



Pediatric COVID-19 in Hospitalized Children

UW Health
American Family
Children's Hospital

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BACKGROUND

A broad spectrum of clinical manifestations and illness severity have been reported among individuals infected with SARS-CoV-2.

While COVID infection in children is generally less severe, several large case series demonstrate that COVID infection can result in severe illness requiring hospitalization in children.

Recent reports have revealed neurologic involvement in over 20% of children hospitalized with COVID-19.

Long-term outcomes after COVID-19 infection in children remain largely unknown.

METHODS

Objective: To describe the epidemiology, clinical presentations, and outcomes in pediatric patients with COVID-19 admitted to the American Family Children's Hospital (AFCH) at the University of Wisconsin-Madison.

Retrospective chart review of the patient's Electronic Medical Record (EMR):

- Demographics, ICU length of stay, hospital length of stay, COVID and neurological symptoms, laboratory tests, and outcomes

All data collected was entered into a secure REDCap database

Inclusion Criteria:

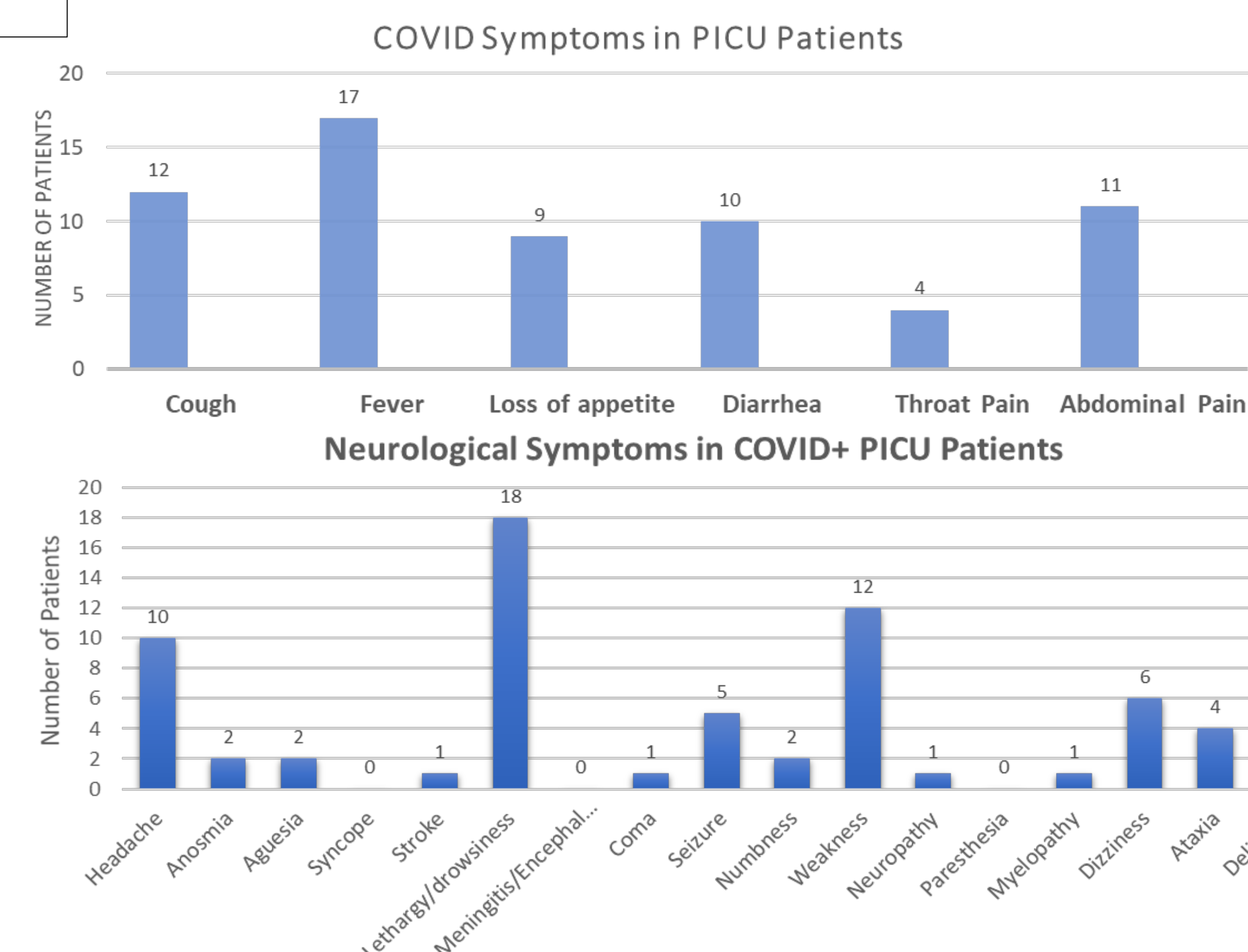
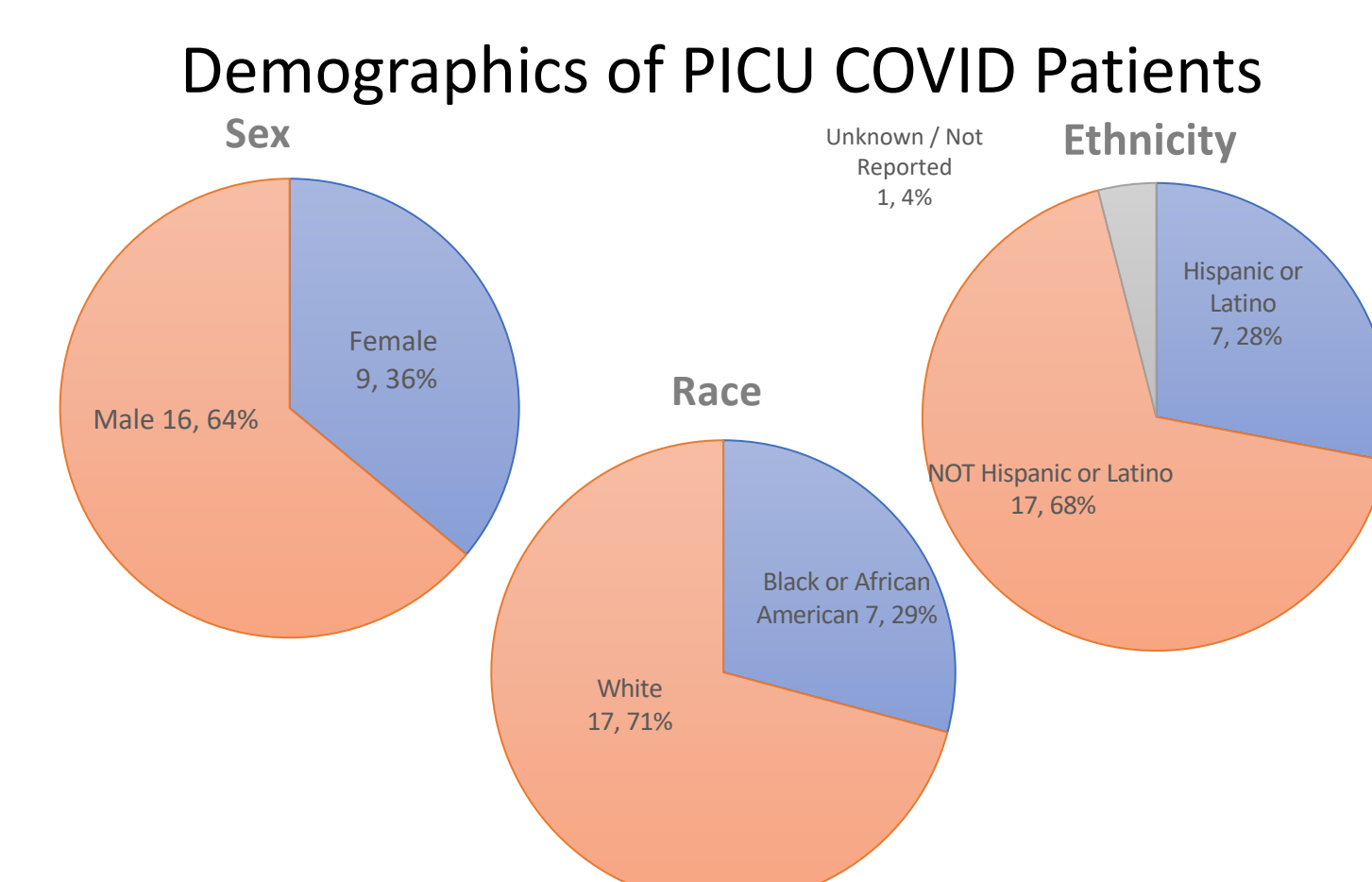
- < 21 years of age
- Admitted to the AFCH Pediatric ICU and general care service between January 2020 - December 2020
- SARS Co-V-2 positive PCR test result, a presumed positive COVID status based on close contacts, or with an MIS-C diagnosis

Children hospitalized with COVID-19 may demonstrate neurological symptoms. However, the long-term outcomes remain unclear. Further investigation is needed to understand the overall impact of COVID-19 on the pediatric population.

RESULTS

AFCH Admissions Meeting the COVID or MIS-C Diagnosis Criteria:

- PICU: 25 patients
- General Care: 35 patients



CONCLUSIONS

COVID-19 has had a major impact on pediatric patients

Association between presenting symptoms and long-term outcomes remains unclear and requires further investigation

Ongoing collaborative research is aimed at determining:

- Neurological manifestations and long-term outcomes (Global Consortium Study on Neuro-COVID, University of Pittsburgh)
- Clinical presentations of acute COVID-19 and MIS-C (Overcoming COVID, Boston Children's Hospital)
- Pharmacokinetics in COVID-19 positive pediatric patients (POP02, Duke University)

ADDITIONAL KEY INFORMATION

COVID/MISC PICU Patients:

Median Age: 10 years old

Median Length of Stay:

- ICU: 2 days (IQR, 1-4)
- Hospital: 5 days (IQR, 2-9)

COVID Diagnosed by:

- Positive PCR: 18
 - *PCR only*: 13
- Positive antibody: 8
 - *Antibody only*: 3
- PCR+ and Antibody+: 5
- Presumed COVID: 4

Neurodiagnostics (n=15):

- Brain CT: 4
- Brain MRI: 2
- EEG: 1

Hospital Discharge Disposition:

- Home, 93%
- Rehab, 3%
- Other care facility, 4%

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References:

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2. Frontera J, Mainali S, Fink EL, et al. Global Consortium Study of Neurological Dysfunction in COVID-19 (GCS-NeuroCOVID): Study Design and Rationale. *Neurocrit Care*. 2020.
3. LaRovere et al. Neurologic Involvement in Children and Adolescents Hospitalized in the United States for COVID-19 or Multisystem Inflammatory Syndrome. *JAMA Neurol*. 2021