



Letter to the Editor

Frailty and subsequent mortality in the elderly: A risk assessment



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To the Editor,

I read with great interest the paper by Zucchelli et al. [1], which is a cohort study to determine the effect of frailty on mortality in adults aged 60+ without multi-morbidity. Within the first 5 years of follow-up, adjusted hazard ratios (HRs) (95% confidence intervals [CIs]) of pre-frail and frail participants for mortality were 2.08 (1.15–3.76) and 2.69 (1.22–5.97), respectively. In contrast, the significance disappeared beyond 5 years, and frailty and pre-frailty were closely related to relatively short-term mortality in older adults free from multi-morbidity. I have some queries on their study.

First, Hanlon et al. [2] conducted a cohort study to examine the association between frailty, multi-morbidity, and mortality in a middle-aged and older aged population. Pre-frailty and frailty were significantly associated with mortality for all age in men and women (except in women aged 37–45 years). In subjects aged 65–73 years, adjusted HRs (95% CIs) of pre-frail men, frail men, pre-frail women, and frail women for mortality were 1.45 (1.34–1.57), 2.42 (2.09–2.80), 1.50 (1.34–1.68), and 2.53 (2.10–3.04), respectively. They included multi-morbidity count into independent variables for the adjustment, and HRs of frailty for mortality in middle-aged individuals also reached the level of significance, which was recognized both in men and women. They conducted a median of 7 years follow-up, and there is a possibility that longer period of follow-up would change the level of frailty. Risk assessment by considering the follow-up period might be important, which was pointed out by Zucchelli et al. [1].

Second, Downer et al. [3] examined the combined effect of cognitive impairment and pre-frailty on future frailty and mortality among elderly. Adjusted HR (95% CI) of cognitively impaired pre-frail participants for mortality was 1.99 (1.42–2.78). In addition, adjusted HRs (95% CIs) of cognitively impaired non-frail participants and cognitively intact pre-frail participants for mortality were 1.55 (1.12–2.19) and 1.29 (0.97–1.71), respectively. This study presents that cognitive impairment and frailty should be simultaneously evaluated for the mortality risk in the elderly.

Finally, Chang and Lin [4] conducted a meta-analysis of prospective

studies to investigate the relationship between physical frailty and mortality in inhabitants aged 65 years, with special reference to gender and age. Pooled effect size presented that older people with frailty presented the highest risks of mortality, followed by people in the pre-frail phase. Although men with frailty had higher risk of mortality than frail women, there was no threshold of age for mortality. Sex difference should be specified by further studies.

Zucchelli et al. presented basic information on the mortality risk by frailty in the elderly without multi-morbidity. I suppose that older adults have some physical and mental disorders by aging and these factors might interact with each other, which would accelerate the level of frailty. I agree with their approach to exclude confounding factors for subsequent short-time mortality. The authors also presented dose-response relationship between the level of frailty and subsequent mortality, and cause-specific mortality in relation to the level of frailty [5] would become useful information in this population.

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