

## Letters to the Editor

### RE: "RELATION OF THE TRADITIONAL MEDITERRANEAN DIET TO CEREBROVASCULAR DISEASE IN A MEDITERRANEAN POPULATION"

We read with great interest the innovative and elegant study by Misirli et al. (1), which provides support for an inverse association of adherence to the Mediterranean diet with cerebrovascular disease incidence and mortality. A limitation of their study is that no relevant information on the possible concurrent effects of physical activity level—a factor with effects on body composition, including obesity, and on overall and cardiovascular mortality (2)—was provided. In a recent study published concurrently, Kien et al. (3) claimed an enhancement effect of olive oil within a Mediterranean diet profile on physical activity in humans. This could be the intervention counterpart of the observation that an increase in adherence to the Mediterranean diet is associated with a parallel increase in physical activity: In a previous study, we observed a significant relationship ( $n = 134$ ;  $r = 0.615$ ;  $P < 0.0001$ ) between physical activity level, assessed by the Baecke questionnaire, and a score for Mediterranean diet adherence (4). This relationship was maintained after a behavioral counseling intervention that focused on physical exercise and an increase in dietary adherence aimed to achieve weight loss in obese persons. The changes (i.e.,  $\Delta$ adherence-to-Mediterranean-diet score and  $\Delta$ physical activity score (Baecke)) were still significantly related ( $r = 0.252$ ;  $P = 0.015$ ). Effects of Mediterranean diet intervention stem, in our experience, from the counseling and psychological strategy, which supports both healthier nutrition and encouragement of increased physical activity (4). It is likely that a comprehensive contribution of a healthier and more palatable diet to the cognitive and behavioral profile (5) with a greater disposition toward increased physical activity could be a further component, not a minor component, of the Mediterranean diet. In Misirli et al.'s extensive study, the level of physical exercise was not directly assessed; nonetheless, the decrease in the occurrence of cerebrovascular disease events (1), so neatly demonstrated, could be related to concurrent enhancement of physical activity due to greater adherence to the Mediterranean diet and to its behavioral effects (3–5). These factors, considered together, may represent an additional contribution to cardiovascular risk prevention through the enhancement of healthier lifestyles using a reliable paradigm, the Mediterranean diet (5).

#### ACKNOWLEDGMENTS

Conflict of interest: none declared.

#### REFERENCES

1. Misirli G, Benetou V, Lagiou P, et al. Relation of the traditional Mediterranean diet to cerebrovascular disease in a Mediterranean population. *Am J Epidemiol.* 2012;176(12):1185–1192.
2. Baer HJ, Glynn RJ, Hu FB, et al. Risk factors for mortality in the Nurses' Health Study: a competing risks analysis. *Am J Epidemiol.* 2011;173(3):319–329.
3. Kien CL, Bunn JY, Tompkins CL, et al. Substituting dietary monounsaturated fat for saturated fat is associated with increased daily physical activity and resting energy expenditure and with changes in mood. *Am J Clin Nutr.* 2013;97(4):689–697.
4. Trovato GM, Martines GF, Trovato FM, et al. Psychological determinants of dietary adherence and intervention outcome in obesity: self-efficacy, dietary and physical exercise counseling. *FASEB J.* 2012;26(4):818–819.
5. Trovato GM. Behavior, nutrition and lifestyle in a comprehensive health and disease paradigm: skills and knowledge for a predictive, preventive and personalized medicine. *EPMA J.* 2012;3(1):8–22.

Guglielmo M. Trovato, Giuseppe Fabio Martines, Francesca M. Trovato, and Daniela Catalano (e-mail: [guglielmotrovato@unict.it](mailto:guglielmotrovato@unict.it))  
Department of Medical and Pediatric Sciences,  
School of Medicine, University of Catania,  
95131 Catania, Italy

DOI: 10.1093/aje/kwt125; Advance Access publication: June 20, 2013