Letters to the Editor and Authors’ Response

COGNITIVE IMPAIRMENT MODULATES THE EFFECT OF DEPRESSIVE SYMPTOMS ON MORTALITY IN ELDERLY PEOPLE

To the Editor:

The recent debate on the prognostic negative effect of depression on mortality (1, 2) has been significantly enriched by Mehta and colleagues’ article on the association between depression and cognitive impairment and mortality in older adults (3). The authors conclude that cognitive function and depressive symptoms can be used together to stratify elderly adults into groups that have significantly different rates of death; moreover these two risk factors are associated in a progressive, additive manner.

We would like to discuss this topic and present data of a study in an aging community-based population in Italy. The data were obtained in a multidimensional study carried out in a community-dwelling population aged 70 years and older living in the rural city of Ospitaletto, Brescia, Northern Italy (4). Of a total of 613, more than 70 elderly persons were recorded in the local registry office, 37 refused to participate, and 27 were contacted but did not complete the interview. There were 549 valid questionnaires available (89.6% of the eligible population). The data were collected at participants’ homes by trained community researchers. In addition to demographics (gender, age, years of education), mood was assessed with the short version of the Geriatric Depression Scale (GDS) (5), cognitive performance with the Mini-Mental State Examination (MMSE) (6), physical health as the number of chronic conditions, and disability by Katz’s Activities of Daily Living (ADL) scale (7). Twenty-five participants with an MMSE score lower than 14 were excluded from the study, since, at a lower score, it is difficult to correctly detect depressive symptoms in a community survey, leaving 524 for further analysis. Cognitive impairment was defined as an MMSE score between 14 and 23, depression as a GDS score higher than 5, and disability as 1 or more ADL functions lost.

Cox proportional hazards models were used to control for potentially confounding variables. The mean age of the 524 elderly participants (173 males and 351 females) was 76.6 ± 5.1 years. They had 4.6 ± 1.9 years of education, and were affected by 3.5 ± 2.2 chronic conditions; 134 (24.4%) lived alone and 149 (27.1%) had 1 or more ADL functions lost. MMSE and GDS mean scores were 25.8 ± 3.6 and 3.7 ± 3.0, respectively. Patients were divided into 4 mutually exclusive groups based on the presence of neither, either, or both cognitive impairment and functional disability (see Table 1). Vital status was assessed for each participant 60 months from the baseline analysis. One hundred twenty-nine persons (24.6%) died during the follow-up period.

Table 1 shows the association of depression with 60-month mortality in the four groups of elderly participants, indicating an independent association between depressive symptoms and mortality in group A (“physically healthy”) and in group C (“disabled, noncognitively impaired”) (relative risks of 2.1 and 3.2, respectively). The association was not found in group B (“cognitively impaired, nondisabled”) and in group D (“cognitively impaired and disabled”).

In the same population, we have previously demonstrated the independent association between cognitive impairment and depression with mortality (8, 9). Data observed in this analysis show that the effect of depression on mortality is modulated by cognitive function. In fact, at variance with the data of Mehta and colleagues, our data suggest that, in a population of cognitively impaired participants, depressive symptoms do not exert any effect on mortality.

Cognitive impairment may protect from the effect of depression on mortality since it reduces the insight of patients, an important mechanism mediating the consequences of mood disorders on physical health. Another explanation may rely on the fact that, in cognitively impaired patients,
depressive symptoms may be part of the dementia syndrome, whose natural history is not modified by affective status.

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