

Alcoholism: Bio-Psycho-Social Coordinates

Journal of Addictive Disorders and Mental Health

Review Article

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Submitted : 30 Mar 2021 ; Published : 16 Jun 2021

Abstract

Drinking alcohol does not cause problems but consuming it above the limit can be harmful. What is commonly referred to as alcoholism is considered to be alcoholism, an expression of an abnormal personality, often psychopathic. Alcohol becomes dangerous when consumed frequently and in large quantities, causing intoxication called alcoholism. This situation is manifested by the state of intoxication (drunkenness), when alcohol weakens the reflexes, memory, attention and thinking of the drinker. The manuscript starts from the premise that ethyl alcohol is addictive. Alcohol is a drug tried at least once in a lifetime by over 80% of the general population of the globe. Despite the minimal and short-term benefits of low doses of alcohol, repeated and increased consumption ultimately leads to impaired health, reducing the average life expectancy by about 10 years, regardless of gender, race or condition. social.

Keywords: Alcohol; Pathophysiological Factors; Emotional Mood; Neurotransmitter Molecules.

Background

Among social and medical illnesses, substance abuse — which includes drugs, marijuana, and alcohol — ranks as one of the most devastating and costly. An addiction disorder is defined as a concern with the purchase and use of alcohol or drugs, compulsive use of alcohol and drugs, despite negative consequences, and includes a pattern of alcohol and drug recurrence, despite repeated negative consequences. Central to addiction is the concept of losing control over alcohol and drug use, which leads to consequences that are harmful to the individual and others associated with him or her. This loss of control is what makes one addicted to a disease or disorder similar to other diseases or disorders, such as schizophrenia or diabetes [1, 2].

Ethanol chemistry is relevant to understanding the neurobiology of alcohol dependence. Ethyl alcohol (ethanol) is a small organic molecule consisting of a two-carbon backbone surrounded by hydrogen atoms, with a hydroxyl group attached to one of these carbon atoms [3]. The hydroxyl group provides ethanol with its water-soluble properties while the hydrocarbon backbone gives ethanol some of its lipid-soluble properties [4-6]. This ethanol composition provides the ability to interact with and dissolve in both water and lipids. This amphiphilic property of ethanol has been a major impetus for hypotheses attempting to define the mechanism of action of ethanol by disrupting cell membrane lipids [7].

The small molecular size of ethanol and the lack of isometric carbon atoms supports the theory that ethanol actions are not expressed through specific recognition sites or receptors for ethanol. The most up to date explanations of the effects of ethanol in the central nervous system on a nonspecific interaction of ethanol and neuronal membrane lipids. Disorganization of the lipid bilayer of the membrane is thought to result from this interaction. This disruption of one of the major structural elements of the neuron is theorized to lead to the functional changes observed during alcohol intoxication [8-10].

This "membrane hypothesis" of ethanol actions may also explain high doses of the anesthetic effects of ethanol. However, the effects of lower doses, which include reinforcement, anxiolytic, motor incoordination, and cognitive effects, as well as the development of tolerance and dependence, are not as easily related to ethanol-induced membrane lipid disturbance [11].

The conceptualization is that the effects of low doses of ethanol are mediated by the interaction of ethanol with a specific subset of neuronal elements (receptors, enzymes, etc.) that are particularly sensitive to ethanol. The latest findings support the hypothesis that alcohol produces its effects by intercollating itself into membranes, resulting in increased membrane fluidity with short-term exposure to ethanol. It is also hypothesized that long-term use of ethanol results in membrane stiffness [12-

14]. It has long been known that membrane fluidity is essential for the normal functioning of receptors, ion channels, and other membrane processes.

Peculiarities of Alcohol

Alcohol is used at the same time as a psychoactive substance and food. The alcohol consumed in small quantities is enjoyed by those who appreciate the taste and aroma of that drink and by those who drink on occasion. There is a very small step between switching from harmless, moderate amounts to excessive alcohol consumption [15]. Exercising its function as food, 1 g of alcohol has a caloric value of 29 kJ, thus having a strong nutritional value, without containing substances necessary for a healthy, balanced diet. This is also the reason why the drinker can get more energy than he needs. For example, a liter of beer has a caloric value of about 2000 kJ, thus covering 20% of the daily energy needs of a man who performs an activity with average physical effort. About the same caloric power is contained in 0.7 l of wine or 0.25 l of spirits. The main feature of alcohol is that it is not seen as a drug but as an integral part of our lives, culture and economy, thus omitting the dangers that come with abuse [16]. The consumer is a dependent, depressed and self-destructive person, imbued with bad faith and unstable. Only in this idea can its dependence be understood, its relapses and the doctor can be oriented in his therapeutic effort. Thus, alcoholics are not those who consume alcoholic beverages, nor are those who react disproportionately to occasional alcohol ingestion, but only those who have an irresistible and repeated tendency for alcoholic beverages [17]. Evaluated as “the fourth public health problem”, after cardiovascular, mental and cancer diseases, indirectly affecting by disrupting social and interpersonal relationships a number of people 6-7 times higher than the sick, with personal implications and consequences and socially incalculable, alcoholism is required today to study in three dimensions: medical, psychological, sociological. The numerous theories that try to explain the etiology of alcoholism are polarized around pathophysiological or psychosociological factors [18].

Pathophysiological Factors

The role of food deficiencies was emphasized, starting from the finding that the consumer is generally malnourished. The hypothesis was correlated with the experimental observation that a restriction of food intake in rats, causes a marked increase in alcohol intake [19].

Vitamin B1 deficiency found in alcoholics has been correlated with the observation that vitamin B1 deficiency in rats causes them to increase their alcohol intake. In support of his theory, the author observes that rats deprived of vitamin B1 prefer an alcohol solution, water. Consequently, it is recommended to satisfy abundant food needs, especially through a rich carbohydrate intake, in order to eliminate the tendency to compensate by alcohol [20].

Physiological Effects of Alcohol

Once ingested, the alcohol is quickly absorbed into the digestive tract and diffuses into the bloodstream in about an hour and a half. It can also be absorbed through the oral mucosa or by the

inspiration of alcohol vapors, situations in which it reaches the circulation faster [21].

The rate of absorption and the amount absorbed depend on: the nature of the drink (e.g. beer, containing some food substances is more difficult to absorb) the concentration of the drink (when the concentration is too high there is “mucus secretion”, which slows absorption) carbon dioxide from some drinks (champagne, sparkling wine), as well as the previous ingestion of water, increases the absorption the amount and type of food in the stomach (carbohydrates decrease absorption) constitutional peculiarities [22]. After 12 hours of ingestion, only about 30% of the amount of alcohol remains in the body, and after 24 hours it is completely eliminated. Clinically, acute alcohol intoxication can have two forms: The “usual” form (acute drunkenness) which usually evolves with 3 phases: the phase of psycho-motor arousal, in which the subject is euphoric (uncontrollable state of joy and without reason). At the same time, however, he is irritable, with a note of aggression and sometimes depressed [23].

Motor (movement) disorder is more pronounced than mental disorder. the intoxicated phase (drunkenness or intoxication) is characterized by motor coordination (stumbling gait), exaltation, disinhibition, verbal incoherence the sleep phase evolves with diminished sensory reflexes, the smell of acetone and sleep for a few hours' Pathological drunkenness. It is manifested by a disturbance of consciousness after ingestion of relatively small amounts of alcohol in certain subjects who have a particular sensitivity [24]. Pathological drunkenness, unlike simple or deep drunkenness, confers irresponsibility for the acts committed at that time. It is usually a subject who does not abuse alcohol and who “accidentally” consumes a small amount of drink (100 - 200g drinks hard or up to 500 ml of wine), after which it causes a mental disorder, distinct from ordinary drunkenness. The latter changes first of all the behavior, determines a characteristic unbalanced gait, sentimental reactions, crying, etc., the simple drunkenness being easily recognized by the entourage [25].

Characteristic for pathological drunkenness is that for those around the behavior appears coordinated, so the subject does not seem drunk. Within this appearance the subject suffers from a profound qualitative consciousness disorder and suddenly begins to behave like a dangerous automaton. The patient becomes agitated and is dominated by an affective-negative state, fear and anxiety, in which the processes of knowledge are totally disturbed: he is deeply disoriented in the situation, he has illusions and hallucinations, especially visual, he comes into conflict with others, without to be provoked and without having any real - intelligible connection with the entourage, he thinks he is threatened and he is violent [26].

The Effects of Alcohol Consumption

Alcoholism has innumerable effects both on the person in question and on those around him, and we are talking about effects related to the psychological sphere but also to physical effects. Alcohol abuse is the cause of most injuries, including

car accidents [27]. One third of fatal accidents are related to alcohol consumption, not counting the thousands of injured resulting each year. Alcohol consumption, even in moderate amounts, greatly increases the risk of having unprotected sex, thus increasing the risk of disease. In some cases, more complicated “effects” occur in the area of unwanted pregnancies. Another unpleasant effect, dangerous for both the person and others, is violence and aggression. Under the influence of alcohol, you can misinterpret a remark or gesture, which can lead to aggressive and violent behaviors [28].

Alcohol consumption has multiple effects on the body

- Alcohol acts in the body as a stress factor: increases blood pressure, are released into the blood, several substances such as: lipids, sugars, cortisone.
- The body uses energy to remove alcohol from the body, energy that would have been necessary for their proper functioning. The metabolism of alcohol in the liver “steals” 80% of the oxygen needed for the functioning of this organ. Thus, alcohol becomes a “metabolic parasite”. Heart and nerve cells have the highest oxygen consumption and suffer the most from alcohol.
- Alcohol abuse, morning consumption “on an empty stomach”, leads to malnutrition. The body is devoid of protein, minerals and vitamins. In addition to reducing the intake of these important elements in food, excess ethanol has the effect of progressively reducing the ability of the small intestine to absorb important substances such as: vitamin B1, folic acid, and later sodium and water.
- Highly toxic products resulting from the breakdown of alcohol (e.g., acetaldehyde) affect nerve cells.
- The progressive inability of the small intestine to absorb substances vital to the proper functioning of the body (vitamins especially A and C, mineral salts), causes over time nervous disorders and disorders of somatic origin. Loss of calcium, phosphates and vitamin D due to alcohol consumption leads to loss of bone mass and increased risk of fracture. Inflammation of the gastric and duodenal mucosa, as well as cracks in the lower esophagus, lead to severe bleeding. Permanent alcohol consumption increases ten times the risk of esophageal cancer.
- Under the incidence of suffering, the heart muscle also enters. The disease of this muscle is called cardiomyopathy. Four times more alcoholics die from heart problems than from cirrhosis.
- The most common somatic complications caused by alcohol consumption are: toxic gastritis, ulcers, pancreatitis, diabetes, chronic hepatitis, liver cirrhosis, peripheral polyneuritis, seizures, strokes and myocardial infarction [29].

Another series of effects are those on the brain, nervous system and psyche. Initially, even in small doses, there is a stimulating effect (increased verbal flow, inhibitions disappear, increased degree of nervous irritability) on the psyche. It is also called the euphoric or exciting phase of consumption. Consumed in higher doses, however, alcohol has an inhibitory effect (weak reactions to painful stimuli, poor discernment, impaired attention and memory) [30].

The psychological effects of alcohol consumption can create the impression of overcoming states of fear and inhibition, can make loneliness more bearable, can diminish feelings of inferiority. Alcohol, however, causes the gradual destruction of neurons and this is observed over time especially by people close to the consumer [31].

This reduction in the number of neurons also causes a reduction in brain performance, visible in decreased memory function (memory gaps appear), the ability to think, understand, lose critical sense and discernment. Abusive consumption can cause organic damage to the central nervous system over time that can lead to seizures, delirium tremens or dementia. The alcohol addict manifests an emotional cold, a gradual alteration of feelings, frequent ailments and sudden changes of opinion [32]. The following may also occur:

- inner restlessness, irritability;
- sleep disorders, nightmares;
- depression, fear, inferiority complexes sometimes hidden behind a façade of grandiosity;
- lack of will, promises but does not keep its promise;
- isolation and reduction of spheres of interest;
- lack of body hygiene, physical and mental decay.

Alcohol dependence over time causes altered feelings and relationships with family members, disrupted interpersonal relationships at work and in friendships, reduced feelings of responsibility, neglect of children’s education, delays and absences from work, accidents at work and traffic, delinquency, divorce, loss of housing and employment [33].

The Effects of Alcohol on the Psychology

Nerve cells do not regenerate. Thousands of nerve cells are destroyed at every alcohol consumption [34]. The gradual destruction of neurons is observed over time, especially by people close to the consumer. This reduction in the number of neurons also causes a reduction in brain performance, visible in decreased memory capacity (memory gaps appear), thinking ability, comprehension, loss of critical sense and discernment. Abusive consumption can cause damage and organic damage to the brain over time, leading to organic psychosyndrome, seizures, delirium tremens or dementia. From a mental point of view, the alcohol addict manifests an emotional cold, a gradual alteration of feelings, frequent ailments and sudden changes of opinion [35]. There may also be: - inner anxiety, aggression, irritability - sleep disorders, nightmares, - memory gaps (does not remember what he did two hours or two days ago) - depression, fear, inferiority complexes sometimes hidden behind a façade of grandiosity - lack of will, he promises but does not keep his promise - isolation and reduction of spheres of interest - lack of hygiene, physical and mental decay.

Alcohol and Aggression

You may have wondered why, if alcohol has a disinhibiting effect, many people get into conflicts after drinking considerably [36]. The explanation is related to the natural tendency of people to consider the actions of others as intentional, a tendency that becomes exaggerated in the case of alcohol consumption. In other words, if you drank a few glasses and walked down the street you were touched by a passerby, you will be sure that

he did it on purpose. In order to analyze a situation properly and efficiently you need to take into account the various information that appears and consider alternative explanations. But you need to make a cognitive effort, an effort that is much more difficult for alcohol [37]. So, if you are waiting for your girlfriend at the restaurant and she seems to be late, do not rush to start the prepared bottle of wine because you will rush to draw conclusions about her “hidden” intentions.

Alcohol Effects Attention

Its distributive attention and vigilance are affected by blood alcohol. It has been found that people who have consumed such drinks are much less able to observe the unexpected appearance of a stimulus in their visual field compared to their normal state [38]. By default, the reaction speed to the new stimulus is much delayed. It is one of the reasons why drivers under the influence of alcohol are prone to accidents.

The Negative Effects of Alcohol on Memory

Excessive alcohol consumption can lead to temporary periods of memory loss or even amnesia. Even moderate doses disrupt memory acquisition and performance. There are many people who consider alcohol an aphrodisiac. This concept is based on information about the disinhibitory effect of alcohol which lowers the level of self-control and helps the individual to feel more confident in initiating sexual intercourse [39]. The researchers found that the so-called effects on stimulating sexual desire with alcohol are more related to the placebo effect. When you expect to feel more comfortable and sexually open after drinking, you are actually living these experiences, but especially because of your own expectations. Chronic alcoholism entails a series of sexual difficulties (erectile dysfunction, loss of desire, difficulties in achieving orgasm, etc.) but also relational. Many sexual disorders can be irreversible [40]. Even after the cessation of alcohol consumption, they continue to affect the individual.

The Effects of Alcohol on Emotional Mood

Consumed in large quantities and/or for a long time, alcohol affects the level of serotonin in the body. This is a chemical that is responsible, among other things, for good mood, calm and quality of sleep. In small amounts, alcohol has a relaxing effect, which is why many use it when they are depressed or anxious. In time, however, the effect will be the opposite [41]. Alcohol will interfere with the amino acid needed to produce serotonin and thus, the symptoms of depression and anxiety will be greater.

Alcohol and Social Interactions

It seems that emotional expressions are processed differently by the brain of a person who consumes alcohol for a long time [42]. The interpretation of nonverbal messages is affected and even erroneous. If you take into account the fact that 70% of social communication is based on nonverbal signals (mime, pantomime, emotional expressions, tone, etc.) and intuition of the other's feelings, you can understand why social relationships become severely disrupted in the case of people in a state of drunkenness. These are, in short, just some of the psychological spheres affected by ingested alcohol. It is

advisable to restrict its consumption to moderate amounts that will allow you to maintain contact with reality in an efficient way and to avoid maintaining the decisions made at events where you were “forced” to drink a few glasses of champagne [43].

The Effects of Increased Alcohol Consumption on the Nervous System

The generation of action potentials is performed at the level of the cell membrane by ion channels and ion pumps. Ion channels are cellular molecular proteins that form pores along the cell membrane. These protein structures regulate the electronic flow of different ions: sodium (Na^+), potassium (K^+), calcium (Ca^{++}) or chlorine (Cl^-), by opening and closing the pores. Each ion channel is selective, usually allowing a single type of ion to pass through it [44].

The other protein structures, the ion pumps, help maintain a certain distribution of different types of ions in the cell membrane, by transferring them to both sides of the cell membrane. Transmission of the nerve impulse is achieved, in most cases through neurotransmitters. The nerve impulse once it reaches the synaptic terminations of the axon, determines the stimulation of the synaptic vesicles, spherical or irregular structures, which contain the neurotransmitters that they release when they are stimulated. The molecules of the released neurotransmitters diffuse into the synaptic cleft and combine with the neuroreceptor molecules in the synaptic membrane [45]. Once released and diffused along the synaptic cleft, the neurotransmitter acts almost instantaneously. The speed of action of the neurotransmitter is determined by one of the following two mechanisms:

- the almost instantaneous reabsorption of the neurotransmitter at synaptic level, ie its assimilation by the synaptic terminations from which it was released, assimilation which results in the interruption of the neurotransmitter action and the avoidance of secretion of certain substances;
- chemical degradation of neurotransmitters by a process in which enzymes existing in the membrane of the receptor neuron react with the neurotransmitter and cause its destruction.

The relationship between neurotransmitter molecules and neuroreceptor molecules is similar to that of the padlock and key type [46]. The combination of the two molecules causes a change in the permeability of the receptor neuron membrane, namely, certain neurotransmitters have an excitatory effect by increasing the permeability by depolarization, and others have an inhibitory effect, i.e., decreases the permeability. The speed of transmission of the action potential from dendrites to the axon varies between 3 and 320 km/h, depending on the diameter of the axon - the larger diameter axons drive the action potential faster. The speed of transmission is also influenced by the presence or absence of the myelin sheath, made up of lipids and proteins, which present from time to time some estrangulations or knots. Due to its insulating capacity, the myelin sheath allows the nerve impulse to move “in leaps” from one estrangulation to the next, thus causing a considerable increase in the transmission speed. Degeneration of the myelin

sheath leads to multiple sclerosis, a condition that consists of severe dysfunction of the sensory and motor nerves. More than 50 neurotransmitters are known so far and their number is sure to increase in the future [47]. They are neurotransmitters that have two different types of receptor molecules, exerting an excitatory effect in some areas of the nervous system and inhibitory in others. Among the most important we mention:

Acetylcholine (ACh) is a neurotransmitter found in many synapses in the body that generally has an excitatory effect, but can also become inhibitory depending on the type of receptor molecules in the membrane of the receptor neuron. ACh is found mainly in the hippocampus, the brain structure that plays a key role in the formation of new mnemonic contents. It has been shown that cells that produce ACh tend to degenerate in patients with Alzheimer's disease and consequently the brain's production of ACh decreases, and the lower the secretion of ACh, the more severe the memory loss. Certain medications or drugs that reduce the secretion of ACh have the effect of muscle paralysis [48].

Norepinephrine (NE) is a neurotransmitter produced mainly by brainstem neurons. Two well-known drugs cocaine and amphetamines prolong the action of NE and slow down the reabsorption processes, the receptor neurons are activated for a longer period of time, thus explaining their psychostimulant effects. By contrast, lithium causes the reverse process of accelerating NE absorption, thus leading to the appearance of a depressive mood [49].

Gamma-aminobutyric acid (GABA) is one of the major inhibitors in the nervous system. For example, a substance called picrotoxin blocks GABA receptors and in the absence of GABA inhibitory influences, seizures occur due to the lack of control of muscle movements. Recent research has established that alcohol acts on receptors by inhibiting the glutamate system which has an excitatory effect on neurons and activates the GABA system. Plastic could be compared in the case of a car with taking your foot off the accelerator and stepping on the brake [50].

Other substances that cause mood swings are chlorpromazine and LSD, which promote an increase or decrease in the concentration of certain neurotransmitters. Chlorpromazine, a drug used to treat schizophrenia, blocks dopamine receptors and allows the selective passage of messages. Excess dopamine at the synaptic level is found in schizophrenia, and decreased concentration in Parkinson's disease. LSD is similar to the chemical structure of serotonin, the substance that influences emotion. Evidence shows that LSD accumulates in certain brain cells where it mimics the action of serotonin [51].

Glutamate, a neurotransmitter with an excitatory effect, is found in neurons in the central nervous system to a greater extent than any other neurotransmitter. There are at least three types of glutamate receptors, one of which plays a particularly important role in NMDA receptor learning and memory. Neurons in the hippocampus (a brain structure near the center of the brain) contain a large amount of NMDA receptors and

there is evidence that this area has a particularly important role in the acquisition of new memory content. The action of alcohol on the central nervous system is progressively related to the amount of alcohol in the blood [52].

First, the cerebral hemispheres are affected, which through the gray cerebral cortex constitute the center of consciousness, of reason, as well as the central place of reception of the different sensations. At a concentration of $0.3 \div 0.5$ ‰ alcohol in the blood it produces slight dizziness, relaxation and release of inhibitions, mild euphoria. People say things they would not normally say, they tend to become more sociable and expansive, self-criticism decreases as so-called good mood increases. Self-confidence may increase, while motor reactions begin to slow down. Intellectual and other performance is diminished, one's own performance being at the same time overestimated, and the difficulties and dangers in the entourage are not taken into account, which increases the inclination to make risky decisions [53].

In the second phase of drinking at a blood alcohol level of $1 \div 2$ ‰ the small brain is paralyzed; the sensory and motor functions being seriously affected. Some people tend to be annoying and aggressive; others are quiet and grumpy. Language becomes difficult, and people have difficulty coordinating movements, thus affecting their ability to maintain balance. The muscles tense differently, the coordination of movements is affected, which can be seen from afar in individuals who stagger, who can no longer find the keyhole at the door, they stumble.

At a degree of alcoholic imbibition greater than $2 \div 3$ ‰, the spinal cord is first anesthetized, from which the reflexes are triggered for unconscious movements as well as control over internal organs such as the bladder and rectum [54].

Alcohol generates an increasing slowing of the onset of reflexes until they can no longer be triggered, the control of the intestinal and bladder sphincters is canceled. At a degree of alcoholic imbibition greater than $3 \div 4$ ‰ the brainstem is paralyzed with vital risk, breathing slows down and may be followed by cardiac arrest and even death. Stupid bets, where emptying a strong bottle is considered a manly act, lead to high blood alcohol levels so that life-threatening alcohol intoxication can set in. To the repercussions of consumption with serious consequences, the consumer pays too little attention at the beginning. In fact, he seeks only to unload his soul and relax, he wants a change of his state of mind, that is, the attainment of a good mood and carelessness [55].

Unfortunately, this pays him dearly by paralyzing his brain functions, unwittingly transposing himself into a situation of mental retardation. In time, the problems will overcome him, he will not be able to solve them. With his mind clouded by the fumes of alcohol, he did not get rid of his problems, but in fact, of the capacities he would have needed more to find suitable solutions. One third of consumers have experienced at least one episode of temporary anterograde amnesia, which consists in erasing from memory the events that occurred during the time the individual was intoxicated. Another quite common problem is the impairment of sleep stages, REM period

and deep sleep being reduced, and the consumer recording nightmare dreams [56].

Severe abuse can produce perceptual disorders, manifestations through illusory and hallucinatory phenomena, which can be visual, olfactory, auditory, tactile, often in the form of imaginary animals or insects. In the case of dependent people, alcoholic neuropathy can occur, which is manifested by: numbness and tingling in the limbs, painful muscle cramps, thermal and painful sensitivity disorders, erectile dysfunction, urinary incontinence, diarrhea, constipation, muscle weakness. This condition can cause permanent and progressive nerve damage, leading to a serious impairment of quality of life. Approximately 1% of consumers have degeneration or cerebellar atrophy, the symptoms consisting of postural instability and gait, accompanied or not by nystagmus (involuntary and jerky eye movements). Due to the deficiency of thiamine (vitamin B1) in alcoholics, two extremely serious conditions can occur: Korsakoff syndrome (manifested by an acute episode of anterograde and retrograde amnesia associated with confabulatory phenomena) and Wernicke encephalopathy (characterized by ophthalmoplegia, ataxia, confusion and short-term memory impairment). If the treatment is delayed it can lead to loss of consciousness and the onset of coma [57].

Alcohol may also be responsible for increasing the frequency of seizures in people known to have this condition or may even be the element that leads to the onset of the first seizure. In patients with a long history of addiction, in case of sudden interruption or reduction of ethanol intake, Delirium Tremens may occur, representing a crisis characterized by delirium, major visual or auditory hallucinations, tremor of the face and limbs, profuse sweating, accelerated rhythm. heart disease, fever, misjudgment, severe psychomotor agitation, dangerous heart rate disorders and blood pressure. Over time, alcohol consumption can cause other conditions, such as cardiovascular disease, high blood pressure, stroke, liver disease (toxic hepatitis, cirrhosis), gallstones (gallstones), pancreatitis or various cancers [58].

The only solution to get out of addiction remains total abstinence. In addition to the will, psychological support and medical assistance are needed to treat the symptoms of withdrawal (tremor, psychomotor agitation, obubility).

The Evolution of Alcohol Dependence

Addiction to a substance generally goes through several stages until it occurs as such. The consumption stages are:

- experimental consumption, in which the individual consumes the substance out of curiosity (e.g., at a party);
- regular consumption, in which the individual consumes the substance at various meetings with colleagues, acquaintances, friends;
- consumption has become a concern, in which the individual gets used to consuming alcohol, drugs, tobacco in many situations and the search for these situations becomes in itself a goal;
- addiction is the phase in which the whole behavior is

controlled by the body's need to smoke or consume alcohol or drugs. The person is no longer free, he is controlled by substance [59].

Numerous studies have been done on alcohol addicts and researcher E.M. Jellinek developed a concise description of the evolution of alcohol dependence. It presents the evolution of alcoholism in four phases:

- Pre-alcoholic phase
- Debut phase
- Critical phase
- Chronic phase

In the pre-alcoholic phase, alcohol is consumed occasionally, at parties, holidays, protocols, etc. At this stage there is no physical and mental dependence. Addiction can be created either by repeated alcohol consumption (but many excess consumers never exceed this point) or by increasing the amount of alcohol more and more with each occasion of consumption. In the second phase, called the onset phase, all conditions for the development of addiction are "provided" by the consumer [60].

The consumer manifests the following symptoms: amnesia, alcohol consumption for the effect itself, alcohol addiction, concern for alcohol, sipping the first glass with thirst, guilt about alcohol, avoiding conversation about alcohol, the appearance of amnesia after almost every consumption. In the critical phase, the third, alcohol dependence is already installed, and the consumer already manifests the following:

- loss of control, the person can no longer voluntarily control the amount of drink consumed, the sense of measure is lost, it is consumed to intoxication, drunkenness, intoxication, alcoholic coma;
- rationalization and justification of consumption, denial of the disease;
- the consumer group becomes an important source for self-respect and self-esteem;
- aggressive behavior, remorse and the feeling of persistent guilt;
- behavior change, behavior disorders;
- interruption of social relations;
- loss of service, inability to take on tasks and responsibilities;
- loss of interest in household activities, hobbies, other activities;
- re-interpretation of personal relationships;
- marked self-compassion, depressive states;
- irrational thinking - believes facts or things without real foundation, negative interpretation;
- protection of drink, neglect of food, body hygiene and physical appearance;
- first hospitalization, medical problems following complications due to consumption;
- alcoholic jealousy, decreased sexual capacity, impotence;
- morning alcohol consumption [61].

In the last phase of addiction, the chronic phase, it is usually considered that from this point, there is no way back to "controlled drinking". At this stage the addiction is manifested by:

- permanent alcohol consumption - alone or in the company of friends by the glass;
- ethical deterioration - the value system has changed;
- reversible deterioration of thinking;
- social deterioration through the company of consumers;
- replacement of any beverage with alcohol;
- tremors, consumption to avoid withdrawal;
- refusal to accept the state of physical and mental degradation;
- alcoholic psychoses caused by alcohol consumption: pathological drunkenness, delirium tremens, alcoholic hallucinosis, obsessive consumer jealousy, Wernicke encephalopathy, Korsakov syndrome [62].

Effects on the Body

Alcohol slows down the functionality of the central nervous system; alcohol blocks some of the messages that should reach the brain, altering a person's perceptions, emotions, movement, sight and hearing. In moderate amounts alcohol can help the person to be more relaxed and less anxious. In larger quantities, alcohol causes major changes in the brain, resulting in intoxication. People who have abused alcohol will lose their concentration, their ability to express themselves coherently or to maintain their balance; they will also be disoriented and confused. Depending on the person, intoxication can make the consumer extremely friendly and talkative or very aggressive and nervous. The reaction speed is dramatically decreased, which is why it is forbidden to drive after consuming alcoholic beverages. When very large amounts of alcohol are consumed in a short period of time, alcohol intoxication can result.

Alcohol intoxication is exactly what its name says: the body becomes intoxicated with too much alcohol [63].

Violent vomiting is one of the first signs of alcohol intoxication; Extreme drowsiness, unconsciousness, difficulty breathing, extremely low blood sugar, palpitations and even death are the result of alcohol intoxication.

Drunkenness

The state of intoxication called in the popular language "drunkenness" is a transient disorder of the consumer, caused by external factors and having an organic substrate. The type of reaction in the case of intoxication is influenced by several factors such as the physical and mental state of the consumer, the degree of tolerance on alcohol and the disturbing factors of the external environment. Intoxication there are a number of changes. Mental mood changes from good mood to depression, anger and aggression; the initiative will move from stimulation to inhibition; social behavior is affected and will go from facilitating contacts to manifestations of aggression. One of the main changes occurred is the state of consciousness that will pass from the sensation of being more awake and conscious to the pathological state manifested by dizziness, temporary loss of consciousness and coma; reasoning will present a slowdown, obsessive ideas, decreased critical capacity, which is sometimes seen as creative thinking [64].

Another obvious change is on motor skills: speech becomes more difficult or with other changes, there are obvious disturbances

in the coordination of movements and an uncontrolled gesturing with ample movements; Neuro-vegetative changes will be manifested by vasodilation, pulse changes, nausea and vomiting, disorders of thermoregulation, loss of control over the sphincters. These changes become more and more obvious with the accentuation of drunkenness. Depending on the degree of alcoholism, there will be differentiated: mild intoxication (0.5 - 1.5 ‰), medium (1.5 - 2.5 ‰) and advanced/alcoholic coma (over 2.5 ‰) [65].

However, the changes will be very different from one person to another in the same condition, especially taking into account the degree of habit in consuming alcoholic beverages.

Conclusions and Remarks

Psychological and somatic approaches have long been and continue to be used to treat alcoholism. There are no convincing evidence that in-depth "exploration" or "Freudian" psychotherapy helps most alcoholics. Nor is it believed that minor or major tranquilizers are effective in keeping abstinence from alcohol. Although it is not known how many alcoholics benefit from participating in Alcoholics Anonymous, most clinicians agree that alcoholics should be encouraged to attend meetings at least experimentally. Psychotherapy and adjuvant counseling with other forms of outpatient or inpatient treatment or hospitalization had positive results. The field of alcoholism and addiction is currently changing rapidly, both in terms of the basic science and pathophysiology of drug addiction and also in the newest and most effective methods of treatment. New scientific advances can be expected to shed more light on the complex etiology of these ancient human diseases, while providing more specific and therapeutically effective treatments for people suffering from all forms of addiction.

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Acknowledgments: Not applicable

Conflict of interest: We have no conflict of interest to declare.

Funding source (Grant Number): Not applicable

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