

**DISEASE HEPATITIS B.****Ismoilova U.I., Djamaldinova Sh.O.****Samarkand State Medical Institute, Samarkand, Uzbekistan**

**Abstract:** Hepatitis B is a vaccine-preventable liver infection caused by the hepatitis B virus (HBV). Hepatitis B is spread when blood, semen, or other body fluids from a person infected with the virus enters the body of someone who is not infected. This can happen through sexual contact; sharing needles, syringes, or other drug-injection equipment; or from mother to baby at birth. Not all people newly infected with HBV have symptoms, but for those that do, symptoms can include fatigue, poor appetite, stomach pain, nausea, and jaundice.

**Keywords:** hepatitis B, sharing needles, syringes, drug-injection equipment.

For many people, hepatitis B is a short-term illness. For others, it can become a long-term, chronic infection that can lead to serious, even life-threatening health issues like cirrhosis or liver cancer. Risk for chronic infection is related to age at infection: about 90% of infants with hepatitis B go on to develop chronic infection, whereas only 2%–6% of people who get hepatitis B as adults become chronically infected. The best way to prevent hepatitis B is to get vaccinated. Vaccination is the best way to prevent hepatitis B. In the UK, the hepatitis B vaccine is given to babies as part of the 6-in-1 vaccine. Babies born to mothers with hepatitis B are given additional vaccinations at birth, 4, weeks and 1 year, to reduce the risk of them getting the infection.

Adults only need to get the vaccine if they're at high risk, for example:

- you are travelling to a high-risk country – you may have to pay for a hepatitis B vaccine for travel
- you have liver or kidney disease
- you have HIV
- your job puts you at risk of infection – for example, you're a healthcare worker or work in a prison
- Your employer should organize your vaccination if your job puts you at risk.

If you're travelling abroad, get advice from a travel clinic, GP, nurse or pharmacist before you go. Hepatitis B is the most common serious liver infection in the world. It is caused by the hepatitis B virus that attacks and injures the liver. Two billion people (or 1 in 3) have been infected and about 300 million people are living with a chronic hepatitis B infection. Each year up to 1 million people die from hepatitis B despite the fact that it is preventable and treatable.

Hepatitis B is transmitted through direct contact with infected blood or certain bodily fluids. The virus is most commonly transmitted from an infected pregnant person to their baby during childbirth, due to the blood exchange that happens between mother and baby. It is also transmitted through unsterile medical or dental equipment, unprotected sex, or unsterile needles, or by sharing personal items such as razors, toothbrushes, nail clippers, body jewelry. Hepatitis B is a “silent epidemic” because most people do not have symptoms when they are newly infected or chronically infected. Thus, they can unknowingly spread the virus to others and continue the silent spread of hepatitis B. For people who are chronically infected but don’t have any symptoms, their liver is still being silently damaged which can develop into serious liver disease such as cirrhosis or liver cancer.

The good news is that hepatitis B is preventable and treatable. There is a simple blood test to diagnose a hepatitis B infection. Testing is the only way to know for sure if you are infected. There is a safe vaccine to prevent hepatitis B. There are effective drug therapies that can manage a chronic hepatitis B infection, and a cure is within sight.

#### Hepatitis B and Your Liver.

The liver is such an important organ that we can survive only one or two days if it completely shuts down - if the liver fails, your body will fail, too. Fortunately, the liver can function even when up to 80% of it is diseased or removed. This is because it has the amazing ability to regenerate - or create - itself from healthy liver cells that still exist. If your body were an automobile, your liver would be considered the engine. It does hundreds of vital things to make sure everything runs smoothly. Stores vitamins, sugar and iron to help give your body energy. Controls the production and removal of cholesterol. Clears your blood of waste products, drugs and other poisonous substances. Makes clotting factors to stop excessive bleeding after cuts or injuries. Produces immune factors and removes bacteria from the bloodstream to combat infection. Releases a substance called "bile" to help digest food and absorb important nutrients

The word “hepatitis” actually means “inflammation” of the liver. Thus, “hepatitis B” refers to inflammation of the liver caused by the hepatitis B virus. With early detection and appropriate follow-up medical care, people living with a chronic hepatitis B infection can expect to enjoy a long and healthy life. About the Hepatitis B Virus. The hepatitis B virus is a small DNA virus that belongs to the “Hepadnaviridae” family. Related viruses in this family are also found in

woodchucks, ground squirrels, tree squirrels, Peking ducks, and herons. Structure of the Hepatitis B Virus. The hepatitis B virus contains an outer envelope and an inner core.

The outer envelope of the virus is composed of a surface protein called the hepatitis B surface antigen or "HBsAg". The HBsAg can be detected by a simple blood test and a positive test result indicates a person is infected with the hepatitis B virus. The inner core of the virus is a protein shell referred to as the hepatitis B core antigen or "HBcAg," which contains the hepatitis B virus DNA and enzymes used in viral replication.

#### Life Cycle of the Hepatitis B Virus.

The hepatitis B virus (HBV) has a complex life cycle. The virus enters the host liver cell and is transported into the nucleus of the liver cell. Once inside the nucleus, the viral DNA is transformed into a covalently closed circular DNA (cccDNA), which serves as a template for viral replication (creation of new hepatitis B virus). New HBV virus is packaged and leaves the liver cell, with the stable viral cccDNA remaining in the nucleus where it can integrate into the DNA of the host liver cell, as well as continue to create new hepatitis B virus. Although the life cycle is not completely understood, parts of this replicative process are error prone, which accounts for different genotypes or "genetic codes" of the hepatitis B virus.

HBV is transmitted through activities that involve percutaneous (i.e., puncture through the skin) or mucosal contact with infectious blood or body fluids (e.g., semen and saliva), including:

- injection drug use that involves sharing needles, syringes, or drug-preparation equipment;
- birth to a person who has HBV infection;
- contact with blood from or open sores on a person who has HBV infection;
- exposures to needle sticks or sharp instruments; and
- sharing certain items with a person who has HBV infection that can break the skin or mucous membranes (e.g., razors, toothbrushes, and glucose monitoring equipment), potentially resulting in exposure to blood.

In highly endemic areas, hepatitis B is most commonly spread from mother to child at birth (perinatal transmission) or through horizontal transmission (exposure to infected blood), especially from an infected child to an uninfected child during the first 5 years of life. The development of chronic infection is common in infants infected from their mothers or before the age of 5 years. Hepatitis B is also spread by needlestick injury, tattooing, piercing and exposure to infected blood and body fluids, such as saliva and menstrual, vaginal and seminal fluids. Transmission of

the virus may also occur through the reuse of contaminated needles and syringes or sharp objects either in health care settings, in the community or among persons who inject drugs. Sexual transmission is more prevalent in unvaccinated persons with multiple sexual partners.

Hepatitis B infection acquired in adulthood leads to chronic hepatitis in less than 5% of cases, whereas infection in infancy and early childhood leads to chronic hepatitis in about 95% of cases. This is the basis for strengthening and prioritizing infant and childhood vaccination. The hepatitis B virus can survive outside the body for at least 7 days. During this time, the virus can still cause infection if it enters the body of a person who is not protected by the vaccine. The incubation period of the hepatitis B virus ranges from 30 to 180 days. The virus may be detected within 30 to 60 days after infection and can persist and develop into chronic hepatitis B, especially when transmitted in infancy or childhood.

### Symptoms

Most people do not experience any symptoms when newly infected. However, some people have acute illness with symptoms that last several weeks, including yellowing of the skin and eyes (jaundice), dark urine, extreme fatigue, nausea, vomiting and abdominal pain. People with acute hepatitis can develop acute liver failure, which can lead to death. Among the long-term complications of HBV infections, a subset of persons develops advanced liver diseases such as cirrhosis and hepatocellular carcinoma, which cause high morbidity and mortality. There is no specific treatment for acute hepatitis B. Therefore, care is aimed at maintaining comfort and adequate nutritional balance, including replacement of fluids lost from vomiting and diarrhoea. Most important is the avoidance of unnecessary medications. Acetaminophen, paracetamol and medication against vomiting should be avoided. Chronic hepatitis B infection can be treated with medicines, including oral antiviral agents. Treatment can slow the progression of cirrhosis, reduce incidence of liver cancer and improve long term survival. In 2021 WHO estimated that 12% to 25% of people with chronic hepatitis B infection will require treatment, depending on setting and eligibility criteria. WHO recommends the use of oral treatments (tenofovir or entecavir) as the most potent drugs to suppress hepatitis B virus. Most people who start hepatitis B treatment must continue it for life. In low-income settings, most people with liver cancer die within months of diagnosis. In high-income countries, patient present to hospital earlier in the course of the disease, and have access to surgery and chemotherapy which can prolong life for several months to a few years. Liver transplantation is sometimes used in people with cirrhosis or liver cancer in high-income countries, with varying success.

Prevention. WHO recommends that all infants receive the hepatitis B vaccine as soon as possible after birth, preferably within 24 hours, followed by 2 or 3 doses of hepatitis B vaccine at least 4 weeks apart to complete the vaccination series. Protection lasts at least 20 years and is probably lifelong. WHO does not recommend booster vaccinations for persons who have completed the 3-dose vaccination schedule. In addition to infant vaccination, WHO recommends the use of antiviral prophylaxis for the prevention of hepatitis B transmission from mother-to-child. Implementation of blood safety strategies and safer sex practices, including minimizing the number of partners and using barrier protective measures (condoms), also protect against transmission.

WHO response. In May 2016, the World Health Assembly adopted the first Global health sector strategy on viral hepatitis, 2016–2020. The strategy highlighted the critical role of universal health coverage and sets targets that align with those of the Sustainable Development Goals. The strategy proposed the elimination of viral hepatitis as a public health threat by 2030 (defined as a 90% reduction in new chronic infections and a 65% reduction in mortality, compared with the 2015 baseline), and included a roadmap towards elimination by implementing key prevention, diagnosis, treatment and community interventions strategies. In May 2022 the 75th World Health Assembly noted a new set of integrated global health sector strategies on HIV, viral hepatitis and sexually transmitted infections for the period of 2022–2030. Based on these previous and now new strategies, a broad range of Member States have developed comprehensive national hepatitis programmes and elimination strategies guided by the global health sector strategy.

To support countries in achieving the global hepatitis elimination targets under the Sustainable Development Agenda 2030, WHO is working to:

- raise awareness, promote partnerships and mobilize resources
- formulate evidence-based policy and data for action
- increase health equities within the hepatitis response
- prevent transmission
- scale up screening, care and treatment services.

WHO organizes the annual World Hepatitis Day campaign (as 1 of its 9 flagship annual health campaigns) to increase awareness and understanding of viral hepatitis. For World Hepatitis Day 2022, WHO focuses on the theme “Bringing hepatitis care closer to you” and calls for simplified service delivery of viral hepatitis services, bringing care closer to communities.

HBV-HIV coinfection

About 1% of persons living with HBV infection (2.7 million people) are also infected with HIV. Conversely, the global prevalence of HBV infection in HIV-infected persons is 7.4%. Since 2015, WHO has recommended treatment for everyone diagnosed with HIV infection, regardless of the stage of disease. Tenofovir, which is included in the treatment combinations recommended as first-line therapy for HIV infection, is also active against HBV.

Diagnosis. It is not possible on clinical grounds to differentiate hepatitis B from hepatitis caused by other viral agents, hence laboratory confirmation of the diagnosis is essential. Several blood tests are available to diagnose and monitor people with hepatitis B. They can be used to distinguish acute and chronic infections. WHO recommends that all blood donations be tested for hepatitis B to ensure blood safety and avoid accidental transmission. As of 2019, 30.4 million people (10.5% of all people estimated to be living with hepatitis B) were aware of their infection, while 6.6 million (22%) of the people diagnosed were on treatment. According to latest WHO estimates, the proportion of children under five years of age chronically infected with HBV dropped to just under 1% in 2019 down from around 5% in the pre-vaccine era ranging from the 1980s to the early 2000s. In settings with high Hepatitis B surface antigen seroprevalence in the general population (defined as >2% or >5% HBsAg seroprevalence), WHO recommends that all adults have access to and be offered HBsAg testing with linkage to prevention and care and treatment services as needed.

1. Literature:

1. Zukhrudinovna Z. D. modern aspects of neuroprotective treatment in hypertensive retinopathy //Web of Scientist: International Scientific Research Journal. –2022. –T. 3. –No. 02. –C. 949-952. <https://wos.academiascience.org/index.php/wos/article/view/947/878>
2. Zukhriddinovna, Z. D. (2022). Development of classification criteria for neuroretinal ischemia in arterial hypertension. central asian journal of medical and natural sciences, 3(3), 59-65. <https://doi.org/10.17605/OSF.IO/K76ZT4>
3. .Zuhriddinovna Z. D., Kamaljanovna M. D. development of classification criteria for neuroretinal ischemia in hypertension //web of scientist: international scientific research journal. –2022. –T. 3. –no. 02. –c. 972-978. <https://wos.academiascience.org/index.php/wos/article/view/951/8825>
4. Z. ,Z. D. (2022). Rehabilitation and Treatment Algorithm for Patients with Ocular Ischemic Syndrome on the background of arterial hypertension. central asian journal of

- medical and natural sciences, 3(2), 211-213.  
<https://doi.org/10.17605/OSF.IO/SYA5K9>
5. Zukhriddinova, Z. D. (2022). clinical and metabolic peculiarities children and teenagers with arterial hypertension. central asian journal of medical and natural sciences, 3(3), 177-184. retrieved from <https://cajmns.centralasianstudies.org/index.php/CAJMNS/article/view/75511>
  6. .Z. , Z. D., & K., M. D. (2022). Magnetic Resonance Tractography as a Method of Choice for Neuroimaging in Ocular Ischemic Syndrome against the Background of hypertension. central asian journal of medical and natural sciences, 3(2), 207-210. <https://doi.org/10.17605/OSF.IO/E2AH912>
  7. .D. Z, Z., Zh. B, E., & Z. Z, M. (2022). Changes visual systems at patients with essential arterial hypertension. central asian journal of medical and natural sciences, 3(3), 744-750. retrieved from <https://cajmns.centralasianstudies.org/index.php/CAJMNS/article/view/85113>
  8. .Zuxridinova, J. D. (2022). Ultrasonic Dopplerography of retinal vessels in acute cerebral ischemia against the background of arterial hypertension. central asian journal of medical and natural sciences, 3(3), 100-106. retrieved from <https://cajmns.centralasianstudies.org/index.php/CAJMNS/article/view/73714>
  9. Zukhriddinova, Z. D. (2022). clinical and metabolic peculiarities children and teenagers with arterial hypertension. central asian journal of medical and natural science, 3(3), 177-184. retrieved from <https://cajmns.centralasianstudies.org/index.php/CAJMNS/article/view/755>
  10. Zukhriddinova Z. D. modern aspects of neuroprotective treatment in hypertensive retinopathy // web of scientist: international scientific research journal. – 2022. – т. 3. – №. 02. – с. 949-952. <https://wos.academiascience.org/index.php/wos/article/view/949/880>  
<https://wos.academiascience.org/index.php/wos/article/view/949>
  11. Жалалова Д.З, Эшонкулов Ж.Б, Муратов З.З изменения зрительной системы у пациентов с эссенциальной артериальной гипертензией // sai. 2022. №3. URL: <https://cyberleninka.ru/article/n/izmeneniya-zritelnoy-sistemy-u-patsientov-s-essentsialnoy-arterialnoy-gipertenziey>
  12. Бабаев S., Бектурдиев S., Рахимов N., Джалалова D., Юсупова D., & Шаханова S. (2021). Assessment of the state of immunity in patients with tumors. in Library, 21(2), 218–225. извлечено от <https://inlibrary.uz/index.php/archive/article/view/14549>

13. Pyagay Grigory Borisovich, & Nargiza Sayfutdinovna Ibragimova. (2023). THE effectiveness of conservative methods of treatment of actinic keratosis. conference zone, 150–155. retrieved from <http://conferencezone.org/index.php/cz/article/view/948>
14. Pyagay, Grigory Borisovich, & Nargiza Sayfutdinovna Ibragimova. (2023). criteria for selecting therapy for patients with actinic keratosis. conference zone, 156–161. retrieved from <http://conferencezone.org/index.php/cz/article/view/949>
15. Пягай, Г., Ибрагимова, Н., Мухамедов, Б., Маликова, Н., & Аллаева М. (2021). клинический случай поздней диагностики пигментной крапивницы. медицина и инновации, 1(1), 148–150. извлечено от [https://inlibrary.uz/index.php/medicine\\_and\\_innovations/article/view/55](https://inlibrary.uz/index.php/medicine_and_innovations/article/view/55)
16. Zaslavsky D.V., Sidikov A.A., Garyutkina L.V., Pyagai G.B., Alaeva M.D., Ibragimova N.S., Malikova N.N., Kozlova D.V. A new principle for the diagnosis morphea in the onset of the disease // Russian Journal of Skin and Venereal Diseases. - 2021. - Vol. 24. - N. 3. - P. 263-274 <https://doi.org/10.17816/dv72328> <https://rjsvd.com/1560-9588/article/view/72328>
17. А.А Садыков, Н.С Ибрагимова, А.А Юлдашев Зуд при коморбидных состояниях - va estetik tibbiyot, 2015 [https://dermatology.uz/pdf/medic\\_jurnal/Dermatologiya\\_N1\\_2015.pdf#page=29](https://dermatology.uz/pdf/medic_jurnal/Dermatologiya_N1_2015.pdf#page=29)
18. Khakimov M.R. (2021). per una metodologia dell'insegnamento (delle lingue straniere). galaxy international interdisciplinary research journal, 9(10), 98–108. retrieved from <https://giirj.com/index.php/giirj/article/view/30>
19. A Sidikov, D Zaslavsky, A Sadykov, N Ibragimova, M Megna, O Olisova, D Kozlova, R Nasyrov, E. Shalaeva, T Garcia The new differential diagnostic test for the lichenoid drug eruption Dermatologic therapy, 2020 <https://doi.org/10.1111/dth.13784>
20. Ваисов А. Ш., Ташкенбаева У. А., Ибрагимова Н. С. Современные аспекты этиологии, патогенеза, течения и ранней диагностики васкулитов: обзор //Новости дерматовенерол. и репрод. здоровья. – 2007. – №. 2. – С. 88.
21. И.У Салимова, Ш.Т Аюпова, Н.С Ибрагимова аспекты псориаза в дерматологии - Spirit Time, 2020 <https://www.elibrary.ru/item.asp?id=42780705>
22. Хакимов, Мухамадали. "проблема перевода на английский язык “японского сценария” романа итальянского писателя а. барикко “шелк”." InterConf (2020).
23. А.А Садиков, Н.С Ибрагимова, С.И Мавлянов - частота встречаемости кожной патологии у спортсменов при проведении углубленного медицинского осмотра



- (умо) и степень приверженности лечению. Безопасный спорт-2019. <https://www.elibrary.ru/item.asp?id=41357327>
24. Хакимов, М. 2022. принципы улучшения методологии преподавания иностранного языка (на примере итальянского языка) с использованием традиционных и инновационных методов обучения в высшем учебном заведении. Общество и инновации. 3, 9/S (окт. 2022), 123–128. DOI: <https://doi.org/10.47689/2181-1415-vol3-iss9/S-pp123-128> .
25. Хакимов М. Р. development of innovative technologies in the system of higher education of the republic of uzbekistan //re-health journal. – 2020. – №. 2-2. – с. 163-164. <https://www.elibrary.ru/item.asp?id=43163881>
26. N Ibragimova, R Tregulova, N Normatova, S Djalalov-comparative analysis of the prevalence of type 2 diabetes according to the screening and register data in Uzbekistan - Endocrine Abstracts ISSN 1470-3947 (print) | ISSN 1479-6848 (online) <https://www.endocrine-abstracts.org/ea/0056/abstracts/poster-presentations-diabetes-obesity-and-metabolism/diabetes-to-include-epidemiology-pathophysiology/ea0056p342/> <https://doi.org/10.1530/endoabs.56.P342>
27. Normatova N., Ibragimova N. Frequency of occurrence and factors of diabetic retinopathy advancement in people with DM type 2 in Uzbekistan //Endocrine Abstracts. – Bioscientifica, 2016. – Т. 41. <https://www.endocrine-abstracts.org/ea/0041/ea0041ep520> <https://doi.org/10.1530/endoabs.41.EP520>
28. N.N Malikova, K.Y Karimov, K.T Boboev, S.S Arifov - The CYP17A1 rs743572 gene polymorphism and risk of development and clinical features of Acne Vulgaris in the Uzbek population. International Journal of Biomedicine, 2019. <https://www.elibrary.ru/item.asp?id=38469333>
29. Чуканина Д. Б., Хакимов М. Р. использование видео и аудио педагогических технологий в изучении иностранного языка //ученый XXI века. – с. 55.
30. Хакимов М. Р. роль инновационных технологий в развитии современной системы высшего образования //editor coordinator. – 2020. – с. 189. [https://uch21vek.com/assets/uch21vek\\_2\\_5\\_2016.pdf#page=55](https://uch21vek.com/assets/uch21vek_2_5_2016.pdf#page=55)
31. Тухтасинов , И. и Хакимов , М. 2021. современные взгляды на проблему дистанционного и традиционного методов обучения итальянскому языку в высших учебных заведениях . общество и инновации. 2, 2 (апр. 2021), 111–117. doi: <https://doi.org/10.47689/2181-1415-vol2-iss2-pp111-117> .

32. Arifov S.S., Erkinlar Z.E., & Malikova N.N. (2021). modern methods of acne and post-acne therapy. the American journal of medical sciences and pharmaceutical research, 3(09), 147–153. <https://doi.org/10.37547/TAJMSPR/Volume03Issue09-24>
33. Худойкулова, Ф. В., Ибрагимова, М. Ш., Равшанова, М. З., Бурханова, Г. Л., & Абдухамидова, Д. Х. (2023). the structure, age features, and functions of hormones. pedagog, 1(5), 681-688. <https://bestpublication.org/index.php/pedg/article/view/3166>  
<https://bestpublication.org/index.php/pedg/article/view/3166/3037>
34. Akhmedova Shakhnoza Ozodjonovna. (2023). relationship of environmental impact assessment and environmental expertise. conference zone, 115–121. retrieved from <http://conferencezone.org/index.php/cz/article/view/941>
35. Akhmedova Shakhnoza Ozodjonovna. (2023). principles of environmental impact assessment. conference zone, 95–107. retrieved from <http://conferencezone.org/index.php/cz/article/view/939>
36. Rafikovich H. M. the classification of teaching methods in higher education //journal of positive school psychology. – 2022. – с. 1582–1587-1582–1587. <https://www.journalppw.com/index.php/jpsp/article/view/6098>  
<https://www.journalppw.com/index.php/jpsp/article/view/6098/4019>
37. Хакимов Мухаммадали Рафикович развитие инновационных технологий в системе высшего образования республики узбекистан // re-health journal. 2020. №2-2 (6). URL: <https://cyberleninka.ru/article/n/razvitie-innovatsionnyh-tehnologiy-v-sisteme-vysshego-obrazovaniya-respubliki-uzbekistan>
38. Холбоев С., & Юлдашова, Н. (2022). результаты анализа основанные на миссии воз и китайской народной республики по проблеме новой коронавирусной инфекции covid-2019. Журнал кардиореспираторных исследований, 1(SI-1), 81. <https://doi.org/10.26739.2181-0974-2020-SI-1-29>
39. Хакимов, М. (2020). роль инновационных технологий в развитии современной системы высшего образования. interconf, (16). вилучено із <https://ojs.ukrlogos.in.ua/index.php/interconf/article/view/2581>
40. MS Mamasharifovich, KY Akhmadzhanovna - Art of Medicine. International Medical Scientific Journal, 2022.features of adaptation to physical loads of the cardiorespiratory system in children participated in swimming. <https://artofmedicineimsj.us/index.php/artofmedicineimsj/article/view/86>  
<https://artofmedicineimsj.us/index.php/artofmedicineimsj/article/view/86/86>

41. Мухамедов, Б., Хаджиметов, А., & Садыков, А. (2022). взаимосвязь показателей липидного состава сыворотки крови и ацетиляторного статуса у больных вирусным гепатитом с проявлениями дерматологического характера. research and education, 1(9), 231–240. retrieved from <http://researchedu.org/index.php/re/article/view/976>
42. Maxmudov S., Mavlyanova Z., Jumanov J. Analysis bioindustries indicators of body composition of individuals at a young age, not engaged in physical culture //InterConf. – 2021.
43. Абдусаломова М А, Махмудов С М Достижения науки и образования. 2019. №11 (52). URL: <https://cyberleninka.ru/article/n/optimizatsiya-mediko-sotsialnoy-reabilitatsii-pri-bolezni-dyushenna>
44. Akhmedova Shakhnoza Ozodjonovna. (2023). global implications of climate change. conference zone, 79–86. retrieved from <http://conferencezone.org/index.php/cz/article/view/937>
45. Хакимов, М. 2021. Дистанционное изучение иностранных языков: современные тенденции и перспективы развития. Общество и инновации. 2, 8/S (сен. 2021), 252–257. DOI: <https://doi.org/10.47689/2181-1415-vol2-iss8/S-pp252-257> .
46. Akhmedova Shakhnoza Ozodjonovna. (2023). climate change: everyone’s struggle for survival. conference zone, 70–78. retrieved from <http://conferencezone.org/index.php/cz/article/view/936>
47. Ibragimova Malika Shavkatovna. (2022). characteristics of rehabilitation of children with cerebral palsy and speech defects. conference zone, 410–414. retrieved from <http://conferencezone.org/index.php/cz/article/view/877>
48. Ibragimova Malika Shavkatovna. (2022). effectiveness of hydrokinesiotherapy in the rehabilitation of children with spastic cerebral palsy. conference zone, 507–511. retrieved from <http://conferencezone.org/index.php/cz/article/view/887>