

## SYNOPSIS

03/12/2020

# Review of “Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study”

**Article citation:** Zhou F, Yu T, Du R, Fan G, Liu Y, Liu Z, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *The Lancet*. 2020 Mar 11 [Epub ahead of print]. Available from: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30566-3/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30566-3/fulltext)

## One-Minute Summary

- The authors report on the clinical aspects and risk factors associated with mortality in coronavirus disease 2019 (COVID-19) cases (**N=191**) from two hospitals in Wuhan, China.
- From December 29, 2019 through January 31, 2020, 137 (71.7%) patients were discharged (survivors) and **54 patients (28.2%) died in hospital** (non-survivors). In the overall sample:
  - **Median age:** 56 years (interquartile range [IQR]: 46-67)
  - **Male:** 62%
- Compared to survivors, non-survivors were:
  - **Older:** 69 years (IQR: 63-76) vs. 52 years (IQR: 45-58)
  - **Male:** 70% vs. 59%
  - **More likely to have comorbidities (67% vs. 40%),** including: hypertension, diabetes, heart disease and chronic obstructive lung disease.
- The median time from illness onset to death was 18.5 days (IQR: 15-22).
- In statistical models, older age, elevated d-dimer levels (> 1 µg/L at admission) and high sequential organ failure assessment score were associated with increased odds of death.
- The median period of viral shedding from illness onset in survivors was 20 days (IQR: 17-24, range: 8-37). Viral shedding continued until death in non-survivors.

## Additional Information

- Clinical aspects of non-survivors:
  - **Symptoms:** fever (94%), cough (72%)
  - **Imaging:** bilateral infiltrates (83%), ground-glass opacity (81%), consolidation (74%)
  - ICU admission: 72%
  - Median time from symptom onset to ICU admission: 12 days (IQR: 8-15)
  - Invasive mechanical ventilation: 57%
- The criteria for discharge were:
  - Absence of fever for at least three days

- Substantial improvement in both lungs in chest imaging
- Clinical remission of respiratory symptoms
- Two throat-swab samples negative by RT-PCR obtained at least 24 hours apart
- The authors acknowledge that poor outcomes could have resulted from the lack of effective antivirals, inadequate adherence to standard supportive therapy and the use of high-dose corticosteroids.
- Due to the sample size of deaths in the study, the authors chose five variables to include in their model, which explored risk factors associated with in-hospital death; three (as reported above) were significant.

## PHO Reviewer’s Comments

- The estimates for the duration of viral shedding might have been impacted by the frequency of specimen testing, lack of quantitative PCR and relatively low positivity rate in throat swabs.
- The authors excluded patients still in hospital after January 31, 2020 (which might have included more severe cases); therefore, deaths might have occurred after this time.

## Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Review of “Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study”. Toronto, ON: Queen’s Printer for Ontario; 2020.

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