research in order to elucidate the effectiveness of different types of interventions (single vs. multiple).

ACKNOWLEDGMENTS

Conflict of interest: none declared.

REFERENCES


Gesthimani Misirli1,2, Vassiliki Benetou2, Pagona Lagiou2,3,4, Christina Bamia3, Dimitrios Trichopoulou3,4, and Antonia Trichopoulou1,2
(e-mail: m.misirli@nut.uoa.gr)

1 Hellenic Health Foundation, 115-27 Athens, Greece
2 Department of Hygiene, Epidemiology and Medical Statistics, Medical School of Athens, 115-27 Athens, Greece
3 Department of Epidemiology, Harvard School of Public Health, Boston, MA 02115
4 Bureau of Epidemiology, Academy of Athens, 10679 Athens, Greece

DOI: 10.1093/aje/kwt126; Advance Access publication: June 20, 2013