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SYNOPSIS

03/23/2020

Review of "Epidemiological characteristics of 2143 pediatric patients with 2019 coronavirus disease in China"

Article citation: Dong Y, Mo X, Hu Y, Qi X, Jiang F, Jiang Z, et al. Epidemiological characteristics of 2143 pediatric patients with 2019 coronavirus disease in China. Pediatrics. 2020 Mar 16 [Epub ahead of print]. Available from: https://dx.doi.org/10.1542/peds.2020-0702

One-Minute Summary

- This study examined the epidemiological characteristics and transmission patterns of pediatric patients with coronavirus disease 2019 (COVID-19) in China from January 16 to February 8, 2020.
- A total of **2,143 children less than 18 years** with a clinical/suspect diagnosis (n=1,412, 65.9%) or laboratory-confirmed diagnosis (n=731, 34.1%) of COVID-19 were included.
- Patient demographics:
  - **Median age:** 7 years (interquartile range [IQR]: 2-13).
  - **Sex:** 1,213 (56.6%) were male.
- Clinical characteristics:
  - **Clinical severity:** Asymptomatic (n=94, 4.4%), mild (n=1,091, 50.9%), moderate (n=831, 38.8%), severe (n=112, 5.2%), critical (n=13, 0.6%) and unknown (n=2, 0.1%).
  - **Proportion of severe or critical cases varied by age :** <1 year (10.6%), 1-5 years (7.3%), 6-10 years (4.2%), 11-15 years (4.1%) and ≥ 16 years (3.0%).
  - **Deaths:** One death in a 16-year-old.
- The authors note that their data suggests less severe clinical manifestations of COVID-19 in children compared with adult cases.

Additional Information

- **Clinically-diagnosed or suspect cases** were defined by high risk epidemiology (exposed to a COVID-19 case in the last 14 days) and clinical manifestations, including any two of 1) fever, respiratory symptoms, gastrointestinal symptoms or fatigue, 2) white blood cell count normal or decreased or increased C-reactive protein* or 3) abnormal chest X-ray.
  - Those with moderate risk (lived in an epidemic area or community where COVID-19 cases reported) or low risk (non-epidemic area with no reported COVID-19 cases) epidemiology and the clinical manifestations as outlined above, were considered suspect cases if influenza and other common respiratory infections were ruled out.

- **Laboratory-diagnosed or confirmed cases** were cases with either nasopharyngeal swab or blood testing positive using RT-PCR or genetic sequencing highly homologous with COVID-19.
- **Clinical severity was classified** based on signs and symptoms and care requirements as follows:
    - Asymptomatic: No clinical signs or symptoms and normal chest imaging.
    - Mild: Acute respiratory, gastrointestinal or constitutional symptoms without significant physical exam findings.
    - Moderate: Pneumonia, but no obvious hypoxemia.
    - Severe: Dyspnea, central cyanosis, oxygen saturation <92%, hypoxia.
    - Critical: Acute respiratory distress syndrome, respiratory failure, shock, encephalopathy, myocardial injury or heart failure, coagulation dysfunction or acute kidney injury.
- The authors note that there were more severe and critical cases among suspected cases compared to confirmed cases, which may suggest these cases were caused by another etiology (e.g., respiratory syncytial virus).

PHO Reviewer's Comments

- *The authors also included lymphocyte count as one of their clinical manifestations, but did not provide further details.
- A number of children <1 year (n=379) had their disease severity classified as critical (n=7) or severe (n=33), but further details were not provided.
- There was incomplete outcome data, as some children were still hospitalized at the time of publication.
- There was limited clinical information on the cases provided. Additional details on clinical signs and symptoms on which the severity classification was made would have been helpful.

Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Review of "Epidemiological characteristics of 2143 pediatric patients with 2019 coronavirus disease in China". Toronto, ON: Queen's Printer for Ontario; 2020.

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