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# ORIGIN AND DEVELOPMENT MECHANISMS OF DRUG ADDICTION AND ITS IMPACT ON HUMAN HEALTH, BEHAVIOR, AND SOCIETY

***©Bakhshaliyeva A.**, ORCID: 0009-0001-9658-5589, Nakhchivan State University, Nakhchivan, Azerbaijan, arzukerimli85@gmail.com*
***©Aliyeva Z.**, ORCID: 0009-0007-3494-0948, Nakhchivan State University, Nakhchivan, Azerbaijan, aliyevazemine@ndu.edu.az*
***©Bayramov M.**, ORCID: 0009-0003-2069-4767, Nakhchivan State University, Nakhchivan, Azerbaijan, bayramovmurad405@gmail.com*

# ПРИЧИНЫ И МЕХАНИЗМЫ РАЗВИТИЯ НАРКОЗАВИСИМОСТИ, А ТАКЖЕ ЕЕ ВЛИЯНИЕ НА ЗДОРОВЬЕ ЧЕЛОВЕКА, ПОВЕДЕНИЕ И ОБЩЕСТВО

***©Бахшалиева А. Х.**, ORCID: 0009-0001-9658-5589, Нахычеванский государственный университет, г. Нахычеван, Азербайджан, arzukerimli85@gmail.com*
***©Алиева З. Ч.**, ORCID: 0009-0007-3494-0948, Нахычеванский государственный университет, г. Нахычеван, Азербайджан, aliyevazemine@ndu.edu.az*
***©Байрамов М.**, ORCID: 0009-0003-2069-4767, Нахычеванский государственный университет, г. Нахычеван, Азербайджан, bayramovmurad405@gmail.com*

*Abstract.* In recent years, the use of narcotic substances has increasingly become widespread among young people. Globally, drug addiction and substance abuse are most prevalent among minors and unsupervised children. The non-medical use of narcotic analgesics, psychotropic drugs, or any chemical substances—primarily for their sedative or stimulant effects that induce euphoria rather than for therapeutic purposes—has been identified as a major factor contributing to the development of severe dependence. In most cases, because the treatment of this condition is prolonged, the medications prescribed must be gradually tapered and discontinued. In addition to dependence-forming pharmaceutical substances, some plants contain highly potent narcotic compounds, leading to prohibitions on their large-scale cultivation. For instance, hashish, marijuana, and hemp oil Aderived from the cannabis plant are among the most commonly used addictive substances. In general, individuals who use narcotics experience rapid weight loss, impairment of normal brain function, an increased likelihood of cancer development, and abnormal behavioral changes.

*Аннотация.* В последние годы употребление наркотических веществ становится всё более распространённым среди молодёжи. Во всём мире наркомания и злоупотребление психоактивными веществами наиболее распространены среди несовершеннолетних и детей, оставшихся без присмотра. Немедицинское употребление наркотических анальгетиков, психотропных препаратов или любых химических веществ — преимущественно ради их седативного или стимулирующего действия, вызывающего эйфорию, а не в терапевтических целях — было признано одним из основных факторов, способствующих развитию тяжёлой зависимости. В большинстве случаев, поскольку лечение этого состояния является длительным, назначенные лекарственные препараты необходимо постепенно снижать и отменять. Помимо фармацевтических веществ, вызывающих зависимость, некоторые растения содержат сильнодействующие наркотические соединения, что приводит к запрету на их крупномасштабное культивирование. Например, гашиш, марихуана и конопляное масло, полученные из растения каннабис, относятся к числу наиболее часто употребляемых веществ, вызывающих зависимость. Как правило, у лиц, употребляющих наркотики, наблюдается

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быстрая потеря веса, нарушение нормальной работы мозга, повышенный риск развития рака и аномальные изменения в поведении.

*Keywords:* drugs, opium, hemp oil, psychotropic substances

*Ключевые слова:* наркотики, опиум, конопляное масло, психотропные вещества

Narcotic substances are chemical agents that, once entering the human body, can induce psychological, motor, and physiological changes and may lead to the development of dependence. These substances can be either natural or synthetic in origin. Drug dependence is characterized by the continued use of a substance despite physical, psychological, and social problems, as well as the inability to control or stop consumption. The use of such substances typically begins out of curiosity or experimentation.

Narcotics affect brain functions and the entire organism. Over time, they cause irreversible damage to multiple organs. By inducing cognitive and behavioral disturbances, they negatively influence a person's close relationships, social life, and professional functioning. Substance dependence reduces the individual’s overall ability in all aspects of life; nevertheless, the person continues to consume the substance due to addiction [1; 4].

Opiates (Morphine and Heroin) — Narcotics Derived from the Opium Poppy. Morphine is used in medicine as a potent analgesic. Heroin (from the word *hero*) is synthetically derived from morphine. It is considered one of the most powerful narcotic substances in terms of its effects and addictive potential. Initially, heroin was used as an antitussive; however, it was later banned due to its high addiction potential. During heroin intoxication, the pupils do not respond to light. The lethal dose ranges from 60 to 200 mg.

In the human body, it is metabolized into morphine and acetic acid. Opiates can be administered by mixing them with tobacco and smoking, by inhalation, or by intravenous injection. During withdrawal, individuals may experience muscle pain, excessive tearing, nasal discharge, sweating, diarrhea, persistent yawning, fever, and insomnia, and most importantly, an overwhelming urge to take the substance again at any cost. Individuals who use opium often die due to respiratory arrest. In those who use morphine, constriction of the pupils is commonly observed. The effect of desomorphine is known to be ten times stronger than that of morphine, and its lethal dose is approximately 0.2 grams. Another narcotic substance, known as “speedball” (a mixture of cocaine and heroin), produces effects even stronger than heroin alone.

Amphetamines and Methamphetamines. Amphetamines are widely used in psychiatry. For example, ecstasy is an amphetamine that is produced illicitly. It is usually taken orally in the form of tablets. After consumption, individuals experience elevated mood, increased alertness, and enhanced physical strength. When withdrawal begins, symptoms such as anxiety, agitation, mood disturbances, aggression, thought disorganization, and hallucinations may occur. Methamphetamines belong to the group of precursors that are not registered by the state and are prohibited from circulation. At the same time, these substances are also incorporated into certain psychotherapeutic pharmaceutical preparations [4].

Methamphetamine and amphetamine, when produced as pharmaceuticals, are addictive, and this addiction can be fatal. Consequently, they have been banned since the 1960s. Globally, their use in treatment is permitted only in the United States for certain patients. During World War II, the substance, which was very popular in Japan, was banned after causing psychotic symptoms. Its use was widespread among students and drivers who needed to work long hours. Methamphetamine, which has become a harmful and dangerous narcotic, is known by several street names, including

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"pati," "glass," "ice," "crystal," "stone," and "tina." While initial use may induce feelings of strength and self-confidence, it later produces severe effects and can even lead to death. This substance is more potent than cocaine and can be consumed by smoking, inhalation, or snorting. Methamphetamine damages the brain and neurons and is widely used for its aphrodisiac effects. According to research, it also causes memory impairment. Combined use with alcohol and other substances can result in poisoning. Methamphetamine addiction may lead to extreme fatigue, irritability, depression, disorientation, and apathy [2; 3].

Cocaine is derived from the leaves of the Erythroxylon coca plant, which grows in South America. Initially, it was used solely in medicine as a painkiller and vasoconstrictor. Cocaine can be administered intranasally, intravenously, or subcutaneously. During withdrawal, individuals may experience weakness, depression, insomnia, or, conversely, excessive sleepiness, as well as behavioral changes. Compared to other narcotics, cocaine is relatively expensive [1; 5].

Cannabis (Hemp, Hashish, Marijuana). Preparations obtained from the cannabis plant actually have some beneficial effects — they can destroy malignant tumors, eliminate microbes, reduce intraocular pressure, prevent nausea, relieve pain, and control seizures. However, they significantly increase the risk of lung cancer. During withdrawal, sleep disturbances, tremors in the limbs, and sweating are commonly observed. The leaves and flowers of the cannabis plant, particularly at the top of the plant, contain approximately 60 cannabinoids. From these, marijuana and hashish are derived. The top portion of the plant is dried, pressed, and smoked like a cigarette. Hot water is poured over the top to obtain hashish resin. Often, hemorrhages in the conjunctiva of the eyes are observed, which serves as an indicator of cannabis use [4].

According to research, young people between the ages of 15 and 25 are particularly at risk of developing drug addiction. Unfortunately, the age of initial substance use often falls below 15. According to United Nations statistics, the most commonly used substance among addicts is cannabis, with approximately 147 million users worldwide. Additionally, 33 million people use stimulants, 13 million use cocaine and hashish resin, of whom 9 million use heroin, and 7 million use ecstasy. Practically in all countries, drug addiction is most widespread among young people. The majority of addicts belong to the 18 to 25 age group. This factor is relevant for virtually all types of narcotics. As an exception, in the United States, the age range of drug users is between 18 and 20. In this country, 12% of the population over the age of 12 reports using narcotics, a statistic that reflects a severe global public health concern.

The most significant harm caused by substance addiction is poisoning, which can ultimately lead to death. Drugs affect the brain, impair concentration, and cause speech and motor dysfunction. They can trigger epileptic seizures and lead to digestive system and liver diseases. By weakening the sensory organs, drugs may result in the loss of taste, smell, vision, hearing, and tactile sensation.

The respiratory system is also compromised, potentially causing shortness of breath, coughing, choking sensations, and in severe cases, respiratory paralysis leading to death. Circulatory system damage may result in irregular heartbeats, high blood pressure, heart failure, myocardial diseases, paralysis due to stroke, and gangrene in the extremities. Changes in blood cells can increase the risk of blood cancer. Drugs may also cause skin alterations, slow wound healing, and accelerate hair loss. Kidney diseases may develop, and prolonged use can reduce sexual function and lead to infertility.

In addition to the aforementioned harms, substance addiction also causes significant mental disorders. Individuals may experience anxiety, tension, sleep disturbances, other depressive symptoms, hallucinations, and suspicious behavior under the influence of drugs. Certain behavioral signs are commonly observed in substance users. These include introversion, withdrawal from loved ones, rapid changes in interests and desires, frequent changes in friends, indecisiveness, sudden

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emotional fluctuations, irritability, nervousness, decreased appetite, and lack of interest in physical activity.

Substance abusers often lose communication with their families and friends, leaving them with no companions other than the drugs themselves [2].

Drug addiction can be treated. Particularly in individuals who adhere to treatment principles, the rate of successful substance cessation is very high. Treatment not only involves abstaining from drugs but also encompasses reintegration into social life and leading a healthy lifestyle.

Addiction is a recurrent condition. Typically, substance users attempt treatment multiple times. The likelihood of successful treatment does not decrease with the number of attempts. Therefore, several unsuccessful treatment attempts should not discourage the individual or their surroundings.

What are the signs of a drug user?

1. Prefers spending time alone in their room.
2. Their circle of friends changes frequently.
3. Increased and unbalanced spending of money.
4. Decreased school attendance and academic performance.
5. When the need for the substance arises, watery eyes and nasal discharge may appear.
6. Excessive sweating is observed.
7. Needle marks, bruises, and inflamed areas on veins may be visible.
8. To conceal needle marks, they may wear long-sleeved clothing even in hot weather.
9. They appear tired, drowsy, and restless [1].

## *Materials and Methods*

As the material of the study, scientific articles, statistical data, and reports from the UN and WHO regarding types of narcotic substances, their effects on the human body, and the prevalence of use among youth were utilized [1-4].

The study focused on opiates (morphine, heroin, desomorphine), amphetamines and methamphetamines, cocaine, cannabis (marijuana, hashish), and psychotropic drugs as the primary materials [6, 7, 9].

The following methods were used in the study:

1. Literature analysis method: The origin, use, addiction mechanisms, and effects of narcotic substances on human health were analyzed based on existing scientific sources [6; 8].

2. Statistical analysis: The prevalence of drug addiction among youth was assessed using global and regional drug use statistics provided by the UN and WHO [7; 10].

3. Observation and comparison method: The different mechanisms of narcotic substance effects were comparatively examined, and the physiological, psychological, and social consequences of their use were identified [6; 9].

Using these methods, the origin, development mechanisms, addictive properties of narcotic substances, and their effects on human health, behavior, and society were systematically analyzed [6, 7, 9].

## *Conclusion*

The most commonly used narcotic substances are methamphetamines, amphetamines, and certain antidepressant compounds. Among these, mixtures of cannabinoids derived from the cannabis plant are also highly prevalent. The use of such substances destroys the developing minds and bodies of young people, impairs their cognitive and physical abilities, leads to social isolation, and causes the loss of relationships with family members and friends. All these factors contribute to the emergence of a new type of youth—those addicted to substances. Consequently, these individuals are more prone to aggression and criminal behavior. Most narcotic and psychotropic substances enter our

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country illegally; that is, methamphetamine and amphetamine, which are not registered by state authorities, rank among the most commonly used narcotics (psychostimulants). Crude, illicitly produced opioid substances derived from poppy (Papaver somniferum) are also widely used.

*References:*

1. Veselovskaya, N. V., & Kovalenko, A. E. (2000). Narkotiki. Moscow. (in Russian).
2. Kucenko, S. A. (2004). Osnovy` toksikologii. St. Petersburg. (in Russian).
3. Ludevig, R., & Los, K. 1983.Ostry`e otravlenie. Moscow. (in Russian).
4. Eremin, S. K., Izotov, B. N., & Veselovskaya, N. V. (1993). Analiz narkoticheskix sredstv. Moscow. (in Russian).
5. Mashkovskij, M. D. (2000). Narkotiki. Moscow. (in Russian).
6. Aliyev, R. (2020). Narcotic substances and their effects on the human body. Baku.
7. Hasanova, S. (2019). Drug addiction among youth and its social consequences. Baku.
8. World Health Organization (WHO). Global status report on alcohol and health. Geneva: WHO. 2020.
9. United Nations Office on Drugs and Crime (UNODC). World Drug Report 2022. Vienna: UNODC.
10. Mammadov, A. (2018). Psychotropic substances and their addiction mechanisms. Baku.

*Список литературы:*

1. Веселовская Н. В., Коваленко А. Е. Наркотики. М., 2000. 204 с.
2. Куценко С.А. Основы токсикологии. СПб.: Фолиант, 2004.
3. Лудевиг Р., Лос К. Острые отравление. М.: Медицина, 1983.
4. Еремин С. К., Изотов Б. Н., Веселовская Н. В. Анализ наркотических средств. М., 1993. 271 с.
5. Машковский М. Д. Наркотики. М.: Новая волна, 2000.
6. Aliyev R. Narcotic substances and their effects on the human body. Baku, 2020.
7. Hasanova S. Drug addiction among youth and its social consequences. Baku, 2019.
8. World Health Organization (WHO). Global status report on alcohol and health. Geneva: WHO. 2020.
9. United Nations Office on Drugs and Crime (UNODC). World Drug Report 2022. Vienna: UNODC.
10. Mammadov A. Psychotropic substances and their addiction mechanisms. Baku, 2018.

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