



## Alcoholism and addiction, epidemiology and prevention

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### ABSTRACT

Alcoholism (Latin alcoholism's), as well as drunkenness, chronic alcoholism, chronic alcohol intoxication, alcoholism, alcohol toxicomania, etc. is a chronic mental progressive disease, a type of toxicomania, addiction to alcohol (ethyl alcohol) and mental and physical dependence on it. Alcoholism is characterized by loss of control over the amount of alcohol consumed, increased tolerance to alcohol (an increase in the amount of alcohol required to maintain satiety), abstinence syndrome, toxic organ damage, and some of the effects that occur during intoxication. characterized by inability to remember events.

### Keywords:

Alcoholic beverages, medicine, digestive system, alcoholic beverages, psychological diseases, gastritis, colitis.

An alcoholic is a patient suffering from alcoholism. During the 20th century, a steady trend was observed in the increase in the number of patients suffering from alcoholism. For example, the average annual prevalence of alcoholism in 15 economically developed countries was 0.3 per 1000 population in 1900-1929, and 12.3 in 1956-1975. From 1930 to 1965, the number of patients with alcoholism increased 50 times. Since the 1980s, large-scale epidemiological studies of alcoholism have been conducted; they show that the prevalence of alcoholism and binge drinking varies greatly between countries. Thus, preliminary studies of the epidemiology of alcoholism in developed countries showed that this disease is most prevalent in France, followed by the United States of America, Switzerland and Sweden. However, these indicators have changed over time. Thus, the consumption of alcohol in the USA decreased, while it increased in the countries of the former USSR and Japan. At the beginning of the 21st century, more than 200 billion liters of alcohol were produced in the

world per year. Most people over the age of 15 in all developed countries drink alcohol, with one-sixth of men and one-thirteenth of women drinking alcohol daily. In developed countries, alcohol consumption per capita is 7-14 liters per year; in developing countries, this indicator is low, but there is a tendency to increase it. The active component of alcoholic beverages - ethanol - is quickly absorbed through the gastrointestinal tract, enters the human brain and communicates with nerve cells. The concentration of ethanol in the blood reaches its maximum level 45-90 minutes after drinking alcohol. Ethanol leaves the body unchanged through the lungs, kidneys, mammary and sweat glands, feces, and mainly through biotransformation that takes place in the liver. During the first day, the removal and decomposition of alcohol from the body continues: Oxidation in the cytosol:  $C_2H_5O + 2HAD \rightarrow C_2H_4O + 2HAD^{\circ}H$  — 70-80% of ethanol metabolizers and the main exit route in healthy people. Oxidation using the microsomal ethanol-oxidizing system of the liver. Finally,

oxidation with the help of catalase, oxidase and peroxidase of tissues. In healthy people, it accounts for 15% of ethanol metabolism, its amount increases in patients with alcoholism. The final path of acetaldehyde: conversion to acetate using aldehyde dehydrogenase, then its oxidation to carbonic acid and water in the presence of acetyl-CoA:  $C_2H_4O \rightarrow \text{acetate} \rightarrow CO_2 + H_2O + \text{energy}$ . In a healthy person, the rate of oxidation is constant and is about 0.1 g of pure ethanol per kilogram of human weight per hour. Up to 10% of ingested alcohol is excreted unchanged through the kidneys and breath. The body's natural way to protect itself from excessive alcohol intake is the gag reflex, and with the development of alcoholism, this reflex weakens. Of course, the reason for taking alcohol is its effect on a person is to call, for example, euphoria, drowsiness, a false feeling of warmth, etc. There are many views on the etiology of alcoholism. For example, W Sudduth (1977) believed that the basis of the development of the disease is related to the effect of ethanol on the gastrointestinal tract. According to his theory, ethanol inhibits the absorption of nutrients, but enhances the absorption of toxins. Gradually, the amount of toxins increases, and the antibacterial and neuroblocking agent remains only ethanol. It temporarily improves the human condition and determines the "compulsive desire". Then a closed circle is formed. As Pyatnitskaya wrote: "It is precisely the toxic closed circle that explains the neurological and genetic symptoms of alcoholism." Today, the effects of acute and chronic consumption of alcoholic beverages on the neurochemical function of brain systems are being studied, for example, in the mechanisms of the effects of ethanol on the central nervous system. much attention is paid to gamma-aminobutyric acid

However, despite the fact that the mechanism of the disease is not clear, alcohol and its effects serve as its main source. In addition, many things depend on biological, psychological and social factors. Social factors. It was proven already in the 19th century that the level of alcoholism increases with the increase in the prosperity of the population. 10% of male alcoholics and 50% of female

alcoholics are married to alcoholics. Many traditions contribute to drunkenness and, in turn, to the development of alcoholism. Alcohol addiction is more likely to occur in various marginalized or marginalized social groups. For example, in the United States, the rate of alcoholism among homosexuals is much higher, which is related to their difficulties of adaptation. Biological tendency (or physical factor) to drunkenness. Such thoughts existed and still exist. Genes whose changes and mutations are associated with the level of alcohol consumption and the risk of alcoholism: ADH1B.

Psychological factor. As a depressant of the central nervous system, alcohol has been used by man since ancient times. A weak, poorly organized person loses himself more and more in this world and, as a result, becomes addicted to alcohol. Against the background of a specific psychiatric disease, alcoholism is a severe form. Although attempts have been made to study alcoholism based on the monoetiological principle, the question of the pathology of the disease remains open. In some, psychotic disorders occur very quickly, while in others, the process is slow, destructive-organic. The study of the effect of alcohol on certain organs has begun. As a result of multifaceted research, the only radical of various pathologies was revealed - hypoadrenergia of alcoholics. The effect of addiction based on a specific neuronal system has not yet been studied. In this case, it is possible to make a judgment only depending on which organs are most exposed to chronic intoxication. Alcoholism is distinguished by the increasing symptomatology of mental disorders and specific alcohol-induced damage to internal organs. Pathogenetic mechanisms of the effect of alcohol on the body are mediated by several types of effects of ethanol on living tissues, in particular, on the human body.I.

According to P. Anokhin, the main pathogenetic component of the psychoactive effect of alcohol is the activation of various neuromediator systems, in particular, the catecholamine system. At different levels of the central nervous system, these substances (catecholamines and endogenous opiates) determine various effects, such as an increase

in the pain threshold, the emergence of emotional and behavioral reactions. As a result of chronic consumption of alcoholic beverages, the dysfunction of these systems leads to the development of alcohol dependence, abstinence syndrome, a change in the critical attitude towards alcohol, etc. During the oxidation of alcohol, a toxic substance is formed in the body, which leads to the development of chronic intoxication - acetaldehyde. . Acetaldehyde has a particularly strong toxic effect on the walls of blood vessels (stimulates the development of atherosclerosis), liver tissue (alcoholic hepatitis), brain tissue (alcoholic encephalopathy). This disease goes through several stages as a pathology, in which they are characterized by the gradual increase in alcohol dependence, the loss of self-control over drinking alcohol, as well as the progressive development of various somatic disorders caused by chronic alcohol intoxication. The simplest differentiation of alcoholism is the clinical and psychological symptoms of alcoholism, as well as based on the amount of alcohol consumed and the number per day. The following groups are divided according to the order in which a person drinks alcohol:

Persons who do not consume at all;

People who consume in moderation;

Abusers (development of alcohol addiction):

Without signs of alcoholism.

With the first signs of alcoholism (monitoring of the situation and dosage, intoxication)

With significant signs of alcoholism (regular drunkenness, damage to internal organs, mental disorders characteristic of alcoholism).

As can be seen from the classification given above, alcohol dependence develops from episodes of accidental consumption of alcohol to severe alcoholism.

Often, alcoholic patients (at all stages) deny that they are sick or do not consider the situation serious enough. This phenomenon is called alcoholic anosognosia.

Within the framework of considering alcoholism as a progressive chronic disease, three main stages in the development of the disease are distinguished. In the first stage of

alcoholism, the patient has a hard-to-suppress desire to drink alcohol. If it is not possible to drink alcohol, the feeling of desire temporarily disappears, but the ability to control the amount of alcohol consumed decreases sharply. At this stage of the disease, intoxication is often accompanied by overexcitement, aggression and even memory loss (in rare cases at this stage). tries to justify the state of possession. At the end of the first stage, a significant increase in tolerance (ability to tolerate alcohol) is observed. The first stage of alcoholism gradually passes into the second stage. At this stage, it is relatively easy to quit drinking. The second stage of alcoholism is characterized by a significant increase in tolerance to alcohol, and gradually it reaches the highest level - the "plateau of tolerance". Gradually, a person completely loses control over the amount of alcohol consumed. At this stage, there is a physical dependence on alcohol. In the second stage of the disease, an abstinent alcohol syndrome occurs, accompanied by headache, thirst, nervousness, sleep problems, pain in the heart, trembling of the limbs or the whole body. In this, a closed circle of addiction is formed - several days of unstoppable intoxication. Without medical help, a sharp interruption of motility (zapo) can lead to various complications, even metalcogolic psychosis. At this stage, the disease can still be treated. The desire to drink alcohol increases, and the ability to control oneself decreases proportionally. The body now needs a small amount of alcohol. In this case, mental disorders cause more and more amnesia. Mental, physical and social degradation increases. Gradually, a situation similar to the concept of "real addiction" occurs - a person unconsciously has an unbearable desire for alcohol. Since a small amount of alcohol (a glass or less) is enough for the body to get drunk, such a party sometimes ends with complete exhaustion of the body. By this time, mental illnesses become irreparable, alcoholic degradation begins. A hangover without proper medical help is often accompanied by metalcogolic psychosis. The treatment of alcoholism in the third stage is very complicated. With the camproredient

(stationary) course of alcoholism, the progression of the main symptoms of the disease is much lower.

#### DIAGNOSTIC SYMPTOMS.

In order to make a diagnosis of "alcoholism", the patient is checked for the presence of the following signs:

Absence of a vomiting reaction when consuming large amounts of alcohol;  
Loss of control over the amount of alcohol consumed;  
Partial retrograde amnesia;  
Presence of abstinence syndrome;  
Heavy drunkenness.

The International Classification of Diseases (ICD)-10 defines a more accurate diagnosis scale:

#### ACUTE DRUNKNESS.

The diagnosis is basic when intoxication is not accompanied by other more serious disorders. Also consider the following:

Dose level;  
Accompanying organic diseases;  
Social conditions (inhibition of behavior during holidays, carnivals);  
Elapsed time after substance consumption.

This diagnosis excludes alcoholism. The same category (additional code 7, i.e. F 10.07) also includes pathological intoxication.

#### DRINKING WITH HARMFUL CONSEQUENCES.

A model of drinking alcohol that harms health. Damage can be physical (hepatitis, etc.) or mental (eg, secondary depression after alcoholism). Diagnostic signs:

The presence of direct damage to the psyche or physical condition of the person who drank;  
The presence of negative social consequences also supports the diagnosis. Binge drinking should not be diagnosed in the presence of a more specific alcohol-related disorder. This diagnosis also excludes alcoholism.

A combination of physiological, behavioral and cognitive phenomena, in which drinking alcoholic beverages comes to the fore in the patient's value system. To be diagnosed, at least three of the following symptoms must be present during the year:

A strong need or desire to consume alcohol.

Losing the ability to control alcohol consumption, i.e. starting, finishing and/or the amount of drinking.

Cancellation conditions Increased tolerance.

Progressive forgetting of other interests in favor of alcoholism, increasing the time required to find, take and recover from alcohol.

Continuing to drink alcoholic beverages despite the obvious negative consequences.

For many doctors, the syndrome of alcohol dependence is enough to diagnose alcoholism, but post-Soviet psychiatry is much stricter.

#### Conclusion:

Cardiovascular diseases are the most common causes of death in alcoholism. In particular, alcohol causes myocardial damage, leads to the development of chronic heart failure and increases the risk of ventricular fibrillation, which threatens the risk of death. Alcoholism can also end in death as a result of acute alcohol intoxication, pancreonecrosis in acute pancreatitis, alcoholic liver cirrhosis. Alcoholics are more likely to commit suicide and have life-threatening accidents. Treatment of alcoholism should be focused on all causes of its occurrence: biological (detoxification, pharmacotherapy), psychological (psychotherapy), social (at least therapy should be aimed at changing family relationships, as well as social and work adaptation of an alcoholic patient). In other words, treatment of alcoholism in a modern form should be comprehensive and include not only biological therapy, but also various forms of psychotherapy, as well as social measures. used to eliminate diseases caused by chronic alcohol intoxication. In general, all methods of medical treatment of alcoholism are based on instilling the fear that due to the incompatibility of the drug and alcohol administered to the patient, substances are formed in the body that can lead to the patient's death. This method of treatment is called aversive therapy.

The drug Disulfiram causes severe weakness when consuming alcohol, and carbamide, when taken together with calcium, causes the patient to stop drinking alcohol in more than 50 percent of cases. It is also possible to drink only

calcium urea itself, its effect is similar to disulfiram, but its advantage is that it does not have hepatotoxicity and does not induce sleep. Naltrexone reduces the desire to drink alcohol, helps to abstain from drinking, and reduces the pleasant effects of alcoholic beverages. Acamprosate stabilizes the brain chemistry altered by alcohol and reduces the number of relapses among alcoholics. Russian bioelementologist Professor A. V. Skalniy found that under the influence of zinc preparations (4 zinc atoms are included in the alcohol dehydrogenase enzyme molecule), alcohol poisoning and abstinence passed faster in alcoholics, they felt their strength recover faster, and they had fewer colds and inflammatory diseases when they were in the hospital. He noted that the laboratory indicators showing that the liver is functioning normally return to normal more quickly, and the condition of the skin covers returns to normal more quickly.

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