Letter by Sposato and Saposnik Regarding Article, “Incidence of Stroke and Socioeconomic Neighborhood Characteristics: An Ecological Analysis of Dijon Stroke Registry”

To the Editor:

We read with great interest the article, “Incidence of Stroke and Socioeconomic Neighborhood Characteristics: An Ecological Analysis of Dijon Stroke Registry” by Dr Grimaud et al.1 The authors found that low socioeconomic status was associated with higher incident risk of stroke in Dijon, France. The novel aspect was the use of a comprehensive set of 10 indicators for the assessment of socioeconomic status. Unemployment, 1 of these indicators, was associated with higher risk of stroke after adjusting for age and sex. This association was significant for women, but not for men, in the main effect models. However, a significant interaction was found between unemployment and age among men. Furthermore, unemployment was related to higher stroke incidence among males age 40 and 59 years, but not among those age 60 years or older.

Similarly, in a national multicenter stroke registry from Argentina, we found that unemployment was strongly related to stroke mortality.2

Unemployment is a widely used indicator of socioeconomic status because it is relatively easily measured and is often available from national statistics in almost all countries. Unemployed individuals usually live in neighborhoods with lower socioeconomic status, and area-level unemployment is associated with higher burden of vascular risk factors.3

Unfortunately, limited information is available on the impact of unemployment on outcomes after stroke. This study, together with ours, is hypothesis-generating. However, some precautions should be taken when using unemployment as an indicator of socioeconomic status in ecological stroke studies. A clear definition should be made regarding variables that may impact the work force at a national or local level (ie, retirement age for male and female sex and share of labor force at different age strata). For example, individuals who are not part of the work force should be excluded to avoid a misclassification and selection bias. This issue poses a methodological dilemma, because the highest stroke incidence is found among the retired population.

Retirement age for men in France was 60 years in 2003.4 According to Organization for Economic Cooperation and Development statistics for year 2003, the employment rate for French men age 60 to 64 years and for those >65 years was 14.4% and 1.8%, respectively.5 Moreover, the share of labor force for French men older than age 60 years was only 1.8% in the same year.5 Based on these data and considering that the median proportion of population age 60 years or older in the study of Grimaud et al was 20% (interquartile range, 15–24), it would have been interesting to know the impact of unemployment on overall stroke incidence after excluding the retired population.

Additional studies evaluating the relationship between unemployment, comorbid conditions, and their influence on stroke outcomes are necessary.

Disclosures

None.

Luciano A. Sposato, MD, MBA
Stroke Center at the Institute of Neurosciences
Favaloro University Hospital and Vascular Research Institute
at the INECO Foundation
Buenos Aires, Argentina

Gustavo Saposnik, MD, MSc, FAHA
FAHA, Division of Neurology, Department of Medicine,
Department of Health Policy, Management and Evaluation
St. Michael’s Hospital
University of Toronto
Toronto, Ontario


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Luciano A. Saposato and Gustavo Saposnik

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