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**СБОРНИК МАТЕРИАЛОВ**  
**РЕСПУБЛИКАНСКОЙ НАУЧНО-ПРАКТИЧЕСКОЙ**  
**КОНФЕРЕНЦИИ С МЕЖДУНАРОДНЫМ УЧАСТИЕМ**  
**«LIFE AFTER COVID-19», ПОСВЯЩЕННОЙ**  
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ВЫСШАЯ ШКОЛА МЕДИЦИНЫ

## «LIFE AFTER COVID-19»

СБОРНИК МАТЕРИАЛОВ

Республиканской научно-практической  
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«LIFE AFTER COVID-19»: Сборник материалов Республиканской научно-практической конференция с международным участием, посвященной 30-летию Независимости Республики Казахстан (г. Алматы, 23-24 апреля 2021 года) / Под ред. А.М. Курмановой. – Алматы: Казак университеті, 2021. – 102 с.

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В сборнике материалов Республиканской научно-практической конференция с международным участием «LIFE AFTER COVID-19» опубликованы работы молодых ученых и преподавателей из медицинских высших учебных заведений. Представлены публикации по общей патологии в условиях пандемии COVID-19.

# HISTORY OF ORIGIN AND REASONS OF THE DISTRIBUTION OF CORONAVIRUS IN THE WORLD AND IN UKRAINE

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**Introduction.** Acute respiratory diseases are a group of diseases characterized by inflammation of the mucous membranes of the respiratory tract, a short incubation period, short fever and intoxication

The etiological factors are viruses:

- influenza, parainfluenza, adenovirus, enterovirus, rhinovirus, coronavirus, RS virus, reovirus, herpes virus),
- bacteria (staphylococci, streptococci, legionella, moraxella, haemophilus influenzae, meningococci) and
- atypical bacteria (mycoplasma, chlamydia).

The transmission of infection from a sick person occurs by airborne droplets, contact-household and alimentary routes.

Clinic: characterized by symptoms of intoxication (fever, headache, general malaise) and damage to the respiratory system at various levels.

Each group of infectious pathogens affects certain parts of the respiratory tract: rhinovirus – rhinitis, rhinopharyngitis, coronaviruses – rhinitis, rhinopharyngitis, adenovirus – causes the development of tonsillitis, pharyngitis, conjunctivitis, Coxsackie viruses – pharyngitis, parainfluenza – affects the laryngeal mucosa, influenza with the development of larynx development of rhinopharyngitis, tracheitis, bronchitis, pneumonia, RS infection – affects the lower respiratory tract.

**Diagnostics:** virological, the use of the immunofluorescence method, determination of the genome of viruses using PCR, identification of antibodies using the ELISA method.

**Purpose:** development of methods for timely diagnosis and prevention of coronavirus infection.

Coronaviruses are a genus of viruses belonging to the subfamilies Coronavirinae and Torovirinae, the family Coronaviridae, and the

family Nidovirales. MERS-CoV, SARS-CoV and COVID-19 are believed to be of zoonotic origin. Genetic analysis of COVID-19 showed that the coronavirus is genetically grouped with the genus Betacoronavirus into the subgenus Sarbecovirus (line B) together with two strains derived from bats. At the level of the whole genome, it is 96% identical to other samples of bat coronavirus (BatCov RaTG13).

**Results and discussion.** Coronaviruses were first described in the 1960s and isolated from nasal washes. These samples were later named human coronavirus 229E and human coronavirus OC43. In 2003, after the onset of severe acute respiratory syndrome (SARS), which spread from Asia worldwide, the WHO issued a press release on the isolation of the pathogen in several laboratories. Later it was called SARS-coronavirus.

It was an outbreak of SARS that lasted from November 2002 to July 2003 in southern China, causing 8,273 diagnosed cases with 775 deaths. The mortality rate was 9.6%. Studies have shown that the virus has crossed the xenographic barrier, spreading from palm martens to humans. Later, the virus was also found in raccoon dogs, some species of badgers, domestic cats, Chinese bats.

In 2003, SARS was taken under control. According to 2019, SARS-CoV is almost completely eliminated globally. It was eliminated largely due to the fact that super-spreaders (patients who infect an extremely large number of people in contact with them) were quickly identified and isolated from the general population, which interrupted the transmission of the virus.

After new outbreaks of SARS, virologists began to study the structure and properties of coronaviruses. In late 2004, three independent research laboratories reported the discovery of a fourth human coronavirus. Each group of researchers gave it its name: NL63, NL, coronavirus New Haven. These laboratories are still arguing about the right of the discoverer and the name of the strain.

The fifth human coronavirus, HKU1, was discovered by a team of researchers at the University of Hong Kong in 2005, who isolated it in two patients with pneumonia.

In September 2012, a sixth strain of human coronavirus was identified, which was later renamed the Middle East human respiratory coronavirus (MERC-CoV). In 2013, 124 cases and 52 deaths were reported in Saudi Arabia.

In May 2015, an outbreak of MERS-CoV infection occurred in the Republic of Korea: a man who visited the Middle East went to 4 different hospitals in the Seoul area for treatment.

This led to one of the largest outbreaks of MERS-CoV infection outside the Middle East. Mortality was 30-40%. MERS-CoV is considered a zoonotic virus, meaning it can be transmitted from animals to humans. The effects of camels or camel products on the body are a major source of human infection. Studies show that bats can transmit the virus to camels and camels to humans. The introduction of appropriate methods of infection control has led to the cessation of the global outbreak.

The outbreak caused by the new coronavirus 2019 nCoV began in mid-December 2019 in Wuhan City, Hubei Province, central China with the first cases of pneumonia of unknown origin in locals related to the Huanan Animal and Food Market in Wuhan. Subsequently, Chinese scientists have identified a new coronavirus – 2019 nCoV, which is at least 70% similar in genetic sequence to the SARS-CoV virus, which causes severe acute respiratory syndrome (also known as SARS).

The genetic sequence of the genome of a new virus called Covid-19 was later established. Experts have concluded that 2019 nCoV is apparently a hybrid of coronavirus found in bats and another coronavirus of unknown origin. In the next step, the researchers found that the virus was probably transmitted to humans from snakes. Chinese authorities have officially confirmed that there have been cases of human-to-human transmission.

As of March 19, 2020, more than 225,000 cases of COVID-19 had been reported in more than 160 countries and territories, resulting in more than 9,200 deaths and 84,000 recovery. The situation was declared a pandemic by the World Health Organization. Regions with large outbreaks – mainland China, Europe, Iran, South Korea and the United States.

On March 13, the WHO announced that Europe had become the new epicenter of the pandemic. A number of measures have been proposed, including the introduction of quarantine. The first very strict quarantine was introduced in Hubei, and then in other cities in China. National quarantines have been introduced in Italy, Spain, France, the Czech Republic and Germany, curfews have been imposed in China and South Korea, borders have been closed or restrictions on passenger entry have been imposed.

Due to the pandemic in Europe, many Schengen countries have restricted free movement and established border controls. Schools and universities have been closed nationwide or locally in at least 115 countries, affecting more than 950 million students. The pandemic has led to global socio-economic destruction, postponement or cancellation of sporting and cultural events. All this was described as "the greatest quarantine in human history."

The pandemic called for a global social and economic ruin, the announcement of sports and cultural visits. All this is described as "the greatest quarantine in the history of people."

Ukraine was gradually captured by COVID-19. A three-week quarantine was introduced in schools and a number of other measures were taken to combat the spread of COVID-19 coronavirus infection. Foreigners were temporarily banned from entering Ukraine and international passenger services were closed, and all regular international passenger traffic – air, rail and bus – was canceled. Long-distance transport was suspended for the period of quarantine.

Private long-distance carriers had to disinfect vehicles. In the regions, rescuers disinfected parks, stations and markets. The subway was closed. Temperature screening of passengers returning from abroad was carried out.

**Conclusion.** All of these measures were aimed at reducing the epidemic peak, known as leveling the epidemic curve. This reduces the risk of overloading health services and gives more time to develop vaccines and treatments.

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