

12. Hall G, Filipow N, Ruppel G, Okitika T, Thompson B, Kirkby J, *et al.*; contributing GLI Network members. Official ERS technical standard: Global Lung Function Initiative reference values for static lung volumes in individuals of European ancestry. *Eur Resp J* 2021;57:2000289.

Copyright © 2021 by the American Thoracic Society



Relevant Factors for Physical, Mental, and Cognitive Problems in ICU Survivors

To the Editor:

We were impressed by the article by Geense and colleagues, which clarified the baseline characteristics of patients admitted to the ICU (1). Their work will contribute to further epidemiological studies on post-intensive care syndrome (PICS). However, we would like to point out three concerns regarding this study.

First, there is insufficient information regarding ICU rehabilitation, although the authors emphasized the importance of rehabilitation for clinical practice in the discussion. Early mobilization may improve functional outcomes in patients admitted to the ICU (2). The long-term effects of early mobilization are unclear based on a previous systematic review (3). Did the prevalence of PICS differ between patients in the ICU who were provided early mobilization and those who were not? This information will help readers to acknowledge the importance of rehabilitation in the ICU.

Second, there is insufficient information about the disposition of participants, which may affect patient-reported outcomes (4). We would like to suggest including the following information to assess the significance of this study: 1) were the patients transferred or discharged? And 2) where did the participants live a year later (back in their original living place, or returning to work or not)?

Third, the authors did not report the number of cases imputed for missing values or conduct a complete case analysis. Imputation underestimates the SD, resulting in inappropriate confidence intervals (5). However, a complete case analysis assesses the significance of imputation by comparing each regression model. Addressing the aforementioned concerns can help readers interpret the results and further understand the importance of newly recognized physical, mental, and cognitive dysfunction in PICS. ■

Ⓜ This article is open access and distributed under the terms of the Creative Commons Attribution Non-Commercial No Derivatives License 4.0. For commercial usage and reprints, please e-mail Diane Gern.

Author Contributions: All three authors contributed in the following ways: substantial contributions to the conception or design of the work; acquisition, analysis, or interpretation of data for the work; drafting the work or revising it critically for important intellectual content; final approval of the version to be published; and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Originally Published in Press as DOI: 10.1164/rccm.202107-1714LE on August 24, 2021

Author disclosures are available with the text of this letter at www.atsjournals.org.

Tomoharu Suzuki, M.D.*
Urasoe General Hospital
Urasoe, Japan

Hiroshi Ueta, M.D.
Kobe City Medical Center General Hospital
Kobe, Japan

Shunsuke Taito, P.T., Ph.D.
Hiroshima University Hospital
Hiroshima, Japan

ORCID ID: 0000-0002-5557-0516 (T.S.).

*Corresponding author (e-mail: 19153suzuki@jin-aikai.xsrv.jp).

References

- Geense WW, Zegers M, Peters MAA, Ewalds E, Simons KS, Vermeulen H, *et al.* New physical, mental, and cognitive problems 1 year after ICU admission: a prospective multicenter study. *Am J Respir Crit Care Med* 2021;203:1512–1521.
- Schweickert WD, Pohlman MC, Pohlman AS, Nigos C, Pawlik AJ, Esbrook CL, *et al.* Early physical and occupational therapy in mechanically ventilated, critically ill patients: a randomised controlled trial. *Lancet* 2009;373:1874–1882.
- Fuke R, Hifumi T, Kondo Y, Hatakeyama J, Takei T, Yamakawa K, *et al.* Early rehabilitation to prevent postintensive care syndrome in patients with critical illness: a systematic review and meta-analysis. *BMJ Open* 2018;8:e019998.
- de Medeiros MMD, Carletti TM, Magno MB, Maia LC, Cavalcanti YW, Rodrigues-Garcia RCM. Does the institutionalization influence elderly's quality of life? A systematic review and meta-analysis. *BMC Geriatr* 2020;20:44.
- Fielding S, Fayers PM, McDonald A, McPherson G, Campbell MK; RECORD Study Group. Simple imputation methods were inadequate for missing not at random (MNAR) quality of life data. *Health Qual Life Outcomes* 2008;6:57.

Copyright © 2021 by the American Thoracic Society



Reply to Suzuki *et al.*

From the Authors:

We thank Suzuki and colleagues for their interest in our manuscript describing new long-term physical, mental, and cognitive health problems in ICU survivors 1 year after ICU admission, which was recently published in the *Journal* (1). In their letter, they pointed out three concerns regarding our study.

First, Suzuki and colleagues stated that there was insufficient information regarding ICU rehabilitation and questioned whether the prevalence of post-intensive care syndrome (PICS) would

Ⓜ This article is open access and distributed under the terms of the Creative Commons Attribution Non-Commercial No Derivatives License 4.0. For commercial usage and reprints, please e-mail Diane Gern.

Originally Published in Press as DOI: 10.1164/rccm.202107-1778LE on August 24, 2021