

GENERAL ANALYSIS AND EVALUATION OF THE STATUS OF COVID-19 CORONAVIRUS INFECTION (ON THE EXAMPLE OF THE REPUBLIC OF UZBEKISTAN)

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ABSTRACT

Introducing the use of telemedicine to optimize patient care in the country during a pandemic will have a positive effect. The Republican Agency for Sanitary and Epidemiological Surveillance and the Virology Research Institute, the Republic of Karakalpakstan, the regions and the Center for Sanitary and Epidemiological Surveillance of Tashkent city. It is also important to recognize it as a "rule". In order to prevent the disease in our country, first of all, the rules of disinfection, asepsis and antiseptics have been widely promoted.

Keywords: COVID-19, treatment and rehabilitation, prevention, quarantine.

INTRODUCTION:

Today, the world's population is facing an unprecedented pandemic of a new coronavirus infection that has completely changed the normal lifestyle of people around the world.

The disease was first detected on December 8, 2019 in Wuhan, Hubei province, and on December 31, the Chinese government informed the World Health Organization of an outbreak of an unknown disease. Then, on January 9, 2020, the first patient died at the age of 61. The first reported cases outside of China, namely in Bangkok, Thailand, were officially confirmed on January 13, 2020, and on January 22, Wuhan was quarantined. On January 30, an international emergency was declared at a meeting of the Emergency Committee of the World Health Organization in health care. According to the Xinhua News Agency, on February 14, the effectiveness of blood plasma transfusion from sick people to patients was confirmed, and on February 24, reports appeared in the media that re-infection is possible. Subsequently, on March 11, 2020, the World Health Organization announced that the COVID-19 pandemic began around the world [1;2;4].

Changes in environmental conditions, global warming, an increase in population density, the development of biotechnology, an increase in

migration flows and the processes of economic globalization were contributing factors to the spread of the new coronavirus infection.

COVID-19 infection was detected in 50 US states, by March 26, 2020, the US was leading in mortality, and the epidemiological situation also began to escalate sharply in China, Spain and Italy. As of April, the number of patients was 560 433 in the US, 166 831 in Spain, 156 363 in Italy, 132 591 in France, 127 854 in Germany, 68 772 in the UK and 61 049 in Turkey. The death rate was 15.1% in Algeria, 12.8% in Italy, 12.5% in the United Kingdom, 10.2% in Spain and 11.9% in Belgium. [5;20;25]. By January 2021, the number of cases in Russia increased to 3 612 800, including 898 442 were registered in the city of Moscow, 179 905 in the Moscow region, 304 045 in St. Petersburg, etc. [3;4;5]. The spread of the disease around the world has posed a number of urgent challenges for the World Health Organization. One of them was to prevent the spread of the disease among medical workers, to ensure their safety, but as of April 2020, the COVID-19 pandemic has resulted in 1,521,252 cases and 92,798 deaths worldwide. [25].

On the example of the United States, 459 165 cases of the disease and 16 570 deaths were detected by this time, and in the period from February 12 to April 9, out of 315 531 registered

cases of COVID-19, 49 370 (16%) included data on whether the patient was a medical an employee in the United States; including 9,282 (19%) people were identified as health workers, 780 people (55%) reported contact with a COVID-19 patient only in medical institutions [20].

Chinese health authorities noted that 3,019 Chinese health workers were infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), of which ten died [21].

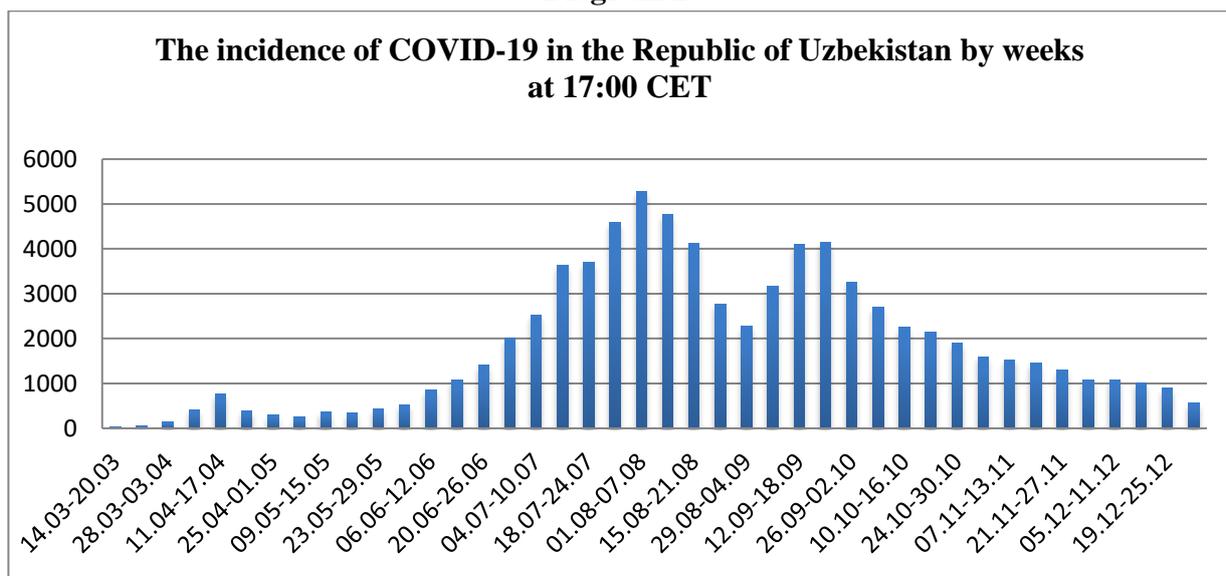
In Russia, about every fifteenth medical worker is also affected by this disease. During the pandemic, medical personnel also faced a number of difficulties in working with patients, the mental and emotional state of medical personnel changed as a result of factors such as discomfort from special protective clothing, hot weather and the inability of medical personnel to see family members. An unexpected pandemic led to a shortage of medical personnel (shortage of narrow specialists, shortage of specialized medical facilities, medical supplies, equipment, tools, special protective equipment). However, the World Health Organization has taken steps to address this problem in all countries. [3;5;6;25].

To date, the introduction of a travel ban in Croatia from 23 December 2020 to 8 January 2021 and the introduction of an electronic access system to prevent disease is one example of measures taken to prevent disease. From January 2021, travelers to Cuba will have to present a negative test result for COVID-19 carried out 72 hours before departure [3;5;6;8].

According to David Relman, a microbiologist at Stanford University in California, “The virus begins to grow. We have difficult months ahead of us,” he said, adding that strict controls may be required to prevent the disease from recurring in winter. [5].

Thus, the pandemic has united medical professionals from all over the world. At the same time, leading experts and scientists come together to give their advice on how to deal with the disease. A huge amount of scientific research is being carried out on the treatment and prevention of patients with the first case of COVID-19 in Uzbekistan was detected on March 15, 2020. As of January 2, 2020, the total number of registered cases of coronavirus infection was 77,182, of which 614 patients (0.79%) had deaths.

Diagram 1



Since the day of the first officially reported case of COVID-19 in Uzbekistan (March 15, 2020), the country's government has taken a number of urgent measures aimed at preventing

the spread of coronavirus infection among the population. The World Health Organization (WHO) has recognized that the joint efforts of government agencies and the public to combat the

spread of the coronavirus pandemic in the Republic of Uzbekistan are among the best in the CIS. So from March 15, 2020, a ban on holding all public events was introduced in Uzbekistan, from March 16, air and auto communication with foreign countries was stopped, from March 19, railway communication with foreign countries was stopped, from March 20, a ban on the work of public catering began to operate. (except for the delivery of goods), since March 21, all public entertainment places have stopped working, since March 22, the work of public transport has been stopped, since March 23, a ban on holding any social events, including family mass family events such as weddings, has been introduced. In the country there was a ban on the use of private cars (except in emergency cases), and from April 6, a ban was introduced on the use of any personal vehicles. It should be noted that these strict restrictions were introduced in Uzbekistan 2 times: in the period from March 30 to May 8 and in the period from July 10 to August 11, 2020. [1;21].

A number of regulatory documents have been adopted to prevent the spread of the coronavirus pandemic. In particular, the Decree of the President of the Republic of Uzbekistan "On priority measures to mitigate the negative impact of the coronavirus pandemic and the global crisis on the economy" PF-5969 of March 19, 2020 of the Cabinet of Ministers "On additional measures to combat the spread of coronavirus infection" Resolution of the Ministry of Health No. 176 of 23 March 2020 "On the training of reserve personnel in the diagnosis, treatment and prevention of coronavirus infection" [1].

A number of systematic measures have been taken in our country to prevent the spread of the coronavirus pandemic. Including, the Decree of the President of the Republic of Uzbekistan No. UP-5969 dated March 19, 2020 "On priority measures to mitigate the negative impact of the coronavirus pandemic and the global crisis on the economy", Resolution of the Cabinet of Ministers No. 176 dated March 23, 2020 "On additional measures to combat the spread of coronavirus

infection", Order of the Ministry of Health No. 77 of March 22, 2020" On the training of reserve personnel for the diagnosis, treatment and prevention of coronavirus infection "and the national COVID-19 manual developed on March 31, 2020 based on International Standards. It was developed on the basis of Order No. 96 "On Further Accelerating the Implementation of National Guidelines for Medical Practice". Also, "Practical guidelines for the management of patients infected with COVID-19" (08/15/2020) were released, which today are the main regulatory document for the diagnosis and treatment of coronavirus infection. [1;21].

The growing risk of a coronavirus pandemic in the world has led to an improvement in approaches to combating coronavirus infection, as well as the institutional framework and organizational structure of the sanitary and epidemiological service, taking into account the current difficult conditions and experience, especially in the field of prevention and early detection of diseases (rural medical centers and family polyclinics, ambulance stations and emergency rooms). Since the first days of the pandemic, in a short period of time, about 30 thousand beds have been created in the city and districts of Tashkent with all conditions that are provided with the necessary medicines, protective equipment, the latest diagnostic and treatment tools.

In order to optimize the triage process for patients with coronavirus infection and suspected coronavirus infection, provisional hospitals have been deployed in the country. The provisional hospital serves to accommodate patients with suspected coronavirus infection. If suspicions are confirmed, patients are transferred to covid hospitals. A provisional hospital or department is located in a separate building or isolated room of a specialized hospital with separate entrances for patients and service personnel [5]. The khokimiyat of Tashkent has deployed a distribution center for patients with coronavirus at the sites of Uzexpocentre. A sufficient number of beds have been formed in hospitals and other medical

facilities in the capital. A number of private clinics also admitted patients for diagnosis and treatment [1].

It should be noted that more than 200 thousand medical workers were involved in the fight against the pandemic, including 150 highly qualified foreign specialists. 14 call-centers worked around the clock in the regions of the country, 12,837 doctors and 27,653 paramedics from 2,748 ambulance teams provided rotational qualified medical care to the population. [1;21].

Since the beginning of the pandemic, medical equipment in the amount of 85,049.3 thousand dollars has been transferred to medical institutions providing assistance to patients with suspected coronavirus infection or with confirmed infection.

In particular, during a pandemic, hospitals were supplied with: 3 - modern MSCT, 56 - X-ray machines, 2303 - functional bed, 1450 - CPAP, 6037 - oxygen concentrator, 1850 - mechanical ventilation, 150 - PCR, 1564 - Cardiomonitor, including from the budget: 500 - mechanical ventilation, 300 - oxygen concentrator, 10 - PCR and other equipment.

Humanitarian aid provided 1512 children's CPAP, 300 ventilators, 2507 oxygen concentrators and a number of other types of modern medical equipment [4;5;6;8]. In addition, 965 billion soums were allocated for the construction of special hospitals and quarantine complexes, as well as modern laboratories specializing in the diagnosis and treatment of patients with coronavirus infection.

In March-April 2020, the Republic of Uzbekistan, based on the experience of China, Russia and South Korea, developed the first versions of the National Protocol for the treatment of patients. Therapeutic approaches have constantly and radically changed, since there was no uniform approach in the management of patients with coronavirus infection in the world.

If we present the treatment carried out in Uzbekistan in a generalized form, the picture looks as follows: In the period from March to June 2020, the following approach was applied in the country: Drugs of specific therapy and antiviral

therapy - a combination of hydroxychloroquine⁺azithromycin (14 days). Also: groprinosin, umifenovir, anaferon, rutan, etc. Pathogenetic therapy: anticoagulants, expectorants, antipyretics, vitamins, antibiotics. Infusion therapy, from July to August 2020: Specific therapy drugs - a combination of hydroxychloroquine + azithromycin for 5 days. Pathogenetic therapy: dexamethasone, anticoagulants, expectorants, antipyretics, vitamins, antibiotics. Infusion therapy, from September 2020 to the present: Antiviral drugs and specific therapy drugs (Favipiravir, Hydroxychloroquine at the outpatient stage, and remdesivir, dexamethasone at the hospital stage). Pathogenetic therapy - dexamethasone, anticoagulants, antiplatelet agents, expectorants, antipyretics, vitamins, antibiotics, diuretics (verospiron). Avoiding unnecessary intravenous infusions the result was a significant reduction in patient mortality. Uzbek doctors took part in regular conferences of the International Association of Physicians, and also regularly exchanged experiences. [fifteen; 17; 18] During the pandemic, the country intensified the use of telemedicine capabilities to optimize the provision of care to patients. To assist doctors in the capital and regions of Uzbekistan in treating patients with COVID-19, monitoring the course of treatment and timely correction of treatment, a Headquarters was organized on the basis of an emergency medical care center, in which leading highly qualified medical specialists participate daily through telemedicine. During the pandemic, the physician-to-physician approach was predominantly used. Virological laboratories of the Republican Agency for Sanitary and Epidemiological Surveillance and Research Institute of Virology, the Center for Sanitary and Epidemiological Surveillance of the Republic of Karakalpakstan, regions and the city of Tashkent were provided with test systems for coronavirus infection. The results of a special laboratory analysis of polymerase chain reaction (PCR) are recognized as the "golden rule" in the final diagnosis. Therefore, only positive results

confirmed by PCR were taken into account in statistics. According to the recommendations of the World Health Organization, when diagnosing coronavirus infection, “suspected” and “confirmed” patients were differentiated. This is a worldwide practice that helps doctors draw appropriate conclusions about the true state of the disease [15;16;18;19].

To prevent the disease in our country, first of all, the rules of disinfection, asepsis and antiseptics were widely promoted, Uzbek doctors contacted foreign specialists and jointly developed measures for the treatment and prevention of diseases.

It should be borne in mind that currently there are patients with other infectious diseases, in addition to coronavirus, and in the fall-winter, along with seasonal acute respiratory infections (influenza, rhino and adenovirus), the population may experience fever with bacterial pneumonia and non-infectious diseases. In particular, doctors, nurses, as well as nursing staff working in centers specializing in coronavirus have already started working on special training courses. During refresher courses, they were introduced to the use of personal protective equipment, internal procedures, specific aspects of communicating with patients, national guidelines for the treatment of patients, were interviewed by specialists, and then were involved in activities [4;6;7;8;9;10]. One of the most pressing problems today is the conduct of scientific research on the prevention, treatment, care and rehabilitation of patients with COVID-19, the development of vaccines and the application of scientific results in healthcare practice. In the context of the COVID-19 pandemic in the country, medical personnel are conducting research on etiopathogenesis, clinical signs, atypical cases, treatment methods, and vaccine development. [5;9;12;11;19;20].

The COVID-19 vaccines that scientists around the world are working on are being developed on different technology platforms, each with advantages and disadvantages. There are several types of vaccines: inactivated, live attenuated, vector, non-replicating, vector,

replicating, vector, inactivated, DNA vaccines, RNA vaccines, Recombinant protein vaccines. [22]. On June 25, 2020, the Chinese authorities took an unprecedented step - the “Ad5-nCoV” vaccine of the pharmaceutical company CanSino Biologics, after two phases of trials, was approved for release for a period of one year [16]. Then, on July 27, 2020, the pharmaceutical concern Moderna, together with the National Institute of Allergy and Infectious Diseases (NIAID), began phase III trials [16]. On July 27, 2020, German company BioNTech, partnering with New York-based Pfizer and Chinese drug manufacturer Fosun Pharmaceutical, announced the start of a Phase II / III trial of its BNT162b2 mRNA vaccine, involving 30,000 volunteers in the US and other countries. including Argentina, Brazil and Germany.

Prior to this, in July, the preliminary results of the phase I / II studies in the USA and Germany were published. It was found that the volunteers developed antibodies against SARS-CoV-2, as well as immune T cells that respond to the virus. [16]. On August 11, 2020, the vaccine “Gam-Covid-Vak (Sputnik V)”, developed by the N.N. NITsEM [17;18], was registered in Russia. On August 25 of the same year, the Ministry of Health of Russia issued the N.N. NF Gamalei permission to conduct a post-registration clinical trial of a vaccine for the prevention of a new coronavirus infection “Gam-Covid-Vac” [21].

On October 12, 2020, the American company Johnson & Johnson, which includes the Belgian Janssen Pharmaceutica, suspended the final stage of trials of its vaccine due to an unexplained illness of one of the study participants [22]. On December 5, 2020, Russia began mass vaccination against coronavirus with the Gam-COVID-Vac “Sputnik V” vaccine, developed by the NF Gamaleya Research Center for Electrochemistry and Technology [23].

On December 8, 2020, the UK was the first Western country to begin mass vaccination against COVID-19. For vaccination, the BNT162b2 vaccine was taken from the firms Pfizer and BioNTech [24;25].

Uzbekistan has applied for 2 million doses of coronavirus vaccine under the COVAX program. The first to be vaccinated will be people over 65 years old, as well as medical workers, teachers and preschool educators. The COVAX International Vaccine Access Mechanism counts 190 countries, including Uzbekistan. Participants are expected to have access to a vaccine bank as early as the first half of 2021. COVAX has now reserved nearly two billion doses of coronavirus candidate vaccines. At least 1.3 billion doses will be provided to 92 low- and middle-income countries with donor financial support. [21]

CONCLUSION:

Thus, during the period from the beginning of the pandemic to the present, a number of effective measures have been taken in the Republic of Uzbekistan to contain the spread of coronavirus infection and mitigate its consequences. In fact, all measures taken to contain the pandemic were based on global experience, recommendations of international organizations and, most importantly, national experience gained in the fight against coronavirus for more than six months [16;18;19]. As a result of the measures taken to date, there has been a significant decrease in the number of new cases of COVID-19, no deaths have been detected on January 24, 76,655 people have been completely cured, recovery is 98.00%, so quarantine and other restrictions are gradually being reduced.

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