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Childhood, Adolescence, Household Contacts and Mild and Coronavirus Disease with Viral Excretion

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Introduction

The clinical presentation of coronavirus disease COVID-19 in children remains controversial. This was a prospective, observational, and descriptive cohort study. Nasopharyngeal swabs and blood were collected six times at weekly intervals. Quantitative reverse transcription-polymerase chain reaction tests and immunoglobulin assays were used to test for COVID-19. Overall, were enrolled. There was a significant correlation between confirmationOligosymptomatic conditions may delay diagnosis and facilitate viral transmission. Paediatric-focused research is required and specific protective measures for children of age should be considered [1]. Coronaviruses are capable of infecting different species of animals, including birds and mammals, and may cause acute and chronic diseases.

Description

They are enveloped RNA viruses, with each viral particle consisting of a nucleus and a cover, which is composed of a lipoprotein double layer formed by phospholipid molecules and structural proteins inserted into the lipid bilayers. In SARS-CoV-2, relevant proteins are the nucleoprotein of the viral nucleocapsid, which regulates the viral replication process and interferes with the innate immune response of the host; the membrane protein which is responsible for the transport of nutrients through the membrane; and the spike protein, which enables the virus to enter the host cell by binding to the cell receptor and fusing the membrane, releasing the genome into its cytoplasm. SARS-CoV-2 is transmitted between humans by direct contact with respiratory droplets from infected individuals or indirect contact through contaminated surfaces and objects.

The symptoms of COVID-19 may resemble influenza in the early phase of the disease. In children, most cases present with mild-to-moderate disease; however, serious life-threatening complications can also occur [2]. Fever and cough are the most common symptoms, followed by or pharyngeal hyperaemia, rhinorrhoea, and dyspnoea. Other symptoms may include loss of smell and taste, myalgia, tiredness, headache, rash, urticarial, and gastrointestinal manifestations such as nausea, vomiting, abdominal pain, and diarrhoea [3]. It was observed that children can present with the paediatric multisystem inflammatory syndrome which develops days to weeks after the onset of SARS-CoV-2 infection and is characterized by prolonged fever, gastrointestinal symptoms, elevated levels of inflammatory markers, and signs of organ dysfunction, similar to Kawasaki disease [4]. Knowledge about COVID-19 has expanded rapidly since the onset of the pandemic due to global efforts. However, current evidence is mainly based on studies involving adults, and there are several unanswered questions related to the characteristics of the SARS-CoV-2 infection in children [5]. These include the roles of asymptomatic and oligosymptomatic patients in the transmission chain and the role of immunoglobulin A as a mediating immunoglobulin in the inflammatory process.

Conclusion

As many children remain unvaccinated worldwide and exposure to the virus continues, detecting and understanding the epidemiological determinants of clinical manifestations in children is crucial for informing future policies. This study aimed to analyse the viral excretion of SARS-CoV-2 and seroconversion in children and adolescents with asymptomatic, mild, and moderate disease, as well as in their household contacts during the first wave of the disease, between April and November. Adolescents with suspected COVID-19 and their household contacts, treated between March and November 2020 were eligible for this study. At the time of the data collection for this study, vaccines against COVID-19 were not available, either to adults or children and adolescents. Thus, all individuals that participated in the study were unvaccinated and susceptible. The study was approved by the Ethics Committee of the Faculty of Medicine of Jundiaí (FMJ) and was conducted in accordance with the Declaration of Helsinki. Patients aged <18 years with respiratory symptoms suggestive of COVID-19 or who reported direct contact with a suspected or confirmed patient with COVID-19 and sought medical care in the emergency unit of the University of or were referred from any health. Their household contacts were invited to participate in the study regardless of their symptoms.

Conflict of Interest

None.

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