

SYNOPSIS

05/17/2020

Review of “Severe COVID-19 in children and young adults in the Washington, DC metropolitan region”

Article citation: DeBiasi RL, Song X, Delaney M, Bell M, Smith K, Pershad J, et al. Severe COVID-19 in children and young adults in the Washington, DC metropolitan region. *J Pediatr*. 2020 May 13 [Epub ahead of print]. Available from: <https://dx.doi.org/10.1016/j.jpeds.2020.05.007>

One-Minute Summary

- Medical records of **177 children and young adults with coronavirus disease 2019 (COVID-19) treated between Mar 15–Apr 30, 2020 at a medical centre in Washington, DC** were retrospectively reviewed to determine any association between specific epidemiologic and clinical features with hospitalization and/or critical care.
- 44/177 (25%) patients required hospitalization:
 - 14/44 (32%) <1 year old and 14/44 (32%) ≥15 years old ($P = .07$)
 - **9/44 (20.5%) required critical care:**
 - 6/9 (66%) were ≥ 15 years old ($P = .02$)
 - **8/9 (89%) required respiratory support**
 - 1/9 developed Kawasaki-like shock syndrome
- Comparing **patients who were hospitalized** with those non-hospitalized:
 - **Underlying conditions were more common among hospitalized vs non-hospitalized patients:** 27/44 (61%) vs. 42/133 (32%); $P = .001$. In particular:
 - Neurological disorders: 8/44 (19%) vs. 3/133 (2%); $P < .001$
 - Cardiac conditions: 4/44 (9%) vs. 1/133 (1%); $P = .004$
 - Hematologic conditions: 4/44 (9%) vs. 2/133 (2%); $P = .004$
 - Oncologic conditions: 2/44 (5%) vs. 0/133 (0%); $P = .013$
 - **Shortness of breath was more common:** 11/44 (26%) vs. 16/133 (12%); $P = .04$
- Comparing hospitalized **patients who were critically ill** with those non-critically ill:
 - **Median age was significantly higher:** 17.3 years vs. 3.6 years; $P = .04$
 - Presence of overall underlying conditions was not statistically different—7/9 (78%) vs. 20/35 (57%); $P = .45$
 - Fever or other specific symptoms were no more likely to be present
- The authors caution that the COVID-19 response needs to **prepare for a significant burden of hospitalized and critically-ill children and young adults.**

Additional Information

- The authors postulate that higher population density and higher representation of ethnic minorities in their region might contribute to the increased severity of COVID-19 in their pediatric and young adult patients.
- Asthma is not the primary determinant of more severe disease requiring hospitalization.
- No deaths were reported but critically ill patients remained admitted on mechanical ventilation up to the time of report.
- Viral co-infection—found in 4 (6%) of 63 patients tested— was not associated with severity of COVID-19 disease.
- Besides shortness of breath, other symptoms noted in the 177 patients include:
 - Fever: 116/177 (66%)
 - Fever together with respiratory symptoms: 85/177 (48%)
 - Diarrhea or vomiting: 27/177 (15%)
 - Myalgia: 25/177 (14%)
 - Chest pain: 16/177 (9%)
 - Loss of sense of taste and/or smell: 15/177 (9%)
- In addition, the following symptoms were more likely to be observed in non-hospitalized than hospitalized patients:
 - Cough: 83/133 (62%) vs. 16/44 (37%); P = .003
 - Sore throat or congestion: 66/133 (50%) vs 11/44 (25%); P = .004
 - Headache: 24/133 (18%) vs 1/44 (2%); P = .01
- Although the medical centre provides critical care for young adult COVID-19 patients in the region, the authors do not expect that to bias the analysis, as only two such hospitalized patients were included in this review.

PHO Reviewer's Comments

- Although rare, severe illness in pediatric patients has been reported by various authors including: [Sun D et al.](#), [Zheng F et al.](#), [Liu W et al.](#), [Lu X et al.](#) and [Dong Y et al.](#) (China); [Riphagen S et al.](#) (the United Kingdom); [CDC](#), [Chao JY et al.](#) and [Shekerdemian LS et al.](#) (the United States).

Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Review of “Severe COVID-19 in children and young adults in the Washington, DC metropolitan region”. Toronto, ON: Queen’s Printer for Ontario; 2020.

Disclaimer

This document was developed by Public Health Ontario (PHO). PHO provides scientific and technical advice to Ontario’s government, public health organizations and health care providers. PHO’s work is guided by the current best available evidence at the time of publication.

The application and use of this document is the responsibility of the user. PHO assumes no liability resulting from any such application or use.

This document may be reproduced without permission for non-commercial purposes only and provided that appropriate credit is given to PHO. No changes and/or modifications may be made to this document without express written permission from PHO.

Public Health Ontario

Public Health Ontario is an agency of the Government of Ontario dedicated to protecting and promoting the health of all Ontarians and reducing inequities in health. Public Health Ontario links public health practitioners, front-line health workers and researchers to the best scientific intelligence and knowledge from around the world.

For more information about PHO, visit publichealthontario.ca.

