

CORRESPONDENCE



# Frailty in the ICU: information is the required first step

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We thank Shah and colleagues for the points they raise [1] regarding our study examining frailty and persistent critical illness [2]. They appropriately observe that the Clinical Frailty Scale (CFS) was originally validated in patients aged >65 years. There is, however, significant evidence confirming the relationship between the CFS and negative outcomes in younger critically ill populations. We would refer Shah and colleagues to our recent population-based study using the CFS, in which we found limited evidence that the relationship between frailty and mortality differed significantly according to age <50 years vs. ≥50 years [3]. Large studies during the coronavirus disease 2019 (COVID-19) pandemic have also shown that frailty, measured by the CFS in patients aged <65 years, is associated with higher mortality [4]. Moreover, we question the accuracy of their conclusion “a recent review found that the CFS did not demonstrate any predictive validity for mortality in people <60 years”. This review paper, on the contrary, demonstrated that “prediction of mortality and/or hospital admissions was statistically significant” in four of seven studies utilising the CFS in younger cohorts (of which three studies were in critically ill patients) [5].

We agree that higher frailty degrees are associated with an increased risk of death in hospital. However, we would emphasise the separate outcomes of death and persistent critical illness examined in our study—both of which are associated with advancing frailty. In addition to death, the highest degrees of frailty were also associated separately

with the development of persistent critical illness—the main focus of this investigation. In fact, it is despite this higher mortality rate that patients with advanced frailty go on to develop persistent critical illness. We do welcome their suggestion to investigate the prediction of persistent critical illness stratified by age groups—this is the subject of further investigation.

We agree that investigating the interplay between frailty and socioeconomic status, as well as in triage for intensive care unit (ICU) admission, are worthy goals of future research. We would also point out that treatment limitations are accounted for in our “antecedent characteristics” model. We also agree that the inter-rater reliability of the CFS varies depending on rater background, but we observe in the referenced paper by Flaatten et al., all rating pairs achieved a weighted kappa ≥0.77, denoting “good” or “very good” agreement [6]. Moreover, the best agreement in information source was when frailty was derived from hospital records (weighted kappa 0.89), the same methodology used in our study.

Finally, we agree with their listed goals of frailty research in ICU, but would respectfully state that it is only by accomplishing the first (advancing our knowledge) that we can hope to fulfil the latter (improving information quality provided to patients/carers, and changing how care is delivered). The plethora of observational studies of ICU frailty must now be matched by interventional research to inform what we should do about it. However, it is only by first properly defining the magnitude and impacts of frailty that we can accomplish this. Our hope is that our study puts us one step closer to achieving this goal.

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#### Declarations

#### Conflict of interests

The authors declare that they have no competing interests.

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