Among individuals with Parkinson disease (PD), progression to severe disability is inevitable and feared because treatment primarily manages symptoms and is not known to slow down pathology. Because PD has a long prodromal period, it is of utmost importance to find factors that may change the pathological cascade of events even before PD diagnosis and help slow neurodegenerative progression. The results of the cohort study by Zhang et al1 are promising and suggest that maintaining a healthy diet and higher levels of recreational physical activity is associated with improved patient outcome by preventing earlier mortality. These results not only reinforce the public health recommendations to engage in these behaviors for staying healthy in general but also add to a growing body of evidence of such behaviors providing protection against PD-related neurodegeneration specifically.2,3 Healthier eating has been found to protect against PD incidence in both the Nurses’ Health Study and Health Professionals Follow-up Study.2 A meta-analysis of 6 prospective cohort studies has also reported an association between physical activity and lowered risk of PD.3

However, the current study also suggests that a healthy diet and higher levels of recreational physical activity may accomplish what medical intervention thus far has not been able to do: slow the pace of progression; that is, if the factors associated with PD susceptibility and mortality were the same factors associated with disease severity over time. To this end, other studies have shown healthy food and/or physical activity to be inversely associated with, and thus possibly lead to, improved nonmotor features of PD, such as constipation, excessive daytime sleepiness, and depression, that greatly affect patients’ health-related quality of life.4 Moreover, these results also have important implications for neurologists who diagnose and treat patients with PD, indicating that health professionals need to encourage patients to maintain a healthy lifestyle to, at a minimum, reduce mortality risk, which is higher in individuals with PD than those without PD in the same age range.5

Although Zhang et al1 point to the importance of a healthy lifestyle approach in PD care, they do not address whether such prohealth behaviors are beneficial in reducing PD-specific progression to disability and mortality or simply act as a better control for common comorbidities, such as hypertension, diabetes, and hypercholesterolemia, in older adults in general. That is, are the decreased mortality and other health benefits among patients with PD greater than those seen among age-matched individuals without PD? The PD-specific benefits of a heathier lifestyle certainly exist. It has been shown that certain nutritional components, including protein redistribution diets, fiber, vitamin C, and caffeine, improve levodopa absorption and reduce PD motor fluctuation, whereas supplementation with vitamin B12, vitamin B6, and folic acid is gaining traction for attenuating hyperhomocysteinemia after levodopa initiation with its potential negative metabolic consequences.6 Answering these questions and understanding the mechanisms behind the observed protective properties of diet and physical activity require large and well-conducted studies that will document and trace PD progression profiles in addition to prospective studies of mortality, such as the one by Zhang et al.1

The Nurses’ Health Study and Health Professionals Follow-up Study are powerful in that they were designed as prospective cohorts with repeated collection of diet and physical activity data as well as other potential risk factors over an extended follow-up period. These studies also have an
impressively complete follow-up record, given that health professionals are likely to understand the importance of and adhere to the demands of decades-long research. Thus, Zhang et al. were able to assess the impact of lifestyle factors for which it is often difficult or impossible to obtain valid and longitudinal information retrospectively or without a repeated measurement approach. In addition, because the data collection not only began long before PD onset but also continued after diagnosis, Zhang et al. were able to assess whether the associations they found were primarily attributed to long-term exposures to healthy behaviors or promotion of such behaviors after diagnosis. The results of this study give additional support to targeting lifestyle choices after PD onset because not only were the inverse associations obvious for both prediagnosis and postdiagnosis periods but also the estimated effect size for a delay in time to mortality was even stronger for the reported measures of better diet quality and higher physical activity levels after PD onset. Possibly the only drawback of these unique cohort studies is that nurses and other health professionals likely have a more homogeneous lifestyle and are more aware of the importance of healthy behaviors than the general public. This drawback may have reduced the power to find associations at lower levels of exposure and somewhat limited the ability to apply specific findings (such as amount of physical activity as well as type of healthy diet and food items) to other population groups.

Evaluating whether and how healthy eating and/or physical activity play a role in slowing the pace of PD progression or changing the trajectories of specific symptom profiles will require similar research in large prospective studies but with detailed symptom profiling. New tools are emerging that may facilitate such research, such as wearables that can record physical activity, walking speed, or measures of blood glucose and oxidative stress markers; be informative as exposure or outcome assessment tools in the long run; lower the burden on research participants, and help with identifying what types of interventions are most effective in generating healthy diet and exercise changes in older patients. Ultimately, as recommended at the Parkinson Study Group 2022 meeting, there is no reason for neurologists and primary care practitioners to hesitate about providing information and recommendations on diet and lifestyle that may be beneficial for PD-specific symptoms and promote healthy aging in general. Such professional guidance has the added advantage of giving many patients with PD a measure of control over their lives by engaging in activities that improve not only their disease outcome but also their quality of life and life expectancy.

ARTICLE INFORMATION

Open Access: This is an open access article distributed under the terms of the CC-BY License. © 2022 Ritz BR et al. JAMA Network Open.

Corresponding Author: Beate R. Ritz, MD, PhD, Department of Epidemiology, UCLA Fielding School of Public Health, 650 Charles Young Dr S, Los Angeles, CA 90095-1772 (britz@ucla.edu).

Author Affiliations: Department of Epidemiology, UCLA (University of California, Los Angeles) Fielding School of Public Health (Ritz); Department of Neurology, David Geffen School of Medicine at UCLA (Ritz, Paul).

Conflict of Interest Disclosures: None reported.

REFERENCES