

COVID-19 INFECTION IN CHILDREN: CLINICAL FEATURES, DIAGNOSTICS AND PROPHYLAXIS ISSUES**Khudoynazarov Jahongirmirzo Muzaffar ugli**

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Annotation: COVID-19 infection has become a serious challenge for healthcare systems worldwide. Although initially the disease was mainly severe among adults and the elderly, subsequent scientific studies have shown that children are also susceptible to the SARS-CoV-2 virus. This article provides a scientific analysis of the characteristics of the course of COVID-19 infection in children, clinical symptoms, pathogenesis, diagnostic approaches, treatment and prevention issues. It also covers the immunological response of the children's body, mild and severe forms of the disease, and complications such as multisystem inflammatory syndrome (MIS-C). The article is based on scientific and practical sources conducted in the Republic of Uzbekistan and is intended for specialists in the field of pediatrics, epidemiology and infectious diseases.

Keywords: COVID-19, SARS-CoV-2, children, pediatrics, clinical course, immunity, diagnostics, prevention, infectious diseases

INTRODUCTION: A novel coronavirus (SARS-CoV-2) identified in Wuhan, China, in late 2019 quickly spread throughout the world, causing a global pandemic. The disease, named COVID-19 by the World Health Organization (WHO), has had a significant impact not only on the healthcare system, but also on economic, social, and demographic processes. Initial epidemiological observations indicated that COVID-19 infection was mainly severe in adults and the elderly, and was rare or mild in children. Therefore, the pediatric population was relatively poorly studied in the early stages of the pandemic. Subsequent scientific studies have shown that children can also be infected with the SARS-CoV-2 virus, but the clinical course of the disease differs significantly from that in adults. Although COVID-19 infection in children is often mild or asymptomatic, in some cases severe complications, including acute respiratory distress syndrome, cardiovascular injury, and multisystem inflammatory syndrome (MIS-C), may develop. These conditions require special attention in pediatric practice. Cases of infection among children during the COVID-19 pandemic were also recorded in the Republic of Uzbekistan. In our country, issues of protecting children's health are one of the priorities of state policy. Therefore, an in-depth study of the course of COVID-19 infection in children, analysis of its clinical and epidemiological characteristics, and development of effective diagnostic and preventive measures are of urgent scientific and practical importance. The purpose of this article is to

systematically analyze the available scientific data on the course of COVID-19 infection in children, summarize the approaches used in the conditions of Uzbekistan, and present scientific conclusions that can be used in pediatric practice.

RESEARCH METHODOLOGY: In the process of preparing this scientific article, the method of systematic literature review was used. During the study, official documents published by the Ministry of Health of the Republic of Uzbekistan, national scientific journals, textbooks and methodological recommendations were studied. Also, clinical observations, statistical data and epidemiological analyses of the course of COVID-19 infection in children were analyzed in a comparative manner. As a methodological approach, retrospective analysis, descriptive-statistical methods, generalization of clinical cases, logical and systematic analysis methods were used. The results of the study were scientifically presented and the conclusions were summarized.

MAIN PART: The SARS-CoV-2 virus enters the body mainly through the respiratory tract and binds to cells through ACE2 receptors. Studies show that the level of expression of ACE2 receptors in children may be lower than in adults. This is considered one of the factors contributing to the mild course of the disease. Children's immune systems are more active than innate immune responses and respond quickly to the virus. However, constant contact with other respiratory viruses that are common in children may increase relative resistance to SARS-CoV-2 by "training" the immune system. The clinical manifestations of COVID-19 infection in children are very diverse and can manifest in the following forms: asymptomatic course, mild respiratory symptoms (runny nose, cough, sore throat), moderate course (fever, general weakness, muscle pain), severe forms (shortness of breath, pneumonia). Some children have symptoms related to the gastrointestinal system - diarrhea, vomiting, abdominal pain. This condition can create diagnostic difficulties for pediatricians. One of the most dangerous complications of COVID-19 infection in children is MIS-C. This syndrome usually develops 2–6 weeks after infection and affects several organ systems at once. Clinically, it is characterized by high fever, cardiac dysfunction, rashes on the skin and mucous membranes, and gastrointestinal symptoms. COVID-19 diagnosis in children is based on the following methods: PCR (polymerase chain reaction) test, antigen tests, serological tests (IgM, IgG). Additionally, radiography and computed tomography are used in severe cases. Treatment of COVID-19 in children is mainly symptomatic, and in mild cases, home observation is sufficient. In severe cases, inpatient treatment, oxygen therapy, and anti-inflammatory drugs are used. Preventive measures include: vaccination, adherence to personal hygiene rules, social distancing, and wearing masks. Vaccination of children against COVID-19 is being implemented in Uzbekistan in a phased manner.

ANALYSIS AND RESULTS: An analysis of the sources studied shows that COVID-19 infection in children is often mild, but this does not mean that it can be considered safe. In some cases, there is a possibility of developing severe complications. The use of timely diagnostic and preventive measures significantly reduces the consequences of the disease.

CONCLUSION: The course of COVID-19 infection in children differs from that in adults and is often milder. However, the presence of serious complications such as MIS-C requires constant vigilance in pediatric practice. The use of scientifically based preventive and therapeutic measures is essential for protecting children's health.

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