Methods. We performed a retrospective cohort study of overweight and obese (OW) children compared to underweight and normal weight (NW) children with severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) infection. Children between 2 and 18 years of age who were admitted to Texas Children’s Hospital from April through December of 2020 with a positive SARS-CoV-2 polymerase chain reaction test were included. Asymptomatic patients undergoing surveillance testing for SARS-CoV-2 were excluded. Body mass index (BMI) was calculated using the Centers for Disease Control definition. Demographic and clinical information was obtained from the electronic medical record. Statistical analyses were performed using SAS 9.0. 

Results. We identified 145 total children who were included criteria. Fifty-five (38%) children were NW and 90 (62%) were OW. Demographics and characteristics are shown (Figure 1). Underlying asthma or chronic lung disease was present in 13 (24%) vs 31 (34%) in the NW and OW groups respectively (P=0.17). OW children were more likely to have pneumonia than NW children [relative risk 1.6 (CI 1.03-2.54)]. Among OW children, being obese increased the risk of requiring oxygen 2.45 (95% CI 1.03-6.0). The median length of hospitalization was 4 days for NW versus 5 days for OW children (P=0.6). Admission to the Intensive Care Unit (ICU) was similar between the groups (P=0.7). There was no significant difference in treatments administered to children in the two groups, although there was a trend towards increased steroid (29 (53%) vs 59 (67%), P=0.013) use in the OW children. Four children in each group died. 

Characteristics of Hospitalized Children with SARS-CoV-2 Infection by Weight Category

| Category | Underweight or Normal Weight (%) | Overweight or Obese (%) | P-value* |
|----------|----------------------------------|-------------------------|----------|
| Sex, male | 22 (40)                          | 46 (51)                 | 0.2      |
| Race | | | |
| American Indian and Alaskan Native | 0 (0) | 1 (1) | 0.2 |
| Asian | 2 (4) | 0 (0) | 0.7 |
| Black | 9 (15) | 22 (24) | 0.005* |
| White | 40 (73) | 65 (72) | 0.5 |
| Mixed Race | 2 (4) | 0 (0) | 0.9 |
| Unavailable | 2 (4) | 2 (2) | 0.9 |
| Ethnicity | | | |
| Hispanic | 30 (56) | 56 (62) | 0.5 |
| non-Hispanic | 24 (44) | 34 (38) | 0.5 |
| Age (median, Q1-Q3 years) | 10 (4-14) | 13 (9-16) | 0.005* |
| Temperature ≥38°C | 43 (78) | 69 (77) | 0.8 |
| Pneumonia | 16 (29) | 47 (52) | 0.006* |
| Oxygen requirement above baseline | 22 (40) | 52 (58) | 0.04* |
| Highest oxygen requirement | | | |
| NC | 7 (13) | 19 (21) | 0.07 |
| High flow NC | 4 (7) | 12 (13) | 0.3 |
| Noninvasive MV | 4 (7) | 10 (11) | 0.3 |
| MV | 6 (11) | 17 (17) | 0.6 |
| Other* | 2 (4) | 4 (4) | 0.6 |
| Duration of intubation (median, Q1-Q3 days) | 16.5 (2.3-30) | 9 (6-17) | 0.09 |
| ICU admission | 36 (65) | 56 (62) | 0.7 |
| Length of hospital stay (median, Q1-Q3 days) | 4 (3-8) | 5 (2-11) | 0.6 |
| Classified as MIS-C | 15 (27) | 18 (20) | 0.3 |
| Presence of support | 8 (15) | 16 (19) | 0.5 |
| ECMO support | 1 (2) | 2 (2) | 0.1 |
| Lived | 51 (93) | 86 (96) | 0.6 |

Abbreviations: ECMO, extracorporeal membrane oxygenation; ICU, intensive care unit; MIS-C, multisystem inflammatory syndrome in children; MV, mechanical ventilation; NC, nasal cannula *Denotes statistically significant P-value a. Calculated using chi-square or Fisher exact unless otherwise noted. a. Calculated using chi-square or Fisher exact unless otherwise noted. A P-value <0.05 was considered significant. b. Calculated using Wilcoxon rank sum test. c. Includes patients with home noninvasive MV (2) or tracheostomy and home MV (4).

Conclusion. For children admitted with symptomatic COVID-19, being overweight or obese was significantly associated with having pneumonia and with requiring oxygen. A difference in ICU admission, length of hospitalization, and mortality was not observed. Obesity prevention along with vaccination efforts may prevent COVID-19 related morbidity in this group.

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848. SARS-CoV-2 Prevalence in Fetes of Very Young Children, A Longitudinal Study
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Session: P-23. COVID-19 Special populations (e.g. pregnant women, children, immunocompromised, etc)

Background. Understanding the disease burden of SARS-CoV-2 is crucial for public health intervention. Among pregnant women and children, the severity of COVID-19 is mild and symptoms and were rarely tested. SARS-CoV-2 is traditionally detected through respiratory secretions but has also been reported in feces where shedding may continue for weeks after respiratory samples show resolution. We examined the prevalence of SARS-CoV-2 in already collected fecal samples from young children through the pan-Canadian Paediatric Surveillance Program. All cases of infants aged <1 year of age with microbiologically confirmed SARS-CoV-2 infection were reported from April 6th 2020 to May 11th 2021, and classified by disease severity, and primary

Table 1: Characteristics of the study cohort compared among negatives and positives SARS-CoV-2 cases

| Characteristics | Negative (n=2,315) | Positive (n=170) | P-value |
|-----------------|-------------------|------------------|---------|
| Hispanic Ethnicity | 23.4% (547) | 61.5% (106) | 0.006 |
| Household Member Diagnosed with SARS-CoV-2 | 3.9% (94) | 0.0% (0) | 0.5 |
| Childcare Outside of the Home During Quarantine | 20.0% (45) | 10.0% (17) | 0.7 |
| Infant with Essential Worker in Household | 51.7% (88) | 58.3% (98) | 0.6 |

Figure 1: SARS-CoV-2 Detected in Fecal Samples through the Pandemic Among Infants Over the First Year of the Pandemic in Canada

Conclusion. Prevalence of SARS-CoV-2 in infant stool correlated with the prevalence of COVID-19 during the pandemic, with higher rates in those of Hispanic ethnicity correlating with regional trends. Fecal positivity in asymptomatic infants even before quarantine restrictions supports the early but silent transmission of SARS-CoV-2. This study likely underestimates true prevalence rates as stool samples were stored without viral preservation. There are many socioeconomic factors that predispose to disease while ethnicity may be a mediating or confounding factor.

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483. Disease Severity and Clinical Manifestations of SARS-CoV-2 Infection Among Infants Over the First Year of the Pandemic in Canada
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Session: P-23. COVID-19 Special populations (e.g. pregnant women, children, immunocompromised, etc)

Background. There is limited data on outcomes of SARS-CoV-2 infection among infants (<1 year of age). In the absence of any approved vaccines for infants, understanding the risk factors for hospitalization and severe disease from COVID-19 in this age group will help inform clinical management and targeted public health interventions. The objective of this study was to describe the clinical manifestations, disease severity, and risk factors for hospitalization among infants with SARS-CoV-2 infection in Canada.

Methods. This is a nationwide prospective observational study using the infrastructure of the Canadian Paediatric Surveillance Program. All cases of infants aged <1 year of age with microbiologically confirmed SARS-CoV-2 infection were reported from April 6th 2020 to May 11th 2021, and classified by disease severity, and primary