CLINICAL MANIFESTATIONS AND DISEASE SEVERITY OF SARS-COV-2 INFECTION AMONG INFANTS IN CANADA

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BACKGROUND: There are limited data on outcomes of SARS-CoV-2 infection among infants (<1 year of age). In the absence of approved vaccines for infants, understanding characteristics associated with hospitalization and severe disease from COVID-19 in this age group will help inform clinical management and public health interventions.

OBJECTIVES: The objective of this study was to describe the clinical manifestations, disease severity, and characteristics associated with hospitalization among infants infected with the initial strains of SARS-CoV-2.

DESIGN/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 8th 2020 to May 31st 2021, and were classified by disease severity and primary cause of hospitalization. Multivariable logistic regression was performed to identify infants’ characteristics associated with hospitalization.

RESULTS: A total of 531 cases were reported, including 332 (62.5%) non-hospitalized and 199 (37.5%) hospitalized infants. Among hospitalized infants, 141 of 199 infants (70.9%) were admitted because of COVID-19-related illness, and 58 (29.1%) were admitted for reasons other than COVID-19. Amongst all cases with SARS-CoV-2 infection, the most common presenting symptoms included fever (66.5%), coryza (47.1%), cough (37.3%) and decreased oral intake (25.0%). In our main analysis, infants with a comorbid condition had higher odds of hospitalization compared to infants with no comorbid conditions, and infants <1 month had higher odds of hospitalization than infants aged 1-3 months (Table). In total, 20 infants (3.8%) met criteria for severe disease.

CONCLUSION: We describe one of the largest cohorts of infants with SARS-CoV-2 infection. Overall, severe COVID-19 in this age group is uncommon with most infants having mild disease. Comorbid conditions and younger age were associated with COVID-19-related hospitalization amongst infants.

UNDERSTANDING ASYMPTOMATIC TESTING UPTAKE AMONG SCHOOL AGED CHILDREN AND STAFF FOR SARS-COV-2 TESTING IN ELEMENTARY AND SECONDARY SCHOOLS

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BACKGROUND: Enhanced health and safety measures, such as symptomatic screening, physical distancing, cohorting, masking, and asymptomatic testing for children have been introduced into schools to prevent SARS-CoV-2 transmission. Although asymptomatic testing has been considered a measure to reduce in-school transmission, it has not been broadly implemented or evaluated. To address this, a pilot project with public health, school boards, and hospital-based testing partners was established to assess the feasibility of offering on-site and low barrier SARS-CoV-2 polymerase chain reaction (PCR) testing across schools in the Toronto region.

OBJECTIVES: The primary objective of this study was to assess the feasibility of offering on-site and low barrier PCR asymptomatic testing across schools in the Toronto region.

DESIGN/METHODS: A six-week testing pilot across the Greater Toronto Area took place. Schools were selected to participate in expanded testing to determine case prevalence in high-risk settings of school-based SARS-CoV-2. Students and staff were excluded if they had tested positive for COVID-19 in the last 3 months. Different testing opportunities were offered based on the testing partner and school preference including location and modality. Descriptive methods were used to assess the uptake of testing and case positivity by individuals recommended to be tested.

RESULTS: Eighteen schools participated in the pilot testing. All students and staff were invited to participate in asymptomatic testing. Testing was offered to 9292 students and 1000 staff, and testing uptake was 29% (2729 students) and 54% (544 staff), respectively. Forty-eight percent of tests (1645) were oral nasal PCR tests, 48% (530) were take-home saliva tests, and 33% (1120) were saliva tests. Of the 1645 oral nasal tests, 52% (590) were on-site saliva tests and 48% (530) were take-home saliva tests. The staff and student positivity rate for on-site testing was 1.9% and 4.9% for tests completed at the COVID-19 Assessment Center at SickKids.

CONCLUSION: Results from this pilot project demonstrate that on-site PCR testing uptake remained low despite offering in-school testing, specialized support, and reduced barriers by using non-invasive testing with the use of saliva/oral nasal PCR testing kits. Results highlight the challenges of asymptomatic testing and the balance of resource utilization for low case counts. Future studies should examine alternate means of symptomatic testing.