Scientific Basis Of Infectious Diseases And Their Prevention

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ABSTRACT

This scientific article presents scientific information about epidemiology, i.e., infectious diseases. An epidemic is a widespread spread of infectious diseases in a country, region, or country. In this case, the number of patients will be 510 times more than usual

Keywords: epidemic, epiphytoty, epizootic, whooping cough, rabies, cowpox, ebola fever, lassa, marburg, machupo. SARS-CoV-2,-(covid-19).

Introduction

In today's difficult conditions, our main task must be to ensure the continuation of the comprehensive reforms started in our country, the bold steps we are taking towards building a new Uzbekistan. It is necessary to ensure economic and political stability in the conditions of the global crisis, address existing local problems, support our compatriots in need of help, and realize the dreams and hopes of our youth.

According to the analyzes of the World Health Organization, the threat of a pandemic may still remain for a long time. So, no one can say for sure how long the trials at the beginning of mankind will last. According to the forecasts of the United Nations, the World Health Organization, and influential experts, the pandemic can increase problems such as crisis situations, social tension, and poverty all over the world.

Literature Analysis And Methodology

It is clear to all of us that the socio-economic landscape of the world will definitely change after the pandemic. The accumulated experience shows that the countries with a strong and effective management system will be able to overcome the threat of the pandemic in time and at the same time. This is also proven by Uzbekistan's experience of fighting during the pandemic.

The main requirement in the implementation of these very important tasks is to ensure effective cooperation between state and community institutions, to increase efficiency and quality in this process, said our President Sh. Mirziyayev in this year's address.

Nowadays, there are a number of infectious diseases, and it is very important to learn and know about them. An outbreak of any infectious disease causes an epidemic. An epidemic is a widespread spread of infectious diseases in a country, region or country. In this case, the number of patients will be 510 times more than usual.

All infectious diseases of animals are divided into 5 groups:

Group 1 – alimentary infections. It passes through soil, feed and water. The digestive system is damaged. Such infections include anthrax, measles, mumps, and brucellosis.

Group 2 – respiratory infections. Damage to mucous membranes of the respiratory tract and pharynx. The infection is transmitted

mainly by airborne droplets. These diseases include parainfluenza, exotic zotiljam, sheep and goat pox, plague of carnivorous animals.

Group 3 – transmitted infections. The blood-sucking joint moves with the help of legs. Triggers are present in the blood all the time or in separate periods. These diseases include encephalomyelitis, tularemia, infectious anemia of horses.

Group 4 – infections whose causative agents pass through the skin without the participation of intermediaries, whooping cough, rabies, cowpox are among these diseases.

Group 5 – infections of unknown origin.

The sources of the epizootics of extremely dangerous diseases are floods, floods, earthworks without agreement with the state veterinary service, imported animals, food products, fodder and other means, places where wild birds flying from abroad gather, where there are outbreaks of highly dangerous diseases, there may be an increase in the number of rodents and insects and biological terrorism.

Discussion And Results

Most of the diseases caused by it in humans are infectious. Their origin is related to the entry of living pathogens into the human body and their reproduction under certain conditions, as well as their return to the external environment. As a result, an infected person becomes a source of disease, spreading the germ (pathogen) of the disease to others.

Infectious diseases are caused by tiny, invisible organisms, viruses. Although they are very simple in structure, they breathe, feed and reproduce like other living organisms.

One of the characteristic features of infectious disease agents is that when they enter the body and multiply, they release toxins (poison) from themselves and disrupt the activity of tissue cells.

Each pathogen has its own appearance and causes «its» disease. Different pathogens produce different toxins that have different effects on the organism and have their own «habitat» in the human body, that is, for the reproduction of the pathogenic microbe. Chooses the most comfortable tissue. These characteristics, which apply to one type of microbe, are called specific characteristics.

These specific characteristics of pathogens determine the presence of a certain infectious disease. For example, the sweat bacterium causes only sweat stomatitis. Therefore, any infectious disease is caused by the entry of a living specific pathogen into the body and its reproduction. If there were no barriers to the reproduction of viruses, people would have died from the effects of the toxins they secreted. However, the human body has the ability to fight against microbes, that is, to kill them and to neutralize (detoxify) the poisons released by them. This ability is resistance or immunity to infectious diseases. There are different types of innate and acquired immunity. Innate immunity refers to the resistance to a disease that is inherited only in a certain species, that is, an animal or a person, which determines the resistance to certain diseases. For example, only pigs are infected with swine fever. Humans and other species of animals are not affected by this disease.

Rabies. Rabies is an acute infectious zoonotic disease that affects the central nervous system. Rabies has been known since ancient times, and it was Aristotle who first discovered that rabies in humans is caused by dog bites. The clinic of rabies was first covered by Celsus in the 1st century and called it «fear of water».

In 1887, Babesh and in 1903 found out that there were round spots-like structures in the so-called horn of the brain of animals that died of rabies. Later, they proved that those spots are caused by the rabies virus.

The famous French scientist Louis Pasteur discovered and developed a vaccine against rabies in the last century (1881-1888), and introduced vaccination of people bitten by dogs and wolves with this vaccine.

The origin of the disease. The virus that causes rabies is present in the saliva of a rabid animal and cannot survive in the environment for a long time. The virus is killed in 5-10 minutes under the influence of disinfectants, and in 2 minutes when boiled. It is kept alive for a long time when dried and at low temperature.

Epidemiology of the disease. The source of infection is rabid dogs, cats, wolves, foxes,

badgers and other animals. In rare cases, the disease can be transmitted from rabbits, rats and other animals. The virus begins to appear in the dog's saliva 7-10 days before the symptoms of rabies become apparent. It is not necessary for a dog to bite a person in order to get rabies from a dog, its saliva can be transmitted even if it gets into a small cut or scratch on the human skin.

Translation: uz-en

DISCUSSION AND RESULTS

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In the development of rabies, the bitten area is also of great importance, the bite of the head and face is more dangerous than the bite of the limbs, because the virus reaches the brain faster than the face.

The course of the disease. The incubation period of the disease lasts 1-2 months, sometimes it can be shortened to 2 weeks or up to 1 year. The short or long latent period depends on the location, size and depth of the wound caused by the bite of a rabid animal. If the injury is to the head or face, the latent period is shortened. In children, this period is generally shorter than in adults.

Three periods are distinguished in the clinic of rabies:

1) initial period;
2) period of excitation;
3) period of paralysis;

The initial period lasts 2-3 days. The patient's sleep is disturbed, his appetite is suppressed, a feeling of fear appears, his mood changes. Later, he lies around indifferently. The temperature rises a little. The wound in the place where the animal bitten hurts. Signs of fear of water and air appear. When patients are thirsty and try to drink liquid, the muscles of swallowing and breathing immediately contract and become very painful. At this time, the patient is in great agony, so much so that he is afraid to even see water, let alone drink it. Sometimes it's not seeing the liquid, but hearing its name that panics him. This condition is very characteristic of rabies. Breathing and swallowing muscles can also contract under the influence of air movement. The patient's temperature rises to 38 degrees, his voice is hoarse, his body sweats, saliva flows, hiccups, his pupils dilate, his limbs hurt, his eyes look as if he is afraid of something. It seems His blood beats frequently, his heart begins to beat irregularly. Breathing is irregular and shallow, occasionally taking deep breaths. Muscle contractions begin in the breathing and swallowing muscles and then spread to all muscles. Convulsions begin. In this case, a slight sound, sunlight and lamp light or a slight touch of something on the patient's body causes muscle contraction. During this period, the patient does not sleep, bites himself, and may repulse others. His consciousness goes in and out, he sees things that are not there and is distracted. This period can last from 2-3 days to 5-6 days.

In the period of paralysis, the fear of water decreases, the patient calms down, starts drinking liquids, but the temperature remains high. He cannot say words clearly, and in this case paralysis of the legs begins. After 15-20 hours, other muscles of the body begin to become paralyzed. As this situation continues, the patient dies due to heart failure or paralysis of the respiratory center.

Differentiation from similar diseases. A dog or other animal bite, fear of water and wind, irregular breathing, and occasional deep breathing are important for the diagnosis of rabies. Rabies should be distinguished first from tetanus and then from atropine poisoning.

The diagnosis of vertigo includes muscle spasms, as a result of which there is a sarcastic grin on the face, absence of delusions and hallucinations, normal appearance of the pupil, the patient's lack of consciousness, and a history of being bitten by a dog or other animal. Lack of information can be the basis. In addition, the muscles of a rabid person do not contract when they are not having a seizure. It is known that in tetanus the muscles are always shortened. In case of atropine poisoning, the patient's pupils are dilated, apparently red, there are no phenomena of fear of water and wind.

The cure of the disease. There is no specific treatment for this disease. Symptomatic and pathogenetic treatment methods are used in the treatment of rabies. These methods calm the patient down a bit. The patient should sleep in a quiet, separate room, free from noise.

References

1. BD Qodirovich, 2023. Innovative Methods Used In Life Safety Lessons.Eurasian Research Bulletin 19, 142-145. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:WF5omc3nYNoC
2. BD Qodirovich, 2023. General concept of the positive impact and criteria of the science of life activity safety on human life. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8j

N4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:eQOLeE2rZwMC
3. GALAXY INTERNATIONAL INTERDISCIPLINARY RESEARCH JOURNAL (GIIRJ) 11 (ISSN …
4. BD Qodirovich, 2023. HAYOT FAOLIYATI XAVFSIZLIGI FANINING INSON HAYOTIGA IJOBIY TA'SIRI VA MEZONLARI HAQIDA UMUMIY TUSHUNCHA. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:W7OEmFMy1HYC
5. BD Qodirovich, 2023. Forming a Culture of Life Activity Safety in General Secondary Education Institutions. Eurasian Research Bulletin 17, 1-3. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:u-x6o8ySG0sC
6. NA Muhamadievich, BD Kodirvich, 2022. Patriotic Education as one of the Components Of National Security. Eurasian Scientific Herald 6, 88-90. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:u5HHmVD_uO8C
7. ASB Sattarov Karshiboy Norkulovich, 2022.Samarkand State Medical University …PRINCIPLES OF ORGANIZATION OF THE EDICATIONAL PROCESS IN THE PEDAGOGICAL HIGHER EDICATION UNIVERSITY. International Journal of Early Childhood Special Education (INT-JECS) 14 …https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:IjCSPb-OGe4C
8. NA Muhammadievich, BD Kodirovich, 2022. THE PROBLEM OF UNSUFFICIENT ATTENDANCE PHYSICAL EDICATION LESSONS. World Bulletin of Management and Law 7, 97-98. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:d1gkVwhDpl0C
9. BD Qodirovich, 2022. TEXNOGEN VA EKOLOGIK FAVQULOTDA VAZIYATLARDA AHOLINI MUHOFAZA ETISHNING O'ZIGA XOS JIHATLARI. "PEDAGOGS" international research journal 21 (ISSN: 2181-4027_SJIF: 4.995 …https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:Tyk-4Ss8FVUC
10. БДК Эркинов Илхом Эркин ўғли, 2022. ҲАЁТ ФАОЛИЯТИ ХАВФСИЗЛИГИ АСОСЛАРИ" ҚОИДАЛАРИНИ ЎҚИТИШНИНГ САМАРАДОРЛИГИ ВА АҲАМИЯТИ. JOURNAL OF EXERCISE PHYSIOLOGY 2 (ISSN1097-9751), 393-397. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:zYLM7Y9cAGgC
11. БД Кодирович, 2022. "БАКТЕРИОЛОГИК ВОСИТАЛАР БИЛАН ЗАРАРЛАНГАН ЎЧОҚДА ЭПИДЕМИЯГА ҚАРШИ ЧОРА ТАДБИРЛАРНИ ТАШКИЛ ЭТИШ ҲУҚУҚИЙ АСПЕКТЛАРИ" Биология ва тиббиёт муаммолари 3 (ISSN 2181-5674), 217-220. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:UeHWp8X0CEIC
12. EIE Lutfullaev Mirzokhid Sirojiddinovich Berdirasulov Dilshod Qodirovich …2021. Samarqand davlat tibbiyot institutida orientirlash kasbiy amaliy jismoniy tarbiya vositasi sifatida. UzaCADEMIYA ilmiy-uslubiy jurnali 22 (ISSN€ -2181-1334), 102-107. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:qjMakFHDy7sC
13. BD Qodirovich, 2021. XXI asrda ta'lim va fan. XXI asrda ta'lim va fan 3 (2658-7998), 1254.

https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:9yKSN-GCB0IC

14. БД Кодирович, 2020. Олий ва ўрта махсус таълим муассасаларида ҳарбий ватанпарварлик тарбиясини такоминлаштириш. Педагогика ва психологида иновациялар 5 (ISSN 2181-9513), 102-107. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:2osOgNQ5qMEC
15. N.A. Muhamadievich, Б.Д. Кодирович. 2020. Олий ва ўрта махсус таълим муассасаларида ҳарбий ватанпарварлик тарбиясини такоминлаштириш. Педагогика ва психологида иновациялар 5 (ISSN 2181-9513), 102-107. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:2osOgNQ5qMEC
16. N.A. Muhamadievich, B.D. Qodirovich, 2021. XXI asrda ta'lim va fan. XXI asrda ta'lim va fan 3 (2658-7998), 1254. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:9yKSN-GCB0IC
17. EIE N.A. Muhamadievich, Lutfullaev Mirzokhid Sirojiddinovich Berdirasulov Dilshod Qodirovich ...2021. Samarqand davlat tibbiyot institutida orientirlash kasbiy amaliy jismoniy tarbiya vositasi sifatida, «Спортивное ориентирование как средство профессионально – прикладной физической подготовки в Самаркандском государственном медицинском институте».UzaCADEMIYA ilmiy-uslubiy jurnali 22 (ISSN € -2181-1334), 102-107. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:qjMakFHDy7sC
18. N.A. Muhamadievich, БД Кодирович, 2022. "БАКТЕРИОЛОГИК ВОСИТАЛАР БИЛАН ЗАРАРЛАНГАН ЎЧОҚДА ЭПИДЕМИЯГА ҚАРШИ ЧОРА ТАДБИРЛАРНИ ТАШКИЛ ЭТИШ ҲУҚУҚИЙ АСПЕКТЛАРИ" Биология ва тиббиёт муаммолари 3 (ISSN 2181-5674), 217-220. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:UeHWp8X0CEIC
19. N.A. Muhammadievich, BD Kodirovich, 2022. THE PROBLEM OF UNSUFFICIENT ATTENDANCE PHYSICAL EDUCATION LESSONS . World Bulletin of Management and Law 7, 97-98. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:d1gkVwhDpl0C
20. N.A. Muhamadievich, BD Kodirvich, 2022. Patriotic Education as one of the Components Of National Security. Eurasian Scientific Herald 6, 88-90. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:u5HHmVD_uO8C
21. ASB N.A. Muhamadievich. Sattarov Karshiboy Norkulovich, 2022.Samarkand State Medical University ...PRINCIPLES OF ORGANIZATION OF THE EDICATIONAL PROCESS IN THE PEDAGOGICAL HIGHER EDICATION UNIVERSITY. International Journal of Early Childhood Special Education (INT-JECS) 14 ...https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=JO8jN4QAAAAJ&citation_for_view=JO8jN4QAAAAJ:IjCSPb-OGe4C
22. N.A. Muhamadievich, 2022. AHOLI HAYOT FAOLIYATINI MUHOFAZA QILISH HAMDA FAVQULODDA HOLATLAR JARAYONIDA HARAKAT QILISH Journal of New Century Innovations, 16(2), 125–129. Retrieved from http://www.newjournal.org/index.php/new/article/view/791

23. N.A. Muhamadievich, 2023. Protection of Population Life Activities and Action in the Process of Emergencies Eurasian Research Bulletin, 17, 16–18. Retrieved from https://geniusjournals.org/index.php/erb/article/view/3279
24. N.A. Muhamadievich, 2023. TA'LIM MUASSASALARIDA HFX MADANIYATINI SHAKLLANTIRISH Ustozlar Uchun, 41(1), 117–122. Retrieved from http://www.pedagoglar.uz/index.php/01/article/view/3074
25. N.A. Muhamadievich MEASURES AND MEASURES TO ENSURE THE SAFETY OF HUMAN LIFE IN THE FIELD OF WORK Galaxy International Interdisciplinary Research Journal, 11(3), 279–283. Retrieved from https://giirj.com/index.php/giirj/article/view/4792