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Reply to: Comment on Predicting In-Hospital Mortality in COVID-19 Older Patients with Specifically Developed Scores

To the Editor:

We thank Odille et al¹ for the interest in our research and for bringing additional relevant updates to improve our work. In our manuscript, as the researchers outlined, the main finding is that the prognosis of COVID-19 older patients is mainly driven by respiratory status at admission.²

Consequently, the severity scores including a respiratory function evaluation, such as those adopted for sepsis and pneumonia,³⁻⁵ the general early warning scores (EWS),⁶ and the specifically developed EWS, are able to stratify prognostic risk of COVID-19 patients. Likewise, as suggested by Odille et al,¹ the World Health Organization (WHO) pragmatic

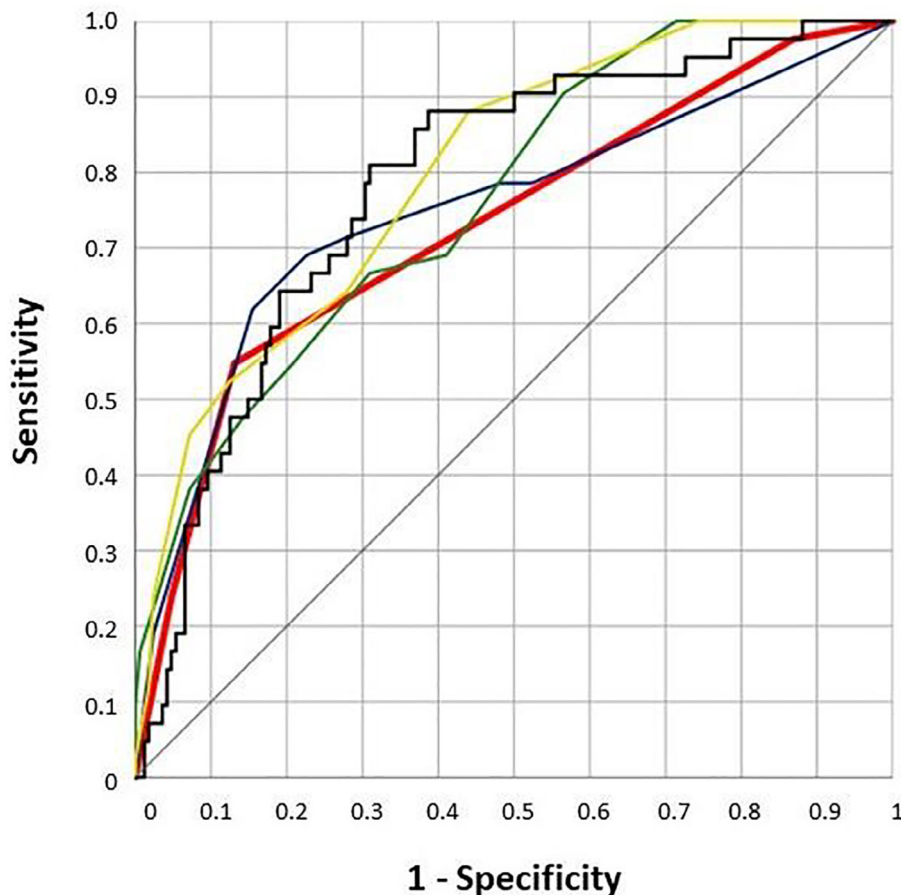


FIGURE 1 ROC curves of the evaluated scores with respect to in-hospital death

severity scale, which is based solely on respiratory evaluation (S1: no pneumonia; S2: pneumonia, with SpO₂ ≥ 90% on room air; S3: severe pneumonia, with respiratory rate > 30 breaths/min or SpO₂ < 90% on room air; S4: critical disease with acute respiratory distress syndrome),⁷ could be useful for a quick patient stratification, also in emergency department setting. Nevertheless, the authors underlined that a WHO pragmatic severity scale validation in COVID-19 older patients is lacking.

Therefore, we expanded our work analyzing the performance of this index in our cohort of 210 patients aged 65 years or more. Globally, among deceased patients—according to WHO severity scale—1/23 (4.3%) was in S1 group, 18/142 (12.7%) were in S2 group, 13/27 (48.1%) were in S3 group, and 10/18 (55.6%) were in S4 group. Overall, the scale had an area under receiver operating characteristic curve (AUROC) of 0.705 (0.636–0.767), with WHO score greater or equal to 2 having 47.2% (30.4–64.5) sensitivity and 89.0% (83.2–93.4) specificity for prediction of in-hospital death (Figure 1). Consequently, the WHO index showed a fairly good predictive value with respect to in-hospital death in our population, similarly to NEWS (difference between ROC areas 0.025 SE 0.038, *P* = .508), qCSI score (difference between ROC areas 0.016 SE 0.037, *P* = .659), ISARIC-4c (difference between ROC areas 0.086 SE 0.050, *P* = .088), and COVID-GRAM (difference between ROC areas 0.081 SE 0.050, *P* = .106).

To date, mainly due to age-related vulnerability and to the several complications,⁸ the older patients are facing a more severe COVID-19. Therefore, the choice of an effective and quick-to-use tool could be crucial in identifying patients who could experience worse outcome. Accordingly, since all the evaluated scores had a similar performance for death risk stratification in older COVID-19 patients, we agree with Odille et al¹ that adopting the simplest index would be the best option in this population.

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CONFLICT OF INTEREST



The authors have no financial or other personal conflict with this letter.

AUTHOR CONTRIBUTIONS

All the authors listed contributed equally to the content of this letter.

SPONSOR'S ROLE

None.

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