

## SYNOPSIS

02/21/2020

# Review of “Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study”

**Article citation:** Yang X, Yu Y, Xu J, Shu H, Xia J, Liu H, et al. Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study. *Lancet Respir Med*. 2020 Feb 21 [Epub ahead of print]. Available from:

[https://www.thelancet.com/lancet/article/S2213-2600\(20\)30079-5](https://www.thelancet.com/lancet/article/S2213-2600(20)30079-5)

## One-minute summary

- The authors report on a single-center, retrospective, observational **study of critically ill patients** with coronavirus disease 2019 (COVID-19) (**N=52**) who were admitted to hospital in Wuhan from December 24, 2019 to January 26, 2020.
- The study’s primary outcome was death by 28 days after intensive care unit (ICU) admission.
- Of the 52 critically ill patients:
  - **Median age:** 59.7 years (standard deviation (SD) = 13.3)
  - **≥60 years:** 52%
  - **Male:** 67%
- Clinical aspects of critically ill patients:
  - **Chronic medical illness:** 40%
  - **Symptoms:** fever (98%), cough (77%), dyspnea (64%)
  - **Bilateral infiltrates on chest x-ray:** 100%
  - **Median time from symptom onset to x-ray confirmation:** 5 days (inter-quartile range (IQR): 3–7)
  - **Median time from symptom onset to ICU admission:** 9.5 days (IQR: 7.0–12.5)
  - **71% (n=37) required mechanical ventilation**
- **Of the 32 (62%) patients who died, the median duration from ICU admission to death was 7 days (IQR: 3-11).**
- **Compared to survivors (n=20), those who did not survive were:**
  - **Older:** 64.6 years (SD = 11.2) vs. 51.9 years (SD = 12.9)
  - **More likely to have chronic medical illnesses:** 53% vs. 20%
  - **More likely to develop ARDS:** 81% vs. 45%
  - **More likely to receive mechanical ventilation:** 94% vs. 35%
- The authors conclude that **mortality of critically ill COVID-19 patients is high**, survival time of non-survivors is approximately 1-2 weeks after ICU admission and patients >65 years with comorbidities and ARDS are at higher risk of death.

## Additional information

- The authors defined critically ill patients as those admitted to the ICU who required mechanical ventilation or had a fraction of inspired oxygen of  $\geq 60\%$ .
- **Fever did not develop in 6 (11.5%) critically ill patients until 2-8 days** after the onset of other symptoms related to COVID-19.
- **65% of survivors were treated with antivirals** compared to 31% of non-survivors.
- 8 of the 20 survivors were discharged. Of the remaining 12 survivors, 3 were still receiving invasive mechanical ventilation, including one who was also on extracorporeal membrane oxygenation at 28 days.

## PHO reviewer's comments

- The authors acknowledge that the sample size for critically ill patients was relatively low given the study's retrospective nature; however, they encourage larger cohort studies to describe the clinical course and outcome in those severely ill with COVID-19.
- Further deaths could have occurred after the final follow-up date of February 9, 2020.

## Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Review of "Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study". Toronto, ON: Queens's Printer for Ontario; 2020.

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