

CD366/TIM-3 (Figures 1H–1J), suggesting that these cells could be in an anergic/exhausted state, as described previously (8, 9). ETI treatment resulted in a progressive loss of expression of these molecules, with their frequency returning to a level similar to that of the controls at M3 (Figures 1H–1J).

Our results show that cwCFs with mild lung disease have a reduced number of circulating MAIT cells. The MAIT cells were less activated and showed an anergic/exhausted phenotype, reflecting their reduced cytokine-producing capacity. ETI treatment restored the number and functional properties of MAIT cells to levels similar to those of controls.

Activated MAIT cells can provide protection against pulmonary bacterial infections (4, 9). The observation that cwCFs with higher numbers of MAIT cells had a significantly lower *S. aureus* load suggests that these cells may contribute to infection control in these patients. The main mechanism by which MAIT cells play their anti-infectious role is cytokine production. MAIT cells respond rapidly to *S. aureus* stimulation and can induce the apoptosis of *S. aureus*-infected cells by producing GrzB (7). Therefore, the enhanced cytokine-producing capacity of MAIT cells observed after ETI treatment may represent a novel mechanism that could contribute to infection control. These changes in MAIT cell number and activation state could be patient-specific and should be further investigated.

Our study had several limitations. For ethical reasons, we were unable to profile MAIT cells in the BAL fluid of cwCFs after ETI treatment. The number of T cells in the sputum of cwCFs is very low, limiting the analysis of MAIT cells. Consequently, we cannot assert that the differences observed in blood reflect those in BAL fluid or sputum. Moreover, given the small size of our cohort, the results need to be confirmed in larger series.

Our results suggest that ETI treatment could be associated with functional restoration of MAIT cells and could help boost their antimicrobial role in cwCFs. ■

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Resilience and Stress Are Heterogenic Too: We Should Act Accordingly

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To the Editor:

The recent article by Azoulay and coworkers highlights a very important issue, the mental health of the people providing critical care and how resilient they are to the high stress levels of pandemic circumstances (1). However, I do have some concerns with the analysis.

First, the analysis seems to aggregate the results in doctors and nursing staff members. Both are equally important, but the patterns of occurrence of stressors can be very different in these groups. Also, some of the tested variables are very different for doctors and nursing staff members. For example, it is far easier for doctors to care for more than 50 patients in a wave than it is for nurses, as the number of patients cared for in a single shift is usually quite different between a single doctor and a single nurse. Nurses have a tighter bond with their patient because they care for this patient continuously at the bedside, whereas most doctors have to divide their attention among far more patients. Because of this tighter bond, the death of a single patient is more likely to have an impact on the nurse than on the doctor.

Furthermore, in my experience, doctors have fewer problems with their span of control being stretched by the necessity of caring for more patients because doctors are already trained to care for larger numbers of patients than nurses. In most Dutch ICUs, nurses are trained to be “control freaks,” to control every detail of their patient. Caring for more patients at the same time and delegating some of these details to less trained staff members sometimes induces moral stress.

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Second, resilience and susceptibility to stress are factors that show high degrees of heterogeneity, likely with high inter- and intrapersonal variability in threshold levels and responses to certain stressors at certain times. The success of interventions to increase a person's resilience to stress are probably highly dependent on whether the intervention fits the person. Therefore, I would not recommend they be studied with randomized controlled trials because this is likely to go the same way of most intensive care trials in populations with a high degree of heterogeneity.

The perceived low support by institutions is indicative of a major lapse in policy and is, in all likelihood, not isolated to France. Institutions must act to detect mental health issues and their predisposing factors in their personnel. They must also offer interventions to counteract these predisposing factors, such as increasing resilience. However, it should not be a one-size-fits-all approach; different people require different interventions. ■

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1. Azoulay E, Pochard F, Argaud L, Cariou A, Clere-Jehl R, Guisset O, *et al*. Resilience and mental-health symptoms in ICU healthcare professionals facing repeated COVID-19 waves. *Am J Respir Crit Care Med* 2024; 209:573–583.

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Reply to Zijlstra: Resilience and Stress Are Heterogenic Too: We Should Act Accordingly

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To the Editor:

In their letter to the editor about our cross-sectional survey on the resilience and mental health of ICU healthcare professionals (HCPs)

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(1), Zijlstra expressed concerns regarding the aggregation of results from physicians and nurses. The letter also highlighted the heterogeneity associated with high inter- and intrapersonal variability in ICU HCPs' responses to specific stressors at different times.

However, as shown in Figure E1 of our paper (1), the prevalences of the symptoms of anxiety, depression, and posttraumatic stress disorder (PTSD) were not different between nurses and physicians. Interestingly, residents were the most affected. By multivariable analysis, the role in the ICU (nurse vs. physician) was not associated with any of the mental health symptoms. Male sex, however, was independently associated with fewer PTSD-related symptoms and with a higher degree of resilience. We recognize that, overall, men and women may experience different types and frequencies of traumatic events. Historically, men have been more likely to experience combat-related trauma, whereas women may be more susceptible to certain types of interpersonal trauma. Looking back at the coronavirus disease (COVID-19) pandemic, we also agree that the same trauma may have activated different coping mechanisms in men and women. Moreover, gender norms and societal expectations can influence how men and women perceive and express distress. Men may be socialized to suppress emotions or to view seeking help for mental health issues as a sign of weakness, potentially leading to underreporting of symptoms. Previous studies have reported that nurses' assistants and medical students were at higher risk of mental health disorders (2). A recent study reported that nurses were at higher risk of developing psychological distress (3).

Our study unequivocally demonstrates the presence of heterogeneity in HCPs' responses to stress and trauma induced by the COVID-19 pandemic. First, not all respondents presented with symptoms of anxiety, depression, or PTSD. Second, men were more resilient than women. Third, the perceived experience of the pandemic (e.g., frustration, isolation, threat), clinician ratings of end-of-life care, and exposure to the infodemic, television, social media, and reading considerably conditioned this response to stress. We then agree with Zijlstra that not all ICU HCPs need an intervention to prevent or mitigate mental health symptoms. Moreover, selecting HCPs in whom an intervention might be appropriate to alleviate the symptoms of anxiety, depression, and PTSD would need to identify phenotypes of HCPs at high risk. In those HCPs, a personalized approach to managing mental health outcomes is warranted. ■

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