UNIVERSAL TREATMENT CURRICULUM

for healthcare professionals

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Gender-specific terms may be used in this Manual in order to ease the flow of the text. Whenever a gender-specific term is used, it should be understood as referring to both genders, unless explicitly stated otherwise.

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Introduction

The global consumption of alcohol, tobacco, and other drugs is a complex and dynamic phenomenon, associated with multiple determinants, that has implications in various areas of people's lives such as health, welfare, economy, safety, etc.

In the Americas region, consumption patterns have significant variations, high consumption among adolescents with low-risk perception stands out, and there are pressing challenges such as increases in opiate use (mainly heroin) and new forms of administration for substances consumed since long ago.

There are multiple drugs, in different presentations, which, due to their pharmacological characteristics, generate distinct reactions in those who consume them. Despite this great diversity, all over-stimulate the brain structures and circuits involved in the experimentation and integration of pleasurable sensations and experiences. This element can favor, in different degrees of intensity, the development of problems and negative consequences in the people who use drugs, as well as in their relatives or significant others.

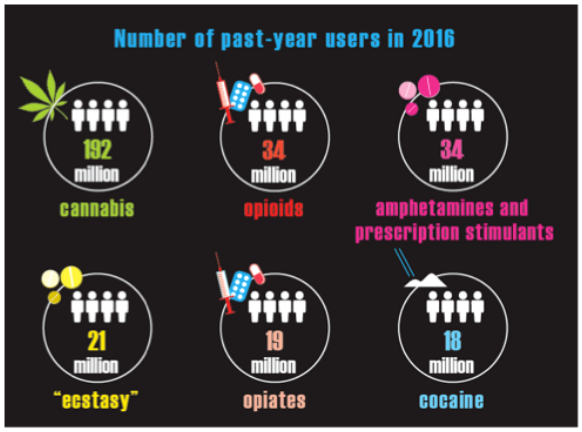
Nowadays, worldwide, drug use disorders have an enormous impact on public health because they cause the loss of many years of healthy life due to illness, disability, and premature death, especially in young people in economically active stages of their life. This accumulation of years of healthy life lost represents a heavy Global Burden of Disease (GBD). Also, a large part of the people who need attention for mental, neurological and substance use disorders do not receive it. Unfortunately, in many cases, although there are interventions available, these are not based on scientific facts or evidence and are not of high quality.

At the same time, there is a popular but erroneous idea, concerning the fact that all mental health interventions are sophisticated and only highly specialized personnel can provide it. In contrast, recent research has demonstrated the feasibility of offering care at all levels of

attention, with particular emphasis on early detection and brief intervention at the primary care level.

Drug use

World Drug Report 2018 (information 2016)



- About 275 million people worldwide used drugs at least once during 2016
- Some 31 million of people who use drugs suffer from drug use disorders

Report on Drug Use in the Americas 2015

- Great variability
- High consumption in adolescents, with low-risk perception compared to occasional use
- Emerging challenges: heroin and new forms of using drugs

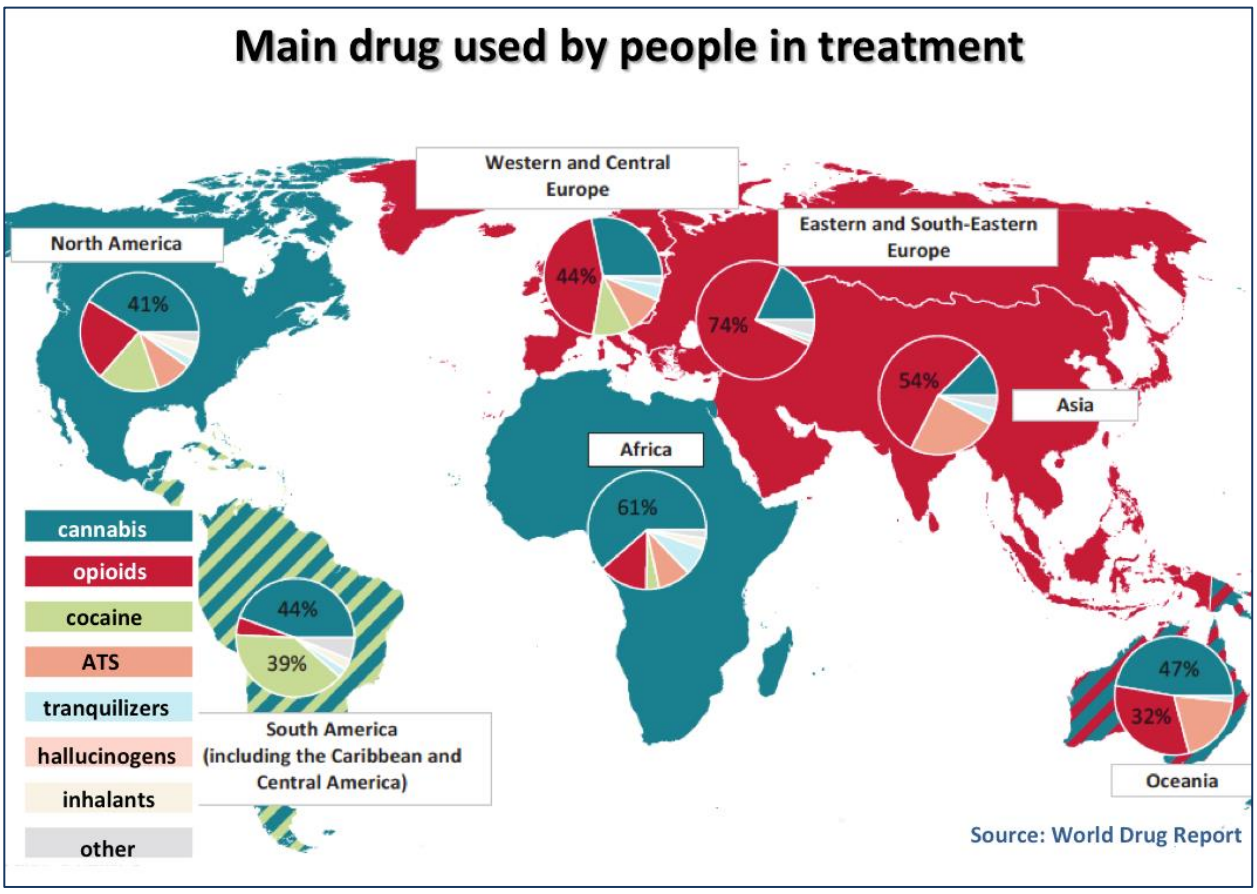
On the other hand, there is still a significant gap between public health vision and the care services for drug use problems.

All these elements point out the need to continue working intensively and with the support and commitment of our institutions, in the development and implementation of public policies that favor the highest levels of health and wellbeing of the population.

This manual is intended to be an essential training tool for the process of strengthening the integral and professional response to the phenomenon of drug use and its consequences.

Worldwide, there are millions of people living with drug use disorders, but few of them receive the treatment they require. Due to many factors, such as context conditions and characteristics, the population receiving treatment has different consumption patterns. Besides, they are also likely to experience other problems related to consumption, such as the transmission of infections (e.g., HIV and hepatitis) and overdoses, for which they also do not receive adequate care.

It is essential to understand that both drug use and the still unsatisfied need to serve the diverse populations with problems due to drug use are present worldwide. To promote the best levels of health and wellbeing in people, we will analyze the phenomenon of drug use and its characteristics, as well as possible interventions that can be carried out to address its consequences for the individual, families, communities, and populations.



SECTION 1: THEORETICAL FOUNDATION

Concepts and Definitions

Clearance[1]

Volume of plasma from which the drug is completely removed per unit of time. Usually expressed as *Cl*. Measured in ml/min.

Adulterant[2]

A substance added to a product but not listed as an ingredient, or a substance that ends up in a product by accident when the product is made. Adulterants may be in foods, drugs, and other products. An adulterant may cause a product to be harmful, cheaper to make, or not work as it should.

Bioavailability[3]

Percentage of the administered dose available to produce the pharmacological effect.

Informed consent[4]

A written agreement in which the client, his or her closest family member or, as appropriate, legal representative, authorizes treatment, in full knowledge of the procedures and risks he will face, having freely chosen to do so, without any form of imposition.

Drug

The classic definition can be found in the publication that Kramer and Cameron compiled for the World Health Organization (WHO)[5]: A drug is understood as "*any substance that, when taken into the living organism, may modify one or more of its functions. This usage is intentionally broad. It includes not only medications intended primarily for the treatment of patients, but also other pharmacologically active substances.*"

[1] Pereiro C , ed. (2010). Manual de Adicciones para médicos especialistas en formación. SOCIDROGALCOHOL: Madrid
[2] Dictionary of Cancer Terms of the U.S. National Cancer Institute, available at: http://www.cancer.gov/publications/dictionaries/cancer-terms?cdrid=686042
[3] Pereiro C, ed. (2010). Manual de Adicciones para médicos especialistas en formación. SOCIDROGALCOHOL: Madrid
[4] CONADIC/CENADIC. (2014). Estándar Mexicano de Competencias de la Consejería en Adicciones. Secretaría de Salud de México, Comisión Nacional contra las Adicciones: Mexico City.
[5] Kramer JF, and Cameron DC. (1975). A Manual on drug dependence. World Health Organization: Geneva.

Neurotransmitter[6]

Substance produced by a nerve cell that can alter the functioning of another cell, either briefly or long-term, by means of specific receptors and the activation of ionic and/or metabolic mechanisms.

Treatment[7]

The process that begins when psychoactive substance users come into contact with a health provider or other community service, and may continue through a succession of specific interventions until the highest attainable level of health and well-being is reached.

Routes of administration[8]

Routes or pathways by which a drug enters the body and produces its effects.

Both the route of administration of the drug and the length of time the body takes to eliminate it are some of the variables that determine the effects of the drug when used and the intensity and length of the effects. This may also be changed by other elements, such as adulterants and contaminants.

Half-life[9]

Period required for the concentration of a drug in the plasma to be reduced by one half. This concept is customarily expressed or abbreviated as $t^{1/2}$, and usually reported or measured in hours.

[6] Brailowski S. (2002). Las sustancias de los sueños, colección La Ciencia para Todos. Secretaría de Educación Pública, Fondo de Cultura Económica: Mexico City.

[7] World Health Organization (WHO). Expert Committee on Drug Dependence (1998). Thirtieth session. Geneva: World Health Organization.

[8] Guisa VM, Díaz-Barriga L, Sánchez R, Souza M. (2006). Farmacoterapia de los Síndromes de Intoxicación y Abstinencia por Psicotrópicos. Centros de Integración Juvenil: Mexico City.

[9] Pereiro C (ed.). (2010). Manual de Adicciones para médicos especialistas en formación. SOCIDROGALCOHOL: Madrid

Neurobiology of Addiction

Fundamentals of Neuroanatomy and Neurophysiology

Neurons

Neurons are the functional units of the nervous system, considered as *"the cells of the mind."*[10] They specialize in detecting changes in the environment and in responding to them; they also coordinate the functions of the organism itself. In broad terms, they consist of a cell body or soma and extensions (projections) of two types: dendrites and axons. To understand the importance of these structures, note that the body nerves are large groups of many axons. Neurons communicate through their extensions. The areas where this communication takes place are the synapses.

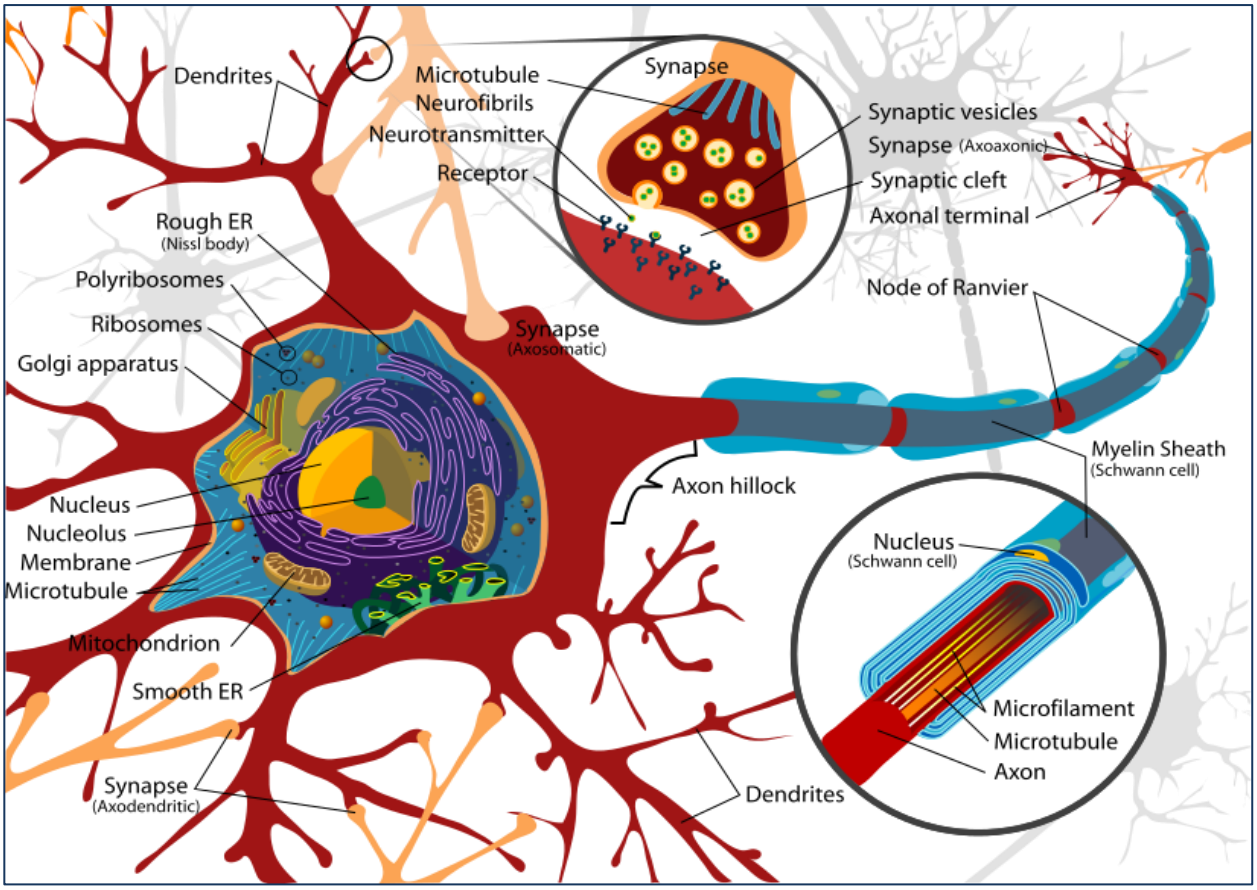
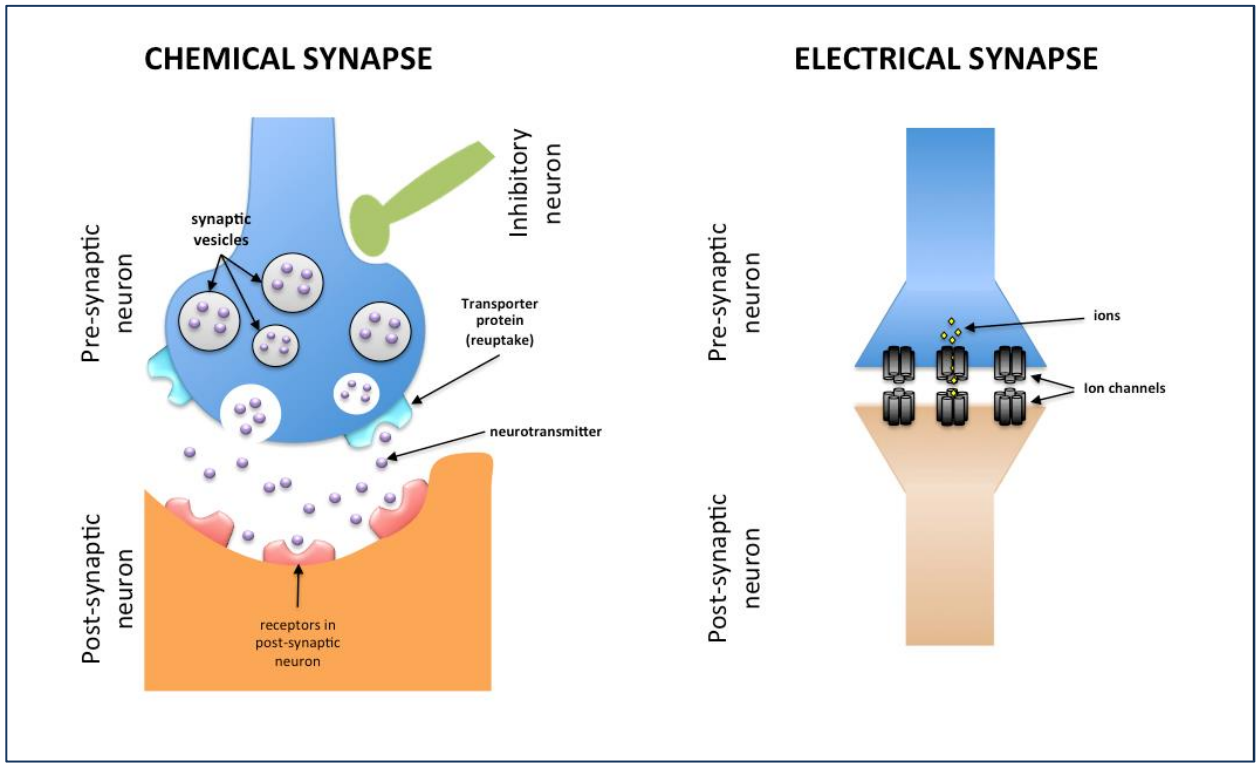


Image source: By LadyofHats - Own work. Image renamed from Image: Complete neuron cell diagram.svg, Public Domain, https://commons.wikimedia.org/w/index.php?curid=3970826

A single neuron can be connected to many others by multiple synapses. As an example, we shall describe a simplified model of communication between two neurons.

[10] Tapia R. (1987). Las células de la mente; colección La Ciencia para Todos. Secretaría de Educación Pública, Fondo de Cultura Económica: México DF



The most common synapses are chemical, although there are also electrical synapses. Both types have three common elements: the presynaptic neuron, the synaptic cleft or space, and the postsynaptic neuron. These names are used to refer to the flow of information traveling between cells. In this example, the presynaptic neuron transmits the message to the post-synaptic neuron.

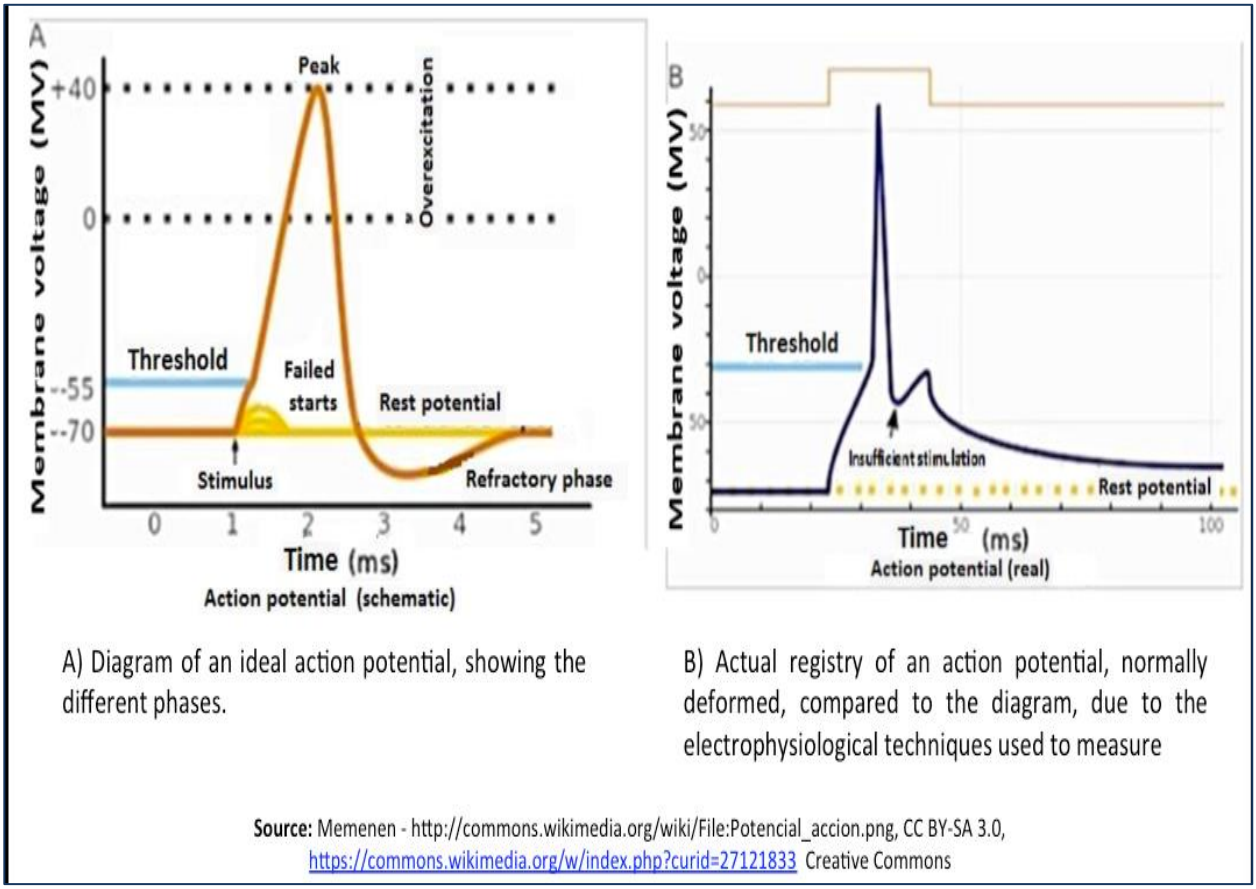
In chemical synapses, at the end of the presynaptic axon, there are vesicles or reservoirs with the molecules that will take the signals to the receptors on the postsynaptic neuron membrane.

Like all cells, neurons have a cellular membrane that seals them off from the environment. Thanks to this separation, inside the neuron there is a higher concentration of potassium ions and proteins, while on the outside there are high concentrations of sodium and chlorine.

To produce their effects, chemical messengers bind to cellular receptors. This binding property is known as affinity, while efficacy refers to their capacity to generate physiological effects. Agonist substances have high affinity and high efficiency, while antagonist substances have high affinity and low efficiency.

Action potential[11]

Neurons understand and use an electrical language based on the charges from the ions and molecules that are inside and outside the cellular membrane. When a neuron is "quiet or silent," its internal environment has more negative electric charges than the outside. These conditions change abruptly when the neuron interacts with others. A single neuron can communicate with many others at the same time and can "understand" the final message because it integrates the multiple electrical signals it receives. Based on the changes of permeability to specific ions of its cellular membrane, neurons decode differences in the distribution of internal electrical charges. A positively charged environment produces a wave of electrical information called action potential, which propagates rapidly and in all directions within the cell and also through the axon. If this action potential reaches an electrical synapse, the current passes directly to the postsynaptic neuron; but if it is a chemical synapsis, the change in the electrical charge opens some pores in the membrane of the neuron through which the calcium ion enters. This higher concentration of calcium inside the presynaptic neuron sets off the start of the neurotransmission.



A) Diagram of an ideal action potential, showing the different phases.

B) Actual registry of an action potential, normally deformed, compared to the diagram, due to the electrophysiological techniques used to measure

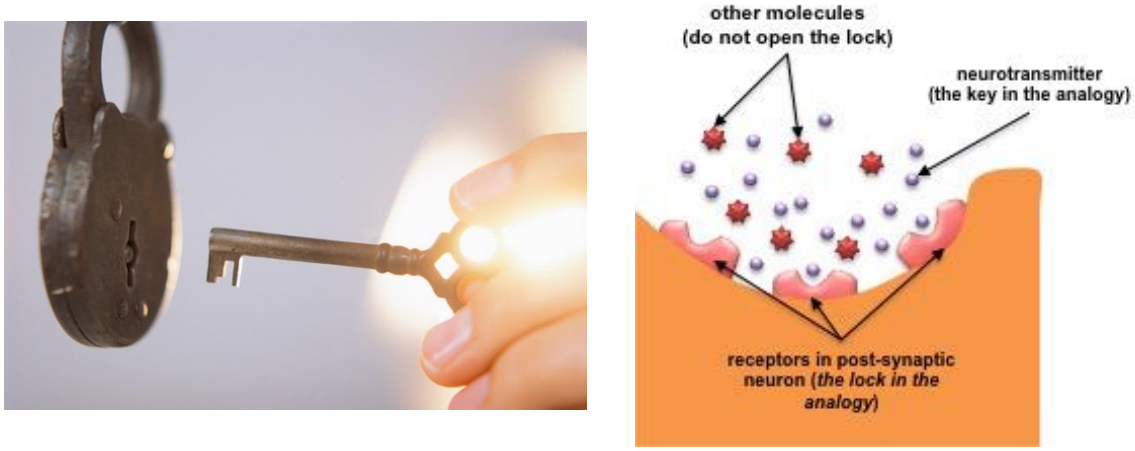
Source: Memenen - http://commons.wikimedia.org/wiki/File:Potencial_accion.png, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=27121833 Creative Commons

[11] Pasantes H. (1997). De neuronas, emociones y motivaciones; colección La Ciencia para Todos. Secretaría de Educación Pública, Fondo de Cultura Económica: Mexico City.

Neurotransmission

Communication between neurons is highly efficient, either among them or with other types of cells through chemical or physical mechanisms, but rarely by direct physical connections (called *gap junctions*). In general, the most common way of doing this is via indirect chemical contacts (chemical synapses), which is where neurotransmission occurs.[12] During this process, the action potentials enable signals and messages to spread among the neurons and the neuronal networks[13]. The neurotransmitters released into the synaptic cleft interact with specific receptors, which causes changes in the postsynaptic neuron. Due to their affinity and specificity, the binding of the neurotransmitter molecules with their receptors is comparable to the way a door key operates in the lock. The neuronal receptors recognize the tridimensional configuration and chemical characteristics of neurotransmitter molecules.

Analogy between neurotransmitter and receptor, and a lock and key mechanism



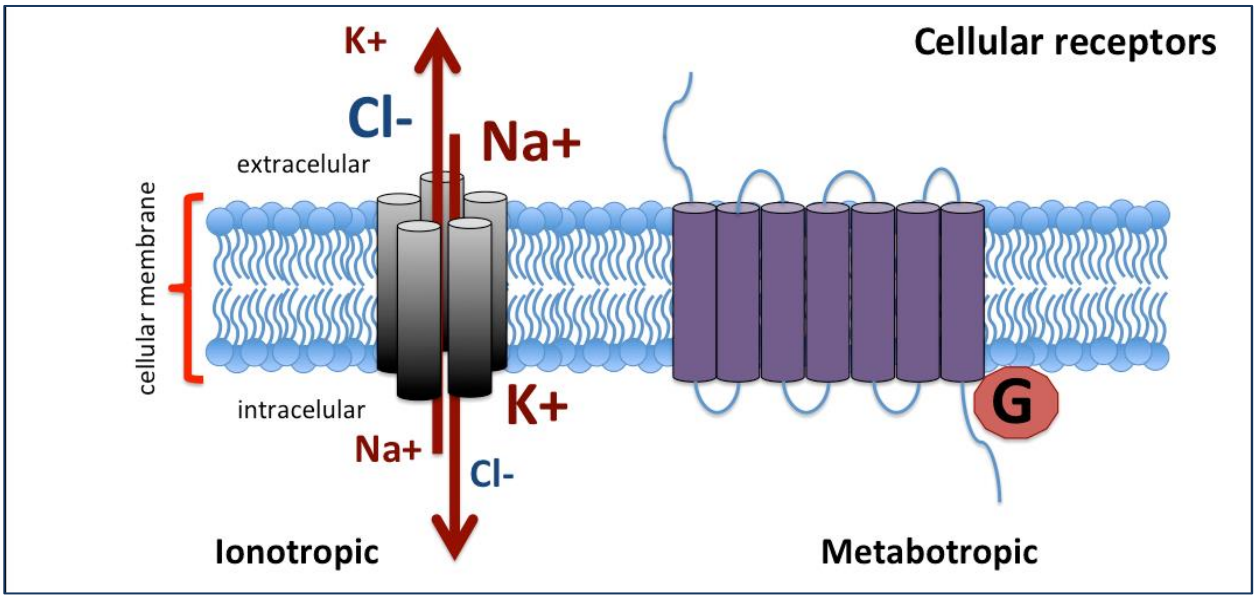
Neurons release the neurotransmitter into the synaptic space via the process of exocytosis, which consists of the following steps: 1) docking, 2) priming, 3) vesicular fusion/exocytosis, 4) endocytosis mediated by receptosomes and clathrins, 5) intracellular translocation, 6) endosomal fusion, 7) gemmation with the budding of new vesicles, 8) active storage of the neurotransmitter, and 9) cytoplasmic translocation to begin the cycle again.[14] The molecular compound formed with the union of the neurotransmitter and its receptor remains active for a short period. There are two known ways in which the action of the neurotransmitter can be halted: reuptake and degradation. In reuptake, the presynaptic neuron uses membrane proteins (reuptake pumps or transporters) which collect the released neurotransmitter and reintroduces it into the vesicles of the presynaptic neuron, so that it can be used again in the

[12] López-Mato A. (2011). Neurotransmisión, in: Aspectos Toxicológicos de la Drogadependencia. Secretaría de Programación para la Prevención de la Drogadicción y la Lucha contra el Narcotráfico (SEDRONAR): Buenos Aires, pp. 21 – 39.
[13] PAHO (2005). Neuroscience of psychoactive substance use and dependence; Chapter 2: Brain Mechanisms: Neurobiology and Neuroanatomy. Pan American Health Organization: Washington D.C
[14] López-Mato A. (2011). Neurotransmisión, in: Aspectos Toxicológicos de la Drogadependencia. Secretaría de Programación para la Prevención de la Drogadicción y la Lucha contra el Narcotráfico (SEDRONAR): Buenos Aires, pp. 21 – 39.

future. In degradation, specific enzymes inactivate the neurotransmitter and convert it into a different compound. The presynaptic neurons send messages that, depending on the neurotransmitter released and the functions of the neurons involved, may stimulate or inhibit the postsynaptic neuron. The outcome is determined by the sum of the many stimuli that are received.

Receptors[15]

Neurons have specialized protein structures that because of their specific interaction with other chemical substances serve the process of cellular communication. The substances that bind with receptors are known as "ligands." For neuronal communication, we shall discuss two large groups of receptors:



Ionotropic – when activated by their ligand, the tridimensional structure and configuration of their proteins change, allowing the ions, whether negatively charged (chloride) or positively charged (calcium, potassium and sodium), to pass through. They are also known as ionic channels.

Metabotropic – are formed by long chains of amino acids that pass seven times through the cellular membrane. The interaction with their ligand activates or inhibits specific proteins (G proteins) linked to the cellular membrane, which are involved in the production of other molecules such as AMPc.

[15] Cruz S. (2014). Los efectos de las drogas: de sueños y pesadillas; 2ª ed. México, DF.

Neurotransmitters

Neurotransmitters are the interlocutors in conversations between neurons. In general terms, they are substances that have a simple chemical structure, grouped under three broad categories: amino acids, amines, and peptides. These substances intervene in the communication between neurons that control very different functions.

Dopamine[16] – this catecholaminergic neurotransmitter participates in regulating movement, emotion, affect, and neuroendocrine communication. It is synthesized from the L-tyrosine amino acid. At least there are five different types of dopaminergic receptors; all coupled to G proteins and part of two pharmacological families: 1) D1-like family (subtypes D1 and D5) – stimulate the formation of AMPc, and 2) D2-like family (subtypes D2, D3, and D4) – inhibit the formation of AMPc, activate K+ channels and reduce the entry of Ca++ ions through voltage-dependent channels. There are different subtypes of dopaminergic receptors distributed throughout the Central Nervous System (CNS). In the Peripheral Nervous System, dopamine modulates the cardiac and renal functions, vascular tone and gastrointestinal motility. Dopamine and dopaminergic neuronal networks get much attention because of their critical role in illnesses and disorders such as Parkinson's disease, schizophrenia, and drug use disorders. In the latter case, besides dopamine, there are other neurotransmitters involved.

GABA – the Gamma-Aminobutyric Acid is the primary inhibitory neurotransmitter in the CNS. Approximately 30-40% of neurons in the brain use it to communicate by means of the GABAA receptors (ionotropic) and GABAB (metabotropic). Five subunits form the GABAA receptors, which have at least eleven different structural sites for substances like barbiturates, benzodiazepines, ethanol, and others, whether agonists or competitive antagonists. Due to its structure, the conformation of the GABA molecule is flexible, which means that its various configurations may activate distinct GABA receptors.

Noradrenaline or norepinephrine – this catecholamine is a derivate product of the tyrosine amino acid. It takes part in alertness, level of consciousness, motivation, sensory perception, regulation of the sleep-wakefulness cycle, appetite, sexual behavior and neuromodulation of learning, memory and reward mechanisms; in most of these functions, it operates jointly with other neurotransmitters[17]. There are two known classes of noradrenergic receptors: alpha and beta. The alpha1 are excitatory and exist in the brain, vascular smooth muscle, intestine, and cardiac muscle. The alpha2 have inhibitory effects and exist in the brain, vascular smooth muscle, gut, nerve endings, and platelets. There are three known types of beta receptors. The beta1 are excitatory and are present in the heart; beta2 receptors are present in smooth and

[16] Bahena-Trujillo R, Flores G, Arias-Montaño JA. (2000). Dopamina: síntesis, liberación y receptores en el Sistema Nervioso Central. Rev Biomed; 11: 39 – 60.
[17] Tellez J. (2000). La Noradrenalina, su rol en la depresión. Revista Colombiana de Psiquiatría; 29(1): 59 – 73.

striated muscle, the liver and lymphocytes, and also are excitatory. The beta3 are present in adipose tissue.

Serotonin – 5-hydroxytryptamine or 5-HT is an indolamine derived from the amino acid tryptophan. It is synthesized mainly in the raphe nuclei of the brainstem which projects throughout the central nervous system, with greater density in the basal ganglia and the limbic structures[18]. Serotonin regulates a wide variety of effects mediated by binding to specific membrane receptors, which are present in both the Central and Peripheral Nervous Systems, and also in many other tissues of the intestine, cardiovascular system, and blood cells.[19] There are up to seven members of the family of serotonin receptors (5-HT1 to 5-HT7) and several subtypes[20]. The 5-HT receptor groups are coupled to G proteins, except for 5-HT3, which uses ion channels. The broad distribution of the many subtypes of 5-HT receptors in the CNS explains the wide variety of their actions[21]. Serotonin takes part in regulating mood, excitation, impulsivity, aggression, appetite, and anxiety [22].

Second and third messengers

The conversations between neurons begin with the activation caused by neurotransmitters on the receptors, whether ionotropic or metabotropic. Since this is the first step in the communication process, neurotransmitters are considered the first messengers. The lock-key system described above opens only one door or one receptor. To expand their conversations and spread their messages around, neurons use other mechanisms that set in motion a series of chemical reactions mediated by other substances. The final result is the opening of many locks on many doors. This communication is much more efficient and long-lasting. In the case of ionotropic receptors, the ions are the second messengers, since they act as the representatives of the message sent by the presynaptic neuron. As to metabotropic receptors, ligand-receptor binding may activate or inhibit specific proteins, such as G proteins, modifying the levels of other substances inside the cell (e.g., AMPc, calcium, arachidonic acid and its derivatives, nitric oxide, among others). For instance, the action of G-proteins increases the quantity of AMPc inside the cell, resulting in an excitatory effect and vice versa.

[18] Steinbusch, H. (1984). Win Handbook of Chemical Neuroanatomy: Classical Transmitters and Transmitter Receptors in the CNS. Elsevier: Amsterdam.
[19] Iceta-Echave R. (2008). Caracterización del transportador de serotonina humano en células CACO- 2: Estudio de los mecanismos de regulación fisiológica. Doctoral thesis, University of Zaragoza, Spain.
[20] Hoyer D, Martin GR. (1997). 5-HT receptor classification and nomenclature: towards a harmonization with the human genome. Neuropharmacol; 36 (4-5): 419 – 428.
[21] BarnesN, Sharp T. (1999). A review of central 5-HT receptors and their function. Neuropharmacology; 38(8): 1083 – 1152.
[22] PAHO. (2005). Neuroscience of psychoacative substance use and dependence. Chapter 2: Brain Mechanisms: Neurobiology and Neuroanatomy. Pan American Health Organization: Washington D.C.

The second messengers can interact subsequently in other processes that involve the genes, using what are known as transcription factors such as ***CREB (cyclic AMP response element-binding protein)***, ***Fos***, and ***jun*** proteins. These elements and their actions on a person's genetics are a form of longer-term neuronal response that can modify crucial processes such as, for example, the synthesis of the enzymes that make up the neurotransmitters (first messengers). The study of these processes is linked to epigenetics and provides clues to the profound and intimate influence that neuron communication processes can exercise in the long term. We know more about this today: for example, one episode of drug use causes short increments in various members of the Fos genes family. In chronic use[23], a modified variant named ***DFosB*** accumulates and remains in the nucleus accumbens[24]. These changes are manifest both in the nucleus accumbens and in the dorsal striatum and are the result of the specific process of substance use.[25]

The reward circuit

Although different drugs have distinctive chemical properties, an element common to all is their capacity to produce positive reinforcing effects, which means that they cause an increase in the frequency of occurrence of the studied behavior (such as drug use), which tends to repeat[26]. The first studies in this field come from the work of James Olds and Peter Milner. In 1954, these researchers conducted a study in rats, in which they observed that intracranial electrical stimulation of the hypothalamus and some associated regions might act as a reinforcer or reward for behaviors. Following their initial fortuitous observations, they used the paradigm of electrical self-stimulation in animal models to map the regions of the brain involved and discovered what they called the pleasure center[27]. We know today that reinforcement comes from direct or indirect activation of the mesocorticolimbic dopamine system, which is formed by dopaminergic mesencephalic projections originating in the ventral tegmental area (VTA) and that project into the nucleus accumbens[28], the drugs' principal target. The VTA neurons connect their axons to the nucleus accumbens, the striatum and the frontal cortex (structures that play a crucial role in motivation). The nucleus accumbens, a structural part of the limbic system, receives dopaminergic connections from the VTA, and glutamatergic connections from the lateral prefrontal cortex, the amygdala, and the hippocampus. The fact that the impulses coming from the cerebral cortex and the limbic system enter the nucleus

[23] Keltz MB, Nestler EJ . (2000). ΔFosB: a molecular switch underlying long-term neural plasticity. Current Opinion in Neurology; 13: 715 – 720.
[24] Hope BT et al. (1994). Induction of a long-lasting AP-1 complex composed of altered Fos-like proteins in brain by chronic cocaine and other chronic treatments. Neuron; 13: 1235 – 1244.
[25] Moratalla R et al. (1996). D1-class dopamine receptors influence cocaine-induced persistent expression of Fos-related proteins in striatum. Neuroreport; 8: 1 – 5.
[26] Alvano S, Zieher LM. (2003). Cambios Adaptativos Neuronales. Adicción a drogas. In: Psiconeurofarmacología Clínica y sus bases neurocientíficas. 3rd ed.. Buenos Aires: Gráfica Siltor.
[27] Pereira T. (2008). Neurobiología de la adicción. Rev Psiquiatr Urug; 73(1): 9 – 24.
[28] Schultz W. (2001). Reward signaling by dopamine neurons. Neuroscientist; 7: 293 – 302.

accumbens shows the importance of this structure for the processes of motivation and reward produced by the repeated use of drugs.

Once we understand the formation of the neural pathways related to pleasure and reward, it is easier to comprehend how the artificial overstimulation that drugs produce in the nucleus accumbens causes the pleasurable effects that people who use drugs are seeking and makes them repeat this behavior[29]. Drugs produce this due to different pharmacological properties and action mechanisms, discussed in the section about the effects of drugs.

The brain is wired to ensure repetition of the activities that sustain life, by linking them with pleasurable, rewarding, or gratifying actions. Neural networks memorize which stimuli activate the reward system, fostering future repetition without actively thinking.

Some psychoactive substances can release two to ten times more dopamine in the reward circuit than the amount released by natural elements like eating and sexual intercourse. This consequence occurs almost immediately when smoking or injecting drugs, and their effects can last much longer than those produced by natural reinforcers. Such a big reward deeply motivates people to use drugs again and again.

There are three neuronal circuits mainly involved in the development of drug use disorders:

- Binge/intoxication: the reinforcing effects of the drugs can compromise reward neurotransmitters and associative mechanisms in the nucleus accumbens, and the stimulus-response habits that depend on the dorsal striatum. Two important neurotransmitters that mediate the rewarding effects of drugs are dopamine and opioid peptides.

- Withdrawal/negative affect: the negative emotional state of abstinence may compromise the activation of the extended amygdala. The main neurotransmitters involved in the negative reinforcement are the corticotropin-releasing factor, noradrenaline, and dynorphin. The extended amygdala projects mainly into the hypothalamus and brainstem.

- Preoccupation/anticipation (craving): Executive control is governed by the prefrontal cortex and includes the representation of contingencies, results, and their value and the subjective states (i.e., desire and, presumably, feelings) associated with drugs. The subjective effects called drug cravings in humans involve activation in studies of functional images of the orbital and anterior cingulate cortex and the temporal lobe,

[29] NIDA. (2008). Drugs, Brains and Behavior: The Science of Addiction. National Institute on Drug Abuse: Rockville, Maryland.

including the amygdala. Glutamate is an important neurotransmitter involved in the stage of craving, and is located in the pathways of the frontal regions.

Drug use disorders are similar to other diseases, for example, cardiac conditions, that is, in both the regular and healthy functioning of underlying organs is interrupted, they have serious consequences, they are preventable, treatable and can last a lifetime without treatment.

People who use drugs experience alterations in brain functions such as a drastic decrease in the ability to perceive pleasure. Neuroimaging techniques allow demonstrating the evident differences of neuronal activity in the brains of drug users, in comparison with individuals who do not consume. As an example, methamphetamine users either undergo a significant reduction in dopamine transporters or a lower number of receptors that can receive signals. These neuroadaptive processes, named tolerance, lead to keep using drugs, again and again, trying to restore the normal dopamine functions, utilizing larger quantities of the substances to attain their psychoactive effects.

Physiological mechanisms involved in drug dependence

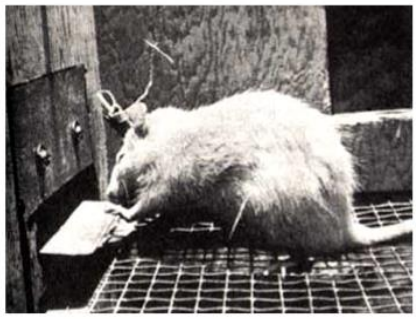
The capacity of different drugs to cause dependence has been studied in a variety of laboratory experiments.

Behavioral studies in animal models[30]

Self-administration of drugs

The animal subject can self-administer the studied substance using specifically designed devices (for example, levers connected to intracerebral release mechanisms). The molecules that are considered "addictive" favor dependence since they are positive reinforcers that promote or maintain the self-administration behavior. Some characteristics of this research model are its **predictive validity** (great selectivity for the drug under study), **apparent validity** (appropriate pattern over time, pharmacological interaction and pattern of dependence), and **theoretical validity** (theoretical relationship and similarity between the dependence syndrome in humans and the animal subject).

Studies with animal models about the addictive potential of substances



Place preference box

Paredes-Ramos P, Montero-Domínguez F, Miquel M, Manzo J, Coria-Avila G. (2010). Preferencia de lugar condicionado por cosquillas en ratas hembra. eNeurobiología, Universidad Veracruzana

[30] Pineda-Ortiz J, Torrecilla-Sesma M. (1999). Mecanismos neurobiológicos de la adicción a drogas. Trastornos Adictivos; 1(1): 13 – 21.

Conditioned place preference

Researchers administer the studied drug to the animal subject in a specific environmental setting. Substances with an addictive potential condition the animal to prefer to remain in the place associated with the administration. This effect resembles what occurs in humans who also associate the practice of drug use with specific contexts and circumstances.

Choice (discrimination) of drugs

This experimental design allows the animal subject to choose or discriminate among various possible stimuli options. The effects of substances with addictive potential are a powerful signal that enables the stimulus best suited to produce the desired response to be selected.

Intracranial self-stimulation

Microelectrodes implanted into the animal's brain send stimuli when a specific mechanism is activated—for example, when pressing a lever. The stimulation of implants placed in precise areas of the brain (pleasure centers) produces intense reinforcing responses, similar to those observed in the self-administration experiment. An interesting finding of this model is that the intensity of the stimulus necessary to provoke intracranial self-administration decreases with the administration of drugs, which indicates that there are shared neuroanatomical substrates in the stimulation of the pleasure centers, either through direct electrical stimulation or the use of some substances.

Classification of drugs

There are various ways of classifying drugs, depending on the issue that we wish to highlight. We may, for example, group them according to its origin, chemical structure, the effects they produce when consumed, their legal status, and so on.

Pharmacological classification[31]

The primary effects of substances on the central nervous system (CNS) determine to which of the following categories they are part of:

Hallucinogens – generally, minimal doses produce distortions in perception, both sensory (hallucinations, illusions, synesthesia, etc.) and sense of time and space. They may cause sudden changes in mood, and their effects vary according to the setting and context in which they are used. Long term, flashbacks may occur that bring back the effects of the drug even though it may already have been eliminated from the body. This category has two broad subdivisions: 1) a group that includes LSD and its chemically related compounds, such as psilocybin and mescaline, and 2) dissociative anesthetics such as phencyclidine or PCP (angel dust) and ketamine.

Cannabinoids – produce euphoria, relaxation, slowed reaction time to stimuli, increased heartbeat rate and appetite; they may produce distortions in perception and induce panic attacks. This group includes natural, synthetic and semi-synthetic compounds derived from the varieties of cannabis plants. Cannabinoids include marijuana, hashish, and synthetic cannabinoids.

Depressants – the user initially has a sensation of stimulation (interpreted as disinhibition), which is followed by a longer CNS depression, with poor motor coordination, dysarthria, and disturbance of balance. Examples of this category are alcohol, anesthetics, benzodiazepines, barbiturates, gamma-Hydroxybutyric acid (GHB), inhalants and sedatives.

Stimulants – its use causes a heightened state of alert and increased energy. People perceive an exacerbated mood, loss of appetite, tiredness and the need to sleep.

Opioids – cause analgesia, miosis (which may be extreme--“pinpoint pupils”), weakening or suppression of the cough reflex, constipation, sensation of relaxation without loss of psychomotor coordination, and euphoria. This group includes opium derivatives, as well as

[31] Cruz S. (2014). Los efectos de las drogas: de sueños y pesadillas; 2nd ed. Mexico City.

natural, synthetic and semi-synthetic compounds with properties similar to morphine, as is the case with heroin. These substances are characterized by their high capacity to induce physical dependence and tolerance of some of their effects.

Mixtures – there are currently many combinations of two or more drugs. Because of pharmacological synergy, the deliberated combination generates a different experience, compared to using each one alone. A well-known example is the combination of cocaine and morphine, colloquially known by its street name of *speedball*.
Consideration should also be given to combinations that are not necessarily intentionally produced, as when people who are drinking alcohol also use cocaine. The combination of these two drugs produces a third, which is called cocaethylene. Documentary evidence has shown that the combination of alcohol and cocaine is frequent[32].

[32] Flannery, B., Morgenstern, J., McKay, J., Wechsberg, W., & Litten, R. (2004). Co-occurring alcohol and cocaine dependence: recent finding clinical and field studies. *Alcoholism Clinical and Experimental Research*, 28, 976 – 81.

<table>
<tr><th colspan="4">Pharmacological classification</th></tr>
<tr><th>Category</th><th>Main effects</th><th colspan="2">Some examples</th></tr>
<tr><td rowspan="2">Hallucinogens
(two subdivisions)</td><td rowspan="2">• Distortions in perception
• Sudden mood changes
• Flashbacks
• Effects depend on context of consumption</td><td>Psychedelics</td><td>Dissociative anesthetics</td></tr>
<tr><td>LSD, psilocybin and similar compounds</td><td>Ketamine, phencyclidine</td></tr>
<tr><td>Cannabinoids</td><td>• Euphoria
• Relaxation
• Tachycardia
• Possible panic attacks induced by distorted perception</td><td colspan="2">Marijuana, hashish, synthetic cannabinoids, among others</td></tr>
<tr><td>Depressants</td><td>• Initially produce disinhibition
• CNS depression: dysarthria, lack of motor coordination and balance, sedation, etc.</td><td colspan="2">Alcohol, benzodiazepines, barbiturates, gamma-Hydroxybutyric acid (GHB), inhalants and sedatives</td></tr>
<tr><td>Stimulants</td><td>• Increased alertness
• Higher energy and mood
• Decreased appetite
• Tachycardia and hypertension</td><td colspan="2">Cocaine, amphetamines, methamphetamines, tobacco</td></tr>
<tr><td>Opioids</td><td>• Analgesia
• Miosis
• Weakened or suppressed cough reflex
• Constipation
• Relaxation
• Respiratory depression</td><td colspan="2">Opium derivatives, natural, synthetic and semisynthetic compounds with properties similar to morphine</td></tr>
<tr><td>Mixtures</td><td>• Multiple effects, depending on the involved substances</td><td colspan="2">• Speedball (cocaine and morphine)
• Two or more drugs, e.g. alcohol and cocaine (cocaethylene)</td></tr>
</table>

Drug Effects

Unfortunately, worldwide use of alcohol and other drugs contributes significantly to mortality, morbidity, and disability, resulting in the loss of many years of healthy life for millions of people, particularly in the young population[33]. To understand why psychoactive substances can cause health issues, we must take a pharmacological approach and always bear in mind that they have different characteristics and can produce dependence and other mental disorders, as well as alterations in multiple organs and systems.

People perceive the effects of drugs because their components bind to specific cellular receptors. This binding property of chemicals is known as affinity, while efficacy refers to their capacity to generate physiological effects. According to these concepts, agonist substances have high affinity and high efficacy, which is the opposite of antagonistic substances.

Alcohol[34]

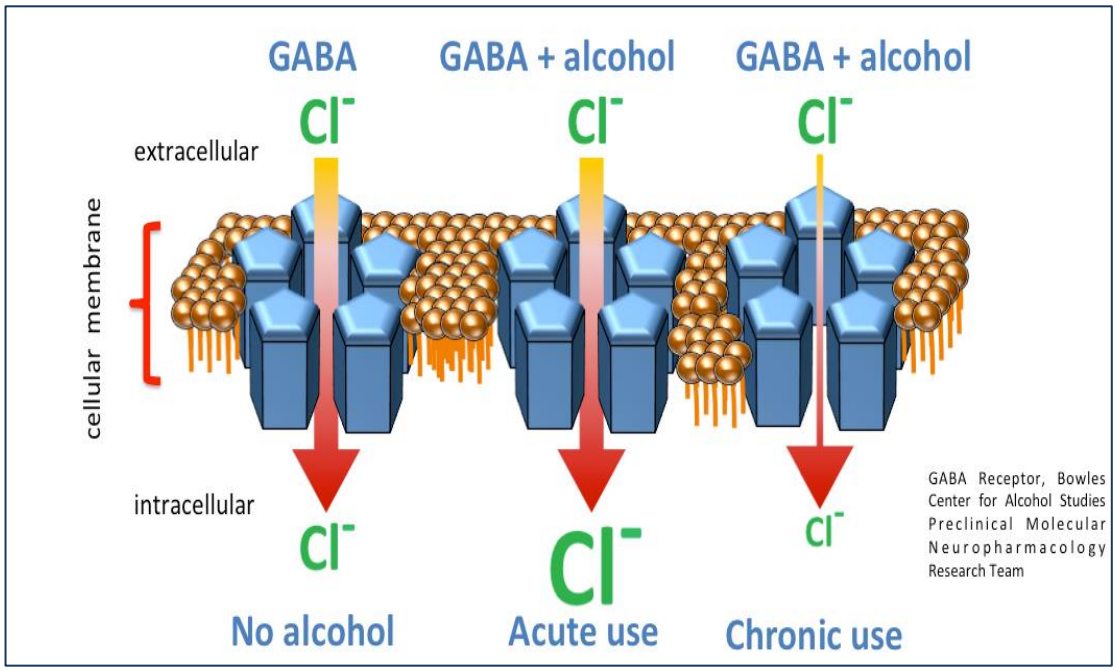
The word alcohol is Arabic in origin, and means dust since people believed that the inhalation of an impalpable powder, supposedly released by alcoholic beverages, was what produced drunkenness[35]. Today we know that the active component of alcoholic beverages is ethyl alcohol or ethanol, which has three principal elements in its action mechanism[36]:

- Inhibits activity of the *N*-methyl-D-aspartate glutamate (NMDA) receptors
- By activating the GABA receptor, allows the chlorine ion to enter the intracellular environment
- The overall result is neuron hyperpolarization (CNS depressor)

The activation of the inhibitory neurotransmitter system, together with the reduction in excitatory neurotransmission, are the mechanisms responsible for producing the symptoms observed in acute intoxication, such as drowsiness, disorientation, decreased reflexes and CNS

[33] Whiteford, H. A., Degenhardt, L., Rehm, J., Baxter, A. J., Ferrari, A. J., Ershine, H. E., Charlson, E. J., Norman, R. E. , Flaxman, A. D., Johns, N., Burstein, R., Murray, Ch. J. L. & Vos, T. (2010). Global burden of disease attributable to mental and substance use disorder. The Lancet. Publicado el 29 de agosto de 2013. Disponible en: http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(13)61611-6.pdf
[34] Cruz S. (2014). Los efectos de las drogas: de sueños y pesadillas; 2nd ed. Mexico City.
[35] Ladero, J. M. & Lizasoain, I. (2003). Alcohol (I). Farmacología del alcohol. Intoxicación aguda. En: L. P., Ladero, J. M., Leza, J.C., & Lizasoain, I. (Eds). Drogodependencias. Madrid, España: Editorial Médica Panamericana.
[36] Cruz, S. (2014). Los efectos de las drogas: de sueños y pesadillas. México, D.F., México: Trillas

depression in general. The reduction of anxiety and stress generated by the consumption of alcohol in low doses is attributed to the interaction with extra-synaptic GABA-A receptors[37].



Cannabis

When people smoke marijuana, they are consuming various mixtures of different parts of cannabis plants. By doing this, multiple components pass from the lungs into the blood stream, including around 70 cannabinoids, of which the most studied for its capacity to produce dependence is delta-9-tetrahydrocannabinol (THC)[38].

Cannabinoids have a neuromodulating effect[39], which means that the activation of CB1 receptors prevents the release of specific neurotransmitters from neurons either dopaminergic, serotonergic, GABAergic or of another kind. Three pharmacodynamic effects cause this: 1) inhibition of the enzyme adenylate cyclase, which produces lower concentrations of cyclic AMP; 2) greater permeability of the cell membrane to the potassium ion; and 3) decrease in the permeability of the cell membrane to the calcium ion. Together, the modifications in ion concentrations produce a state of neuronal hyperpolarization, which makes more difficult to stimulate the cell.

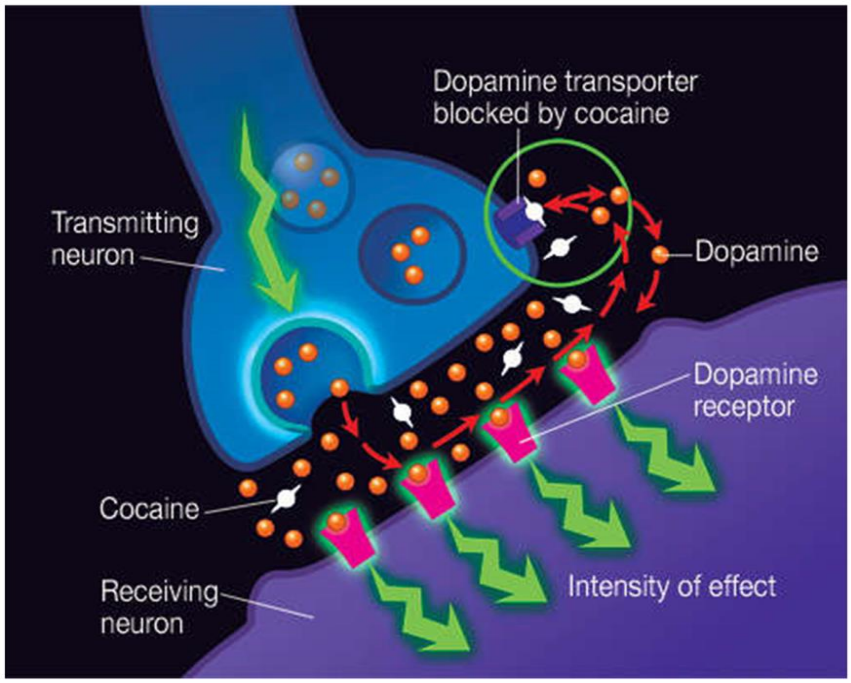
[37] Guerri, C. (2006). Alcohol, Bases biológicas. En. (Eds), Tratado SET de Trastornos Adictivos. Sociedad Española de Toxicomanías, (pp. 153 – 167) Madrid, España: Colegio Iberoamericano de Trastornos Adictivos.
[38] Otero, F., Pino, C., Sánchez, C., & Fontenla, A. (2006). Afectación orgánica por consumo de cannabis. Patología Orgánica en Adicciones. Adicciones, 18, 197 – 216.
[39] Howlett, A. C., Breivogel, C. S., Childers, S. R., Deadwyler, S. A., Hampson, R. E., & Porrino, L. J. (2004). Cannabinoid physiology and pharmacology: 30 years of progress. Neuropharmacology, 47, 354 – 358.

Cocaine

It is a stimulant that produces euphoria, the sensation of increased energy, as well as potentially dangerous physical effects such as increased heartbeat and blood pressure[40].

Among its multiple mechanisms of pharmacological action, cocaine blocks the reuptake of noradrenaline and serotonin[41] and indirectly produces sympathomimetic effects (increased blood pressure, tachycardia, pupillary dilation, sweating, vasoconstriction, tremor, etc.) because it does not act directly on adrenergic or dopaminergic receptors. Regarding the development of dependence, it blocks the dopamine transporter protein, so that neurotransmitter accumulates in the synapsis and magnifies the pleasant and reinforcing effects of consumption[42].

- Cocaine blocks the dopamine transporter protein, so that neurotransmitter accumulates in the synapsis
- This effect magnifies the pleasant and reinforcing effects of consumption



Source: NIDA. (2016, May 6). Cocaine. Retrieved from https://www.drugabuse.gov/publications/research-reports/cocaine

Chronic consumption enables brain neuroadaptation as a compensatory response to the artificial over-stimulation produced by the drug. Modern neuroimaging techniques corroborate this adaptation, demonstrating that the brains of people dependent on cocaine show considerably fewer dopaminergic receptors, specifically subtype D2[43]. These long-term effects may explain the symptoms of depressed mood and lack of pleasure, experienced during the withdrawal syndrome.

[40] NIDA. (2013). Drug Facts: cocaine. Rockville, Maryland: National Institute on Drug Abuse.
[41] Feldman, R., Meyer, J., & Quenzer, L. (1997). Principles of Neuropsychopharmacology. Massachusetts: Sinauer Associates, Inc. Publishers.
[42] NIDA. (2016, May 6). Cocaine. Retrieved from https://www.drugabuse.gov/publications/research-reports/cocaine
[43] Volkow, N. Fowler, J., & Wang, G. (2004). The addicted human brain viewed in the light of imaging studies: brain circuits and treatment strategies. Neuropharmacology, 47, 3 – 13.

Heroin

Opiates like heroin inhibit the neurons. Although this resembles CNS depressants, substances of this distinct pharmacological class have different mechanisms of action.

Drugs such as morphine or heroin produce their effects interacting with the endogenous opioid system, which has receptors distributed in the periaqueductal gray matter of the brain, spinal cord, myenteric digestive plexuses, and joints[44]. There are four different subtypes of opioid receptors in humans[45]: mu (μ), delta (δ), kappa (κ) and nociceptin (nociceptin/orphanin).

Opiates produce their reinforcing effects in the dopaminergic neurons of the ventral tegmental area (VTA), activating μ receptors[46] and decreasing the activity of inhibitory neurons (GABAergic)[47]. These neurochemical interactions favor the unregulated release of dopamine in the nucleus accumbens of the reward circuit and its areas of projection. Opiates act as ligands in metabotropic receptors of the postsynaptic neurons, where they trigger long-term reactions that, unlike endogenous opioids, are long lasting and difficult to reverse[48].

The chronic use of high-affinity opiate agonists, such as morphine and heroin, leads to tolerance and physical dependence. It is essential to understand that tolerance develops in a deferred way, both in time and intensity. It begins with the loss of efficacy to induce nausea and euphoria, then the analgesic effect disappears, and finally there is partial tolerance to constipation and respiratory depression. This process explains the risk of dying from respiratory arrest, even for experienced chronic users[49].

[44] Gutstein, H. B. & Akil, H. (2001). Opioid Analgesics. En: J. G.,Hardman, L. E.Limbird, A. G., & Gilman., (Eds), The pharmacological basis of therapeutics (pp. 569 – 619). New York: McGraw-Hill.
[45] Álvarez, Y. & Farré, M. (2005).Farmacología de los opioides. Monografía opiáceos. Adicciones, 17, 21 – 40.
[46] Miñarro, J., & Manzanedo, C. (2006). Efectos conductuales del consumo de opiáceos. En Tratado SET de Trastornos Adictivos. Sociedad Española de Toxicomanías (pp. 296 – 300). Madrid, España: Colegio Iberoamericano de Trastornos Adictivos.
[47] Koob, G. F., Ahmed, S. H., Boutrel, B., Chen, S. A., Kenny, P. J., Markou, A., O'Dell, L. E., Parsons, L. H., Sanna, P. P. (2004). Neurobiological mechanisms in the transition from drug use to drug dependence. Neuroscience & Biobehavioral Reviews, 27, 39 – 49.
[48] Cruz, M. C. S. (2006). El cerebro y el consumo de drogas. Boletín CINVESTAV, Abril-Junio: 36 – 45.
[49] Cruz, M. C. S., & Granados-Soto, V. (2008). Opioids and opiates: Ligands, receptors and effects, En M. Méndez & R. Mondragon. (Eds), Neural Mechanisms of Action of Drugs of Abuse and Natural Reinforcers (pp. 1-24). Ontario, Canada: Research Signpost.

Inhalants

These are gases or volatile liquids, mainly for industrial use, which people inhale through the nose and mouth for their psychoactive properties. This category involves a number of substances that fall into four types[50]: 1) Industrial volatile solvents; 2) Nitrites; 3) Aerosols, and 4) Gases. Even though not all share pharmacodynamic characteristics, they share the route of administration. In the case of solvents, there is an additional classification based on their chemical characteristics[51]: a) aliphatic hydrocarbons; b) cyclic hydrocarbons; c) aromatic hydrocarbons; d) alcohols; e) esters; f) ketones; g) halogenated hydrocarbons; h) ethers; i) aldehydes.

Due to its industrial use, people may become exposed to volatile solvents, whether at work or involuntarily. Those who consume inhalants for psychoactive purposes, use multiple methods and accessories known as paraphernalia[52] (plastic bags, bottles, and soaked fibers and fabrics, among many others) for a more efficient administration of the drug[53].

For a long time, the mechanism of action of inhalants was unknown. The initial assumption was that because of their solvent properties they could modify the fluidity of the cellular membrane and affect many cell functions through nonspecific mechanisms. Nowadays we know that chemicals such as benzene, trichloroethylene (TCE), xylene and others, inhibit N-methyl-D-aspartate (NMDA) glutamate receptors[54]. Toluene also inhibits NMDA receptors and activates the inhibitory function of GABA-A receptors, what makes its mechanism of action similar to that of alcohol, but many times more potent[55].

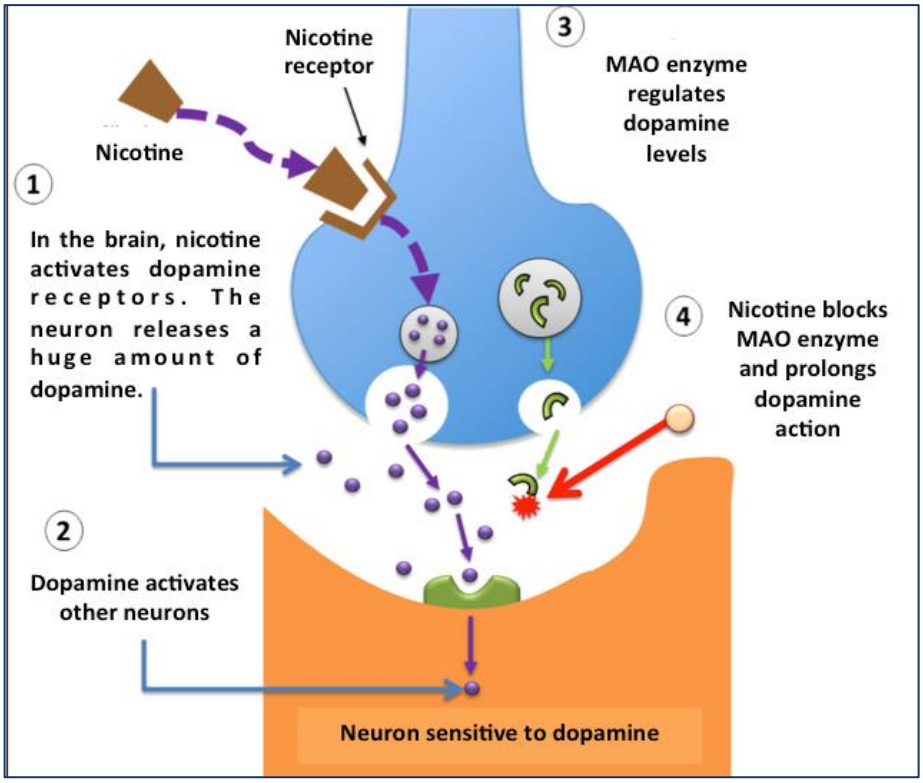
People perceive the effects of intoxication by inhalants for a short time, then repeat and resume the administration for long periods, which may lead to hypoxia and in some cases, death by asphyxia[56], mainly when losing consciousness.

[50] Balster, R., Cruz, M. C. S., Howard, M., Dell, C., & Cottler, L. (2009). Classification of abused inhalants. Addiction, 104, 878 – 882.
[51] Ayres, P., & Taylow, W. (1989). Solvents. En (Eds), Principles and Methods of Toxicology (pp- 111 – 135). New York: Hayes A, Raven Press, Ltd.
[52] Medina-Mora, M. E., & Real, T. (2008). Epidemiology of inhalant use. Current Opinion in Psychiatry, 21, 247 – 251.
[53] Marjot, R. & McLeod, A. (1989). Chronic non-neurological toxicity from volatile substance abuse. Human Toxicology, 8, 301 – 306.
[54] Cruz, M. C. S., Balster, R., & Woodward, J. (2000). Effects of volatile solvents on recombinant N-methyl-D-aspartate receptors expressed in Xenopus oocytes. British Journal of Pharmacology, 131, 1303 – 1308.
[55] Bowen, S., Batis, J., Paez-Martinez, N., & Cruz, M C. S. (2006). The last decade of solvent research in animal models of abuse: mechanistic and behavioral studies. Neurotoxicology and Teratology, 28, 636 – 647.
[56] Cruz, M. C. S. (2014). Los efectos de las drogas: de sueños y pesadillas. D.F., México: Trillas.

Tobacco

The tobacco industry has produced a wide variety of products, and depending on which and on its route of administration, people have contact with different chemical compounds that may cause harm to health. All tobacco products contain nicotine, the main active component responsible for dependence.

Among its more than 4,000 components, tobacco smoke contains gases and particles tiny enough to accumulate in the lung tissue[57]. Smoking originates the primary current that the person directs to the respiratory system and a secondary or lateral current that comes both from the spontaneous combustion and the smoke that exits the lungs.



On average, tobacco cigarettes contain between 10 and 14 mg of nicotine, of which the person who smokes absorbs approximately 1 to 1.5 mg[58]. Nicotine is a weak agonist of nicotinic cholinergic receptors (nAChRs), which means that it activates these receptors, but not as strongly as does the natural neurotransmitter (acetylcholine) in the CNS. Nicotine reinforces the

[57] Martín, A., Rodríguez, I., Rubio, C., Revert, C., & Hardisson, A. (2004). Efectos tóxicos del tabaco. Revista de Toxicología, 21, 64 – 71.
[58] Benowitz, N., Hukkanen, J., & Jacob, PIII. (2009). Nicotine chemistry, metabolism, kinetics and biomarkers. Handbook of Experimental Pharmacology, 192: 29 – 60.

consumption behavior by binding to α4β2 receptors in dopaminergic neurons of the CNS, which produces depolarization and favors the release of dopamine in the nucleus accumbens[59].

In the long-term, people who smoke tobacco exhibit lower than normal levels of the Monoamine oxidase (MAO) enzyme[60]. This alteration favors dependence by the over-stimulation of dopamine release and disabling the brain neurochemical mechanisms that could interrupt it. It is not fully understood yet which component of tobacco smoke produces this enzymatic disarrangement, but surely nicotine is not responsible.

For more information on drugs and their effects, please visit the following websites:

ISSUP networks: https://www.issup.net/networks

- **Alcohol:** https://www.issup.net/network/21
- **Cannabis:** https://www.issup.net/network/26
- **Cocaine:** https://www.issup.net/network/63
- **Tobacco:** https://www.issup.net/network/22

[59] Benowitz, N. (2010). Nicotine addiction. New England Journal of Medicine, 352, 2295 – 2303.
[60] Fowler, J., Volkow, N., Wang, G., Pappas, N., Logan, J., Shea, C., et al. (1996). Brain monoamine oxidase. A inhibition in cigarette smokers. Proceedings of the National Academy of Sciences of the United States of America, 93 (24), 14065 – 14069.

Models and theories on the development of drug use disorders

Drug use, just like any other complex phenomenon, may be regarded in different ways, mainly because of its multifactorial nature. No single model explains drug use in its entirety, but a number of useful theoretical approaches have been developed and refined over time.

The fact that there are many explanatory models should prompt us to analyze each of them, rather than engaging in reductionism and partial interpretations. To do this is crucial, given that individuals who use drugs can be observed and studied from many different perspectives. Among a wide variety of causes, consequences, components, and implications of drug use, a common element is that addictive psychoactive substances produce their effects utilizing different chemical mechanisms of action that modify brain's neurophysiology. This property is the central factor that gives them the capacity to generate positive reinforcement, which leads to the perpetuation of self-administration and may foster harmful use and finally, dependence.

Below are some highlights from the currently most accepted approach, developed by the World Health Organization (WHO), followed by a summary of one of the most popular publications on the subject[61], and finally some relevant elements about the role of genes in the development of drug use disorders.

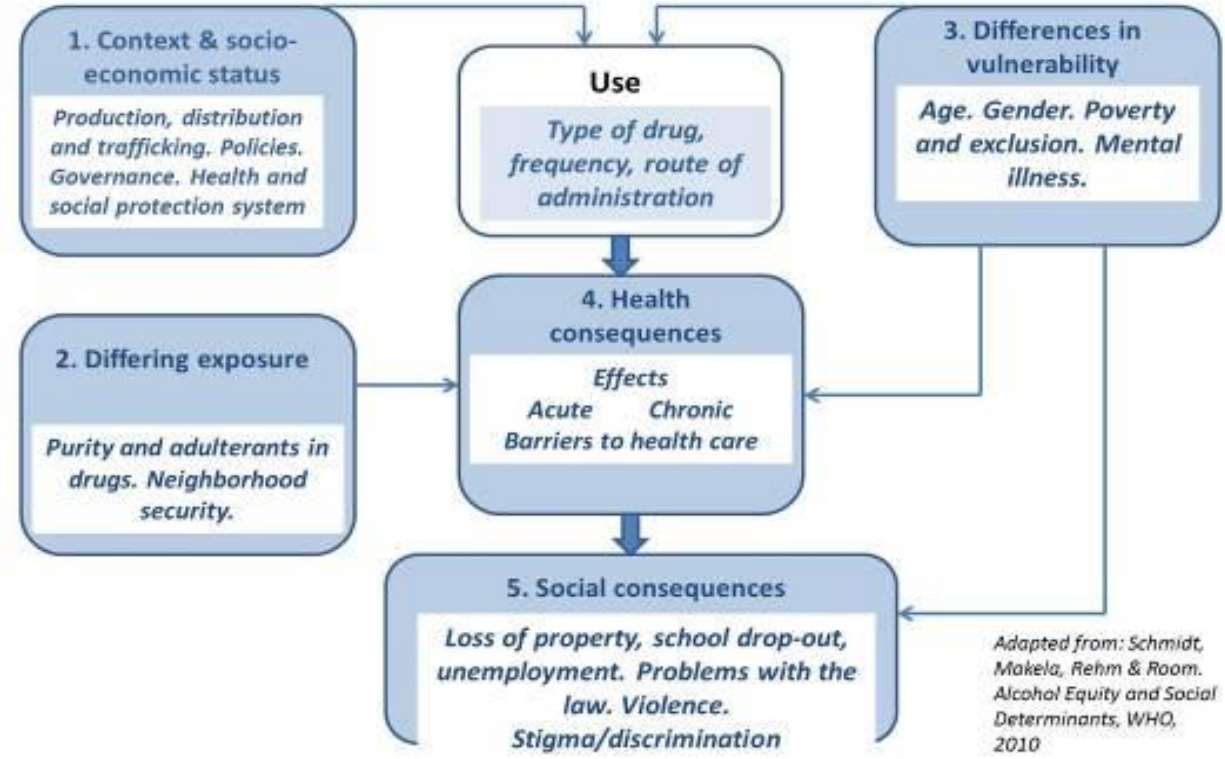
Social determinants of health

Worldwide, most of the population does not use drugs, and among those who try them, only a fraction will develop disorders such as dependence. This process evolves differently in different people, because of the influence of risk and protective factors and their interrelationship with complex systems such as the environment or the community. The Social Determinants of Health (SDH) model[62], an enhanced version of the biopsychosocial approach generated by the World Health Organization (WHO), can help to understand this better. The SDH model proposes five areas of analysis that are common categories applicable to study any phenomenon using a comprehensive approach:

- socioeconomic context and position
- differential exposure to risk factors
- differential vulnerability to risks
- differential health outcomes, and
- differential social consequences

[61] Pons, X. (2008). Modelos interpretativos del consumo de drogas. Polis, 4 (2), 157 – 182.
[62] WHO. (2010). Equity, social determinants and public health programmes. Geneva: World Health Organization, p.7.

There are many factors in each of these areas that exercise some degree of influence on drug use. Of particular interest are the individual differences in vulnerability, like the presence of mental disorders that may foster drug use and related disorders and different problems. The SDH model allows us to look at these elements as part of the phenomenon of drug use in a broader context that shows the interrelationships and interdependencies with other areas or categories of analysis.



The SDH framework has been used to conduct an in-depth analysis of elements involved in alcohol and tobacco use, as well as for psychiatric disorders and other chronic diseases. Concerning alcohol, the context influences the availability of the substance, determined by production, importation, advertising, distribution and pricing, and taxation policies, all which affect the prevalence of substance use and related problems. Socioeconomic status is vital since alcohol is a product associated with people's income level. Low-income people experience a more significant burden of disease attributable to alcohol use, even though they register lower levels of consumption. Regarding differences in vulnerability, higher-income drinkers have better social support structures that protect them from adverse consequences, while among lower-income groups, use of alcoholic beverages takes place more often in public areas, where police and other authorities more easily can spot them. Differential exposure to risk factors is also essential in that lower income groups more often use low quality or tainted alcohol. Besides, there is evidence that shows how culture and the settings in which drinking takes place

mean differentiated exposure to the harms related to alcohol use all along the social scale. People in developing countries and lower income people in developed countries are often the targets of advertising by the alcohol industry and distributors. Some ecological research has shown that the health problems associated with alcohol use are disproportionately severe in low-income communities exposed to heavy advertising and where there is a high density of points of sale.

About the determinants for problems due to tobacco use, within the differences in vulnerability, age is a crucial factor since adolescence is a high-risk period for initiation. Beginning use of tobacco is influenced by family background and socioeconomic status. There are higher rates of consumption in families with both low income and parents' schooling. Other factors that also influence tobacco use are: difficulty in resisting social pressure, particularly among younger people; misinformation about the harms and risks of tobacco use and exposure to tobacco smoke; skepticism about prevention of tobacco use; the presence of social problems, particularly among lower-income people; coexistence of psychological or psychiatric problems, and poor performance in school. The varied levels of exposure constitute a person's vulnerability through the different elements of the physical and social environment that stimulate the onset of use and discourage attempts to stop using. These include some of the following: tobacco use by other people in an individual's environment, particularly tobacco use among peers; availability of tobacco products; advertising and targeted promotion; and lack of community support for tobacco-free zones.

Juridical model

It looks at drug use from the standpoint of its legal and criminal implications. The focus is on the substances and their legal status. This model assumes that drugs that are not considered licit are the source of serious physical, mental and social harms, and therefore must remain out of reach and thus protect the individual and society. This model does not look for a detailed analysis of the phenomenon of drug use or its causes. What is most important is to stress the responsibility of users and the court system, which must apply the relevant sanctions to guarantee, as much as possible, public health and collective safety employing coercive intervention.

Model of distribution of substance use

The focus here is on analysis of supply and availability of a particular substance within a specific population or in a society. It is mainly devoted to the study of drugs considered as licit (alcohol and tobacco) and emphasizes the importance of their availability as an explanation for use, without analyzing the individual determinants that might influence drug use.

Traditional medical model

From this perspective, drug dependence is a disease characterized by a person's loss of control over the use of psychoactive substances, limiting its explanation to the interaction between a person's biological elements and the pharmacological characteristics of addictive psychoactive substances. This orientation is eminently biologic, and hence is not a sufficient interpretation of the complex problem of drug use. Nonetheless, this model has made an enormous contribution to scientific advances in the neurobiology of addictive psychoactive substances. It has also changed how people who develop dependency are referred to, calling them people with substance use disorders, rather than using stigmatizing language such as "deviant" or "criminal."

Harm reduction model

There are various interpretations of this model. For some, it is an attempt to lessen the adverse consequences of drug use on issues such as health and wellbeing, without stopping use. For others, it is the goal of some treatment programs, such as methadone substitution therapy, or as an ethical, pragmatic approach to the social problem of drugs that emphasizes reducing the negative consequences of substance use. The critical statement is that drug use stems from individuals' particular decision.

Social deprivation model

Refers mainly to the socioeconomic conditions in which substance use takes place. It focuses on the relationship between substance and low income in some social groups, looking beyond purely economic conditions. The model states that factors such as poverty, discrimination and lack of opportunities may facilitate substance use. Among the many interpretations of the model, the relationship between drugs and social deprivation can be explained both by the meaning of "offender" that society gives to the person and by the experience of releasing anxiety and relieving disagreeable and depressing sensations, bringing physical and psychological gratification. It recognizes that the drugs-poverty relationship is not one of cause and effect, but proposes that the removal of factors that hamper social wellbeing is a goal to be achieved.

Model of socio-structural factors

The approach is that drug use is part of the lifestyle both of the individual and collectively of the social group to which the person belongs. The drug problem is seen as a social and group phenomenon, going beyond the individual. That is why drug use varies among different social groups, as a function of various factors such as gender, age, educational level, residence and place of origin, historical and social moment, etc. The focus of this model takes into account the link between substance use behavior and factors of the social collectives.

Education for health model

Regards drug use as a problem that affects physical and mental health and the relationships of individuals, which can be reduced by educational efforts to transmit knowledge about behaviors that involve risks to health, as well as those that favor and protect good health. This model states that lack of information lowers risk perception of using drugs, and emphasizes that education and communication need to surpass the mere dissemination of facts.

Individual psychological model

Its focus is on the individual and the complex variability of human conduct, considering that psychoactive substance use can be analyzed and explained using the same principles as for any other human behavior. According to this model, drug use satisfies in the individual some physical, psychological, mood or social need (for example, emotions and sensations interpreted as anxiety, distress, etc.), mainly when it is hard to satisfy those needs by other means. In particular, the model looks at psychological factors that predispose to substance use (risk factors), which configure individual vulnerability. Studies drug use behavior, going beyond dependency.

Socio-ecological model

This model proposes to conceptualize the interplay of factors from three main categories (the drug, the person and the environment) as interrelated constellations of forces that influence a person's conduct. According to this view, human behavior results from a continuous mutual adaptation between persons and the environment. People participate actively in the definition of their acts through the complex interrelationships and interdependencies between individual biology, behavior, and the various levels of the environmental system (family, the community, society, the historical and cultural moment, the political, economic and legal systems, psychoactive substances and its pharmacological effects, among others).

Genetics and drug use disorders

Studies and analyses of epidemiological data on genetics indicate that genes play a critical role in the risk of developing drug dependence. Depending on the substance involved, heritability (the proportion of observed phenotype that can be explained by genetic factors) ranges from 40 to 80%. Because it is a genetically complex illness, it does not fit the classic pattern of Mendelian inheritance[63]. A combined effect of multiple genes and a variety of environmental factors influence the person's vulnerability to drug dependence[64,65].

In clinical settings, genetic analyses are still not conclusive and remain at the research and development stage.

For more information about genetics and addiction, please visit:

ISSUP networks: https://www.issup.net/networks

- **Genetics: https://www.issup.net/network/43**

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Diagnostic criteria

International Classification of Diseases (ICD) – 11

Disorders due to substance use or addictive behaviors

Disorders due to substance use and addictive behaviors are mental and behavioral disorders that develop as a result of the use of predominantly psychoactive substances, including medications, or specific repetitive rewarding and reinforcing behaviors.

Disorders due to substance use

Disorders due to substance use include single episodes of harmful substance use, substance use disorders (harmful substance use and substance dependence), and substance-induced disorders such as substance intoxication, substance withdrawal and substance-induced mental disorders, sexual dysfunctions and sleep-wake disorders.

Disorders due to use of alcohol (6C40)

Disorders due to use of alcohol are characterized by the pattern and consequences of alcohol use. In addition to Alcohol intoxication, alcohol has dependence-inducing properties, resulting in Alcohol dependence in some people and Alcohol withdrawal when use is reduced or discontinued. Alcohol is implicated in a wide range of harms affecting most organs and systems of the body, which may be classified as Single episode of harmful use of alcohol and Harmful pattern of use of alcohol. Harm to others resulting from behavior during Alcohol intoxication is included in the definitions of Harmful use of alcohol. Several alcohol-induced mental disorders and alcohol-related forms of neurocognitive impairment are recognized.

Note: Code also the underlying condition

Exclusions: Hazardous alcohol use (QE10)

Single episode of harmful use of alcohol 6C40.0

A single episode of use of alcohol that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior due to alcohol intoxication on the part of the person to whom the diagnosis of single episode of harmful use applies. This diagnosis should not be made if the harm is attributed to a known pattern of alcohol use.

Exclusions: Harmful pattern of use of alcohol (6C40.1), and Alcohol dependence (6C40.2)

Harmful pattern of use of alcohol 6C40.1

A pattern of alcohol use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of alcohol use is evident over a period of at least 12 months if substance use is episodic or at least one month if use is continuous. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to alcohol intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of alcohol applies.

Exclusions: Alcohol dependence (6C40.2), and Single episode of harmful use of alcohol (6C40.0)

Harmful pattern of use of alcohol, episodic 6C40.10

A pattern of episodic or intermittent alcohol use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of episodic alcohol use is evident over a period of at least 12 months. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to alcohol intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of alcohol applies.

Exclusions: Single episode of harmful use of alcohol (6C40.0), and Alcohol dependence (6C40.2)

Harmful pattern of use of alcohol, continuous 6C40.11

A pattern of continuous (daily or almost daily) alcohol use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of continuous alcohol use is evident over a period of at least one month. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to alcohol intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of alcohol applies.

Inclusions: Chronic alcohol abuse

Exclusions:

- Episode of harmful use of alcohol (6C40.0)
- Alcohol dependence (6C40.2)

Alcohol dependence 6C40.2

Alcohol dependence is a disorder of regulation of alcohol use arising from repeated or continuous use of alcohol. The characteristic feature is a strong internal drive to use alcohol, which is manifested by impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a subjective sensation of urge or craving to use alcohol. Physiological features of dependence may also be present, including tolerance to the effects of alcohol, withdrawal symptoms following cessation or reduction in use of alcohol, or repeated use of alcohol or pharmacologically similar substances to prevent or alleviate withdrawal symptoms. The features of dependence are usually evident over a period of at least 12 months but the diagnosis may be made if alcohol use is continuous (daily or almost daily) for at least 1 month.

Inclusions:

- Chronic alcoholism
- Dipsomania

Exclusions:

- Episode of harmful use of alcohol (6C40.0)
- Harmful pattern of use of alcohol (6C40.1)

Alcohol dependence, current use, continuous 6C40.20

Alcohol dependence with continuous consumption of alcohol (daily or almost daily) over a period of at least 1 month.

Exclusions:

- Episode of harmful use of alcohol (6C40.0)
- Harmful pattern of use of alcohol (6C40.1)

Alcohol dependence, current use, episodic 6C40.21

During the past 12 months, there has been alcohol dependence with intermittent heavy drinking, with periods of abstinence from alcohol. If current use is continuous (daily or almost daily over at least the past 1 month), the diagnosis of Alcohol dependence, current use, continuous should be made instead.

Exclusions:

- Episode of harmful use of alcohol (6C40.0)
- Harmful pattern of use of alcohol (6C40.1)

Alcohol dependence, early full remission 6C40.22

After a diagnosis of alcohol dependence, and often following a treatment episode or other intervention (including self-help intervention), the individual has been abstinent from alcohol during a period lasting from between 1 and 12 months.

Exclusions:

- Episode of harmful use of alcohol (6C40.0)
- Harmful pattern of use of alcohol (6C40.1)

Alcohol dependence, sustained partial remission 6C40.23

After a diagnosis of alcohol dependence, and often following a treatment episode or other intervention (including self-help intervention), there is a significant reduction in alcohol consumption for more than 12 months, such that even though intermittent or continuing drinking has occurred during this period, the definitional requirements for dependence have not been met.

Exclusions:

- Episode of harmful use of alcohol (6C40.0)
- Harmful pattern of use of alcohol (6C40.1)

Alcohol dependence, sustained full remission 6C40.24

After a diagnosis of alcohol dependence, and often following a treatment episode or other intervention (including self-intervention), the person has been abstinent from alcohol for 12 months or longer.

Exclusions:

- Episode of harmful use of alcohol (6C40.0)
- Harmful pattern of use of alcohol (6C40.1)

Alcohol intoxication 6C40.3

Alcohol intoxication is a clinically significant transient condition that develops during or shortly after the consumption of alcohol that is characterized by disturbances in consciousness, cognition, perception, affect, behavior, or coordination. These disturbances are caused by the known pharmacological effects of alcohol and their intensity is closely related to the amount of alcohol consumed. They are time-limited and abate as alcohol is cleared from the body. Presenting features may include impaired attention, inappropriate or aggressive behavior, lability of mood, impaired judgment, poor coordination, unsteady gait, and slurred speech. At more severe levels of intoxication, stupor or coma may occur.

Exclusions:

- alcohol poisoning (NE61)

- Possession trance disorder (6B63)

Alcohol withdrawal 6C40.4

Alcohol withdrawal is a clinically significant cluster of symptoms, behaviors and/or physiological features, varying in degree of severity and duration, that occurs upon cessation or reduction of use of alcohol in individuals who have developed Alcohol dependence or have used alcohol for a prolonged period or in large amounts. Presenting features of Alcohol withdrawal may include autonomic hyperactivity, increased hand tremor, nausea, retching or vomiting, insomnia, anxiety, psychomotor agitation, transient visual, tactile or auditory hallucinations, and distractibility. Less commonly, the withdrawal state is complicated by seizures. The withdrawal state may progress to a very severe form of delirium characterized by confusion and disorientation, delusions, and prolonged visual, tactile or auditory hallucinations. In such cases, a separate diagnosis of Alcohol-induced delirium should also be assigned.

Alcohol withdrawal, uncomplicated 6C40.40

All diagnostic requirements for Alcohol Withdrawal are met and the withdrawal state is not accompanied by perceptual disturbances or seizures.

Alcohol withdrawal, with perceptual disturbances 6C40.41

All diagnostic requirements for Alcohol withdrawal are met and the withdrawal state is accompanied by perceptual disturbances (e.g., visual or tactile hallucinations or illusions) with intact reality testing. There is no evidence of confusion and other diagnostic requirements for Delirium are not met. The withdrawal state is not accompanied by seizures.

Alcohol withdrawal, with seizures 6C40.42

All diagnostic requirements for Alcohol withdrawal are met and the withdrawal state is accompanied by seizures (i.e., generalized tonic-clonic seizures) but not by perceptual disturbances.

Alcohol withdrawal with perceptual disturbances and seizures 6C40.43

All diagnostic requirements for Alcohol withdrawal are met and the withdrawal state is accompanied by both seizures (i.e., generalized tonic-clonic seizures) and perceptual disturbances (e.g., visual or tactile hallucinations or illusions) with intact reality testing. Diagnostic requirements for Delirium are not met.

Alcohol-induced delirium 6C40.5

Alcohol-induced delirium is characterized by an acute state of disturbed attention and awareness with specific features of delirium that develops during or soon after substance intoxication or withdrawal or during the use of alcohol. The amount and duration of alcohol use must be capable of producing delirium. Specific features of alcohol-induced delirium may include impaired consciousness with disorientation, vivid hallucinations and illusions, insomnia, delusions, agitation, disturbances of attention, and accompanying tremor and physiological symptoms of alcohol withdrawal. In some cases of alcohol withdrawal, the withdrawal state may progress to a very severe form of Alcohol-induced delirium. The symptoms are not better explained by a primary mental disorder, by use of or withdrawal from a different substance, or by another health condition that is not classified under Mental, behavioral and neurodevelopmental disorders.

Inclusions:

- Delirium tremens (alcohol-induced)
- Delirium induced by alcohol withdrawal

Alcohol-induced psychotic disorder 6C40.6

Alcohol-induced psychotic disorder is characterized by psychotic symptoms (e.g., delusions, hallucinations, disorganized thinking, grossly disorganized behavior) that develop during or soon after intoxication with or withdrawal from alcohol. The intensity or duration of the symptoms is substantially in excess of psychotic-like disturbances of perception, cognition, or behavior that are characteristic of Alcohol intoxication or Alcohol withdrawal. The amount and duration of alcohol use must be capable of producing psychotic symptoms. The symptoms are not better explained by a primary mental disorder (e.g., Schizophrenia, a Mood disorder with psychotic symptoms), as might be the case if the psychotic symptoms preceded the onset of the alcohol use, if the symptoms persist for a substantial period of time after cessation of the alcohol use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with psychotic symptoms (e.g., a history of prior episodes not associated with alcohol use).

Inclusions:

- alcoholic jealousy

Alcohol-induced psychotic disorder with hallucinations 6C40.60

Alcohol-induced psychotic disorder with hallucinations is characterized by the presence of hallucinations that are judged to be the direct consequence of alcohol use. Neither delusions nor other psychotic symptoms are present. The symptoms do not occur exclusively during hypnogogic or hypnopompic states, are not better accounted for by another mental and

behavioral disorder (e.g., schizophrenia), and are not due to another disorder or disease classified elsewhere (e.g., epilepsies with visual symptoms).

Alcohol-induced psychotic disorder with delusions 6C40.61

Alcohol-induced psychotic disorder with delusions is characterized by the presence of delusions that are judged to be the direct consequence of alcohol use. Neither hallucinations nor other psychotic symptoms are present. The symptoms do not occur exclusively during hypnogogic or hypnopompic states, are not better accounted for by another mental and behavioral disorder (e.g., schizophrenia), and are not due to another disorder or disease classified elsewhere (e.g., epilepsies with visual symptoms).

Alcohol-induced psychotic disorder with mixed psychotic symptoms 6C40.62

Alcohol-induced psychotic disorder with mixed psychotic symptoms is characterized by the presence of multiple psychotic symptoms, primarily hallucinations and delusions, when these are judged to be the direct consequence of alcohol use. The symptoms do not occur exclusively during hypnogogic or hypnopompic states, are not better accounted for by another mental and behavioral disorder (e.g., schizophrenia), and are not due to another disorder or disease classified elsewhere (e.g., epilepsies with visual symptoms).

Disorders due to use of cannabis (6C41)

Disorders due to use of cannabis are characterized by the pattern and consequences of cannabis use. In addition to Cannabis intoxication, cannabis has dependence-inducing properties, resulting in Cannabis dependence in some people and Cannabis withdrawal when use is reduced or discontinued. Cannabis is implicated in a wide range of harms affecting most organs and systems of the body, which may be classified as Single episode of harmful use of cannabis and Harmful pattern of use of cannabis. Harm to others resulting from behavior during Cannabis intoxication is included in the definitions of Harmful use of cannabis. Several cannabis-induced mental disorders are recognized.

Exclusions:

- Disorders due to use of synthetic cannabinoids (6C42)
- Hazardous use of cannabis (QE11.1)

Episode of harmful use of cannabis 6C41.0

A single episode of use of cannabis that has caused damage to a person's physical or mental health or has resulted in behaviour leading to harm to the health of others. Harm to health of the individual occurs due to one or more of the following: (1) behaviour related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of

administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior due to cannabis intoxication on the part of the person to whom the diagnosis of single episode of harmful use applies. This diagnosis should not be made if the harm is attributed to a known pattern of cannabis use.

Exclusions:

- Cannabis dependence (6C41.2)
- Harmful pattern of use of cannabis (6C41.1)

Harmful pattern of use of cannabis 6C41.1

A pattern of cannabis use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of cannabis use is evident over a period of at least 12 months if substance use is episodic or at least one month if use is continuous (i.e., daily or almost daily). Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to cannabis intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of cannabis applies.

Exclusions:

- Cannabis dependence (6C41.2)
- Episode of harmful use of cannabis (6C41.0)

Harmful pattern of use of cannabis, episodic 6C41.10

A pattern of episodic or intermittent cannabis use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of episodic cannabis use is evident over a period of at least 12 months. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to cannabis intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of cannabis applies.

Exclusions:

- Episode of harmful use of cannabis (6C41.0)
- Cannabis dependence (6C41.2)

Harmful pattern of use of cannabis, continuous 6C41.11

A pattern of continuous (daily or almost daily) cannabis use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of continuous cannabis use is evident over a period of at least one month. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to cannabis intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of cannabis applies.

Exclusions:

- Episode of harmful use of cannabis (6C41.0)
- Cannabis dependence (6C41.2)

Cannabis dependence 6C41.2

Cannabis dependence is a disorder of regulation of cannabis use arising from repeated or continuous use of cannabis. The characteristic feature is a strong internal drive to use cannabis, which is manifested by impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a subjective sensation of urge or craving to use cannabis. Physiological features of dependence may also be present, including tolerance to the effects of cannabis, withdrawal symptoms following cessation or reduction in use of cannabis, or repeated use of cannabis or pharmacologically similar substances to prevent or alleviate withdrawal symptoms. The features of dependence are usually evident over a period of at least 12 months but the diagnosis may be made if cannabis use is continuous (daily or almost daily) for at least 1 month.

Exclusions:

- Episode of harmful use of cannabis (6C41.0)
- Harmful pattern of use of cannabis (6C41.1)

Cannabis dependence, current use 6C41.20

Current cannabis dependence with use of cannabis within the past month.

Exclusions:

- Episode of harmful use of cannabis (6C41.0)
- Harmful pattern of use of cannabis (6C41.1)

Cannabis dependence, early full remission 6C41.21

After a diagnosis of cannabis dependence, and often following a treatment episode or other intervention (including self-help intervention), the individual has been abstinent from cannabis during a period lasting from between 1 and 12 months.

Exclusions:

- Episode of harmful use of cannabis (6C41.0)
- Harmful pattern of use of cannabis (6C41.1)

Cannabis dependence, sustained partial remission 6C41.22

After a diagnosis of cannabis dependence, and often following a treatment episode or other intervention (including self-help intervention), there is a significant reduction in cannabis consumption for more than 12 months, such that even though cannabis use has occurred during this period, the definitional requirements for dependence have not been met.

Exclusions:

- Episode of harmful use of cannabis (6C41.0)
- Harmful pattern of use of cannabis (6C41.1)

Cannabis dependence, sustained full remission 6C41.23

After a diagnosis of cannabis dependence, and often following a treatment episode or other intervention (including self-intervention), the person has been abstinent from cannabis for 12 months or longer.

Exclusions:

- Episode of harmful use of cannabis (6C41.0)
- Harmful pattern of use of cannabis (6C41.1)

Cannabis intoxication 6C41.3

Cannabis intoxication is a clinically significant transient condition that develops during or shortly after the consumption of cannabis that is characterized by disturbances in consciousness, cognition, perception, affect, behavior, or coordination. These disturbances are caused by the known pharmacological effects of cannabis and their intensity is closely related to the amount of cannabis consumed. They are time-limited and abate as cannabis is cleared from the body. Presenting features may include inappropriate euphoria, impaired attention, impaired judgment, perceptual alterations (such as the sensation of floating, altered perception of time), changes in sociability, increased appetite, anxiety, intensification of ordinary experiences, impaired short-term memory, and sluggishness. Physical signs include conjunctival injection (red or bloodshot eyes) and tachycardia.

Inclusions: "Bad trips" (cannabinoids)

Exclusions:

- cannabinoid poisoning (NE60)
- Possession trance disorder (6B63)

Cannabis withdrawal 6C41.4

Cannabis withdrawal is a clinically significant cluster of symptoms, behaviors and/or physiological features, varying in degree of severity and duration, that occurs upon cessation or reduction of use of cannabis in individuals who have developed Cannabis dependence or have used cannabis for a prolonged period or in large amounts. Presenting features of Cannabis withdrawal may include irritability, anger, shakiness, insomnia, restlessness, anxiety, dysphoric mood, appetite disturbance, abdominal cramps and muscle aches.

Cannabis-induced delirium 6C41.5

Cannabis-induced delirium is characterized by an acute state of disturbed attention and awareness with specific features of delirium that develops during or soon after substance intoxication or withdrawal or during the use of cannabis. The amount and duration of cannabis use must be capable of producing delirium. The symptoms are not better explained by a primary mental disorder, by use of or withdrawal from a different substance, or by another health condition that is not classified under Mental, behavioral and neurodevelopmental disorders.

Cannabis-induced psychotic disorder 6C41.6

Cannabis-induced psychotic disorder is characterized by psychotic symptoms (e.g., delusions, hallucinations, disorganized thinking, grossly disorganized behavior) that develop during or soon after intoxication with or withdrawal from cannabis. The intensity or duration of the symptoms is substantially in excess of psychotic-like disturbances of perception, cognition, or behavior that are characteristic of Cannabis intoxication or Cannabis withdrawal. The amount and duration of cannabis use must be capable of producing psychotic symptoms. The symptoms are not better explained by a primary mental disorder (e.g., Schizophrenia, a Mood disorder with psychotic symptoms), as might be the case if the psychotic symptoms preceded the onset of the cannabis use, if the symptoms persist for a substantial period of time after cessation of the cannabis use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with psychotic symptoms (e.g., a history of prior episodes not associated with cannabis use).

Cannabis-induced mood disorder 6C41.70

Cannabis-induced mood disorder is characterized by mood symptoms (e.g., depressed or elevated mood, decreased engagement in pleasurable activities, increased or decreased energy levels) that develop during or soon after intoxication with or withdrawal from cannabis. The intensity or duration of the symptoms is substantially in excess of mood disturbances that are characteristic of Cannabis intoxication or Cannabis withdrawal. The amount and duration of cannabis use must be capable of producing mood symptoms. The symptoms are not better explained by a primary mental disorder (e.g., a Depressive disorder, a Bipolar disorder, Schizoaffective disorder), as might be the case if the mood symptoms preceded the onset of the cannabis use, if the symptoms persist for a substantial period of time after cessation of the cannabis use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with mood symptoms (e.g., a history of prior episodes not associated with cannabis use).

Cannabis-induced anxiety disorder 6C41.71

Cannabis-induced anxiety disorder is characterized by anxiety symptoms (e.g., apprehension or worry, fear, physiological symptoms of excessive autonomic arousal, avoidance behavior) that develop during or soon after intoxication with or withdrawal from cannabis. The intensity or duration of the symptoms is substantially in excess of anxiety symptoms that are characteristic of Cannabis intoxication or Cannabis withdrawal. The amount and duration of cannabis use must be capable of producing anxiety symptoms. The symptoms are not better explained by a primary mental disorder (e.g., an Anxiety and Fear-Related Disorder, a Depressive Disorder with prominent anxiety symptoms), as might be the case if the anxiety symptoms preceded the onset of the cannabis use, if the symptoms persist for a substantial period of time after cessation of the cannabis use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with anxiety symptoms (e.g., a history of prior episodes not associated with cannabis use).

Disorders due to use of synthetic cannabinoids (6C42)

Disorders due to use of synthetic cannabinoids are characterized by the pattern and consequences of synthetic cannabinoid use. In addition to Synthetic cannabinoid intoxication, synthetic cannabinoids have dependence-inducing properties, resulting in Synthetic cannabinoid dependence in some people and Synthetic cannabinoid withdrawal when use is reduced or discontinued. Synthetic cannabinoids are implicated in a wide range of harms affecting most organs and systems of the body, which may be classified as Single episode of harmful use of synthetic cannabinoid and Harmful pattern of use of synthetic cannabinoid. Harm to others resulting from behavior during Synthetic cannabinoid intoxication is included in

the definitions of Harmful use of synthetic cannabinoids. Several Synthetic cannabinoid-induced mental disorders are recognized.

Exclusions:

- Disorders due to use of cannabis (6C41)

Episode of harmful use of synthetic cannabinoids 6C42.0

A single episode of use of a synthetic cannabinoid that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior due to synthetic cannabinoid intoxication on the part of the person to whom the diagnosis of single episode of harmful use applies. This diagnosis should not be made if the harm is attributed to a known pattern of synthetic cannabinoid use.

Exclusions:

- Harmful pattern of use of synthetic cannabinoids (6C42.1)
- Synthetic cannabinoid dependence (6C42.2)

Harmful pattern of use of synthetic cannabinoids 6C42.1

A pattern of use of synthetic cannabinoids that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of synthetic cannabinoid use is evident over a period of at least 12 months if substance use is episodic or at least one month if use is continuous (i.e., daily or almost daily). Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to synthetic cannabinoid intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of synthetic cannabinoids applies.

Exclusions:

- Episode of harmful use of synthetic cannabinoids (6C42.0)
- Synthetic cannabinoid dependence (6C42.2)

Harmful pattern of use of synthetic cannabinoids, episodic 6C42.10

A pattern of episodic or intermittent use of synthetic cannabinoids that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of

others. The pattern of episodic synthetic cannabinoid use is evident over a period of at least 12 months. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to synthetic cannabinoid intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of synthetic cannabinoids applies.

Exclusions:

- Episode of harmful use of synthetic cannabinoids (6C42.0)
- Synthetic cannabinoid dependence (6C42.2)

Harmful pattern of use of synthetic cannabinoids, continuous 6C42.11

A pattern of continuous (daily or almost daily) use of synthetic cannabinoids that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of continuous synthetic cannabinoid use is evident over a period of at least one month. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to synthetic cannabinoid intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of synthetic cannabinoids applies.

Exclusions:

- Episode of harmful use of synthetic cannabinoids (6C42.0)
- Synthetic cannabinoid dependence (6C42.2)

Synthetic cannabinoid dependence 6C42.2

Synthetic cannabinoid dependence is a disorder of regulation of synthetic cannabinoid use arising from repeated or continuous use of synthetic cannabinoids. The characteristic feature is a strong internal drive to use synthetic cannabinoids, which is manifested by impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a subjective sensation of urge or craving to use synthetic cannabinoids. Physiological features of dependence may also be present, including tolerance to the effects of synthetic cannabinoids, withdrawal symptoms following cessation or reduction in use of synthetic cannabinoids, or repeated use of synthetic cannabinoids or pharmacologically similar substances to prevent or alleviate withdrawal symptoms. The features of dependence are usually evident over a period of at least 12 months but the diagnosis may be made if synthetic cannabinoid use is continuous (daily or almost daily) for at least 1 month.

Exclusions:

- Episode of harmful use of synthetic cannabinoids (6C42.0)
- Harmful pattern of use of synthetic cannabinoids (6C42.1)

Synthetic cannabinoid dependence, current use 6C42.20

Current synthetic cannabinoid dependence with use of synthetic cannabinoids within the past month.

Exclusions:

- Episode of harmful use of synthetic cannabinoids (6C42.0)
- Harmful pattern of use of synthetic cannabinoids (6C42.1)

Synthetic cannabinoid dependence, early full remission 6C42.21

After a diagnosis of synthetic cannabinoid dependence, and often following a treatment episode or other intervention (including self-help intervention), the individual has been abstinent from synthetic cannabinoid use during a period lasting from between 1 and 12 months.

Exclusions:

- Episode of harmful use of synthetic cannabinoids (6C42.0)
- Harmful pattern of use of synthetic cannabinoids (6C42.1)

Synthetic cannabinoid dependence, sustained partial remission 6C42.22

After a diagnosis of synthetic cannabinoid dependence, and often following a treatment episode or other intervention (including self-help intervention), there is a significant reduction in synthetic cannabinoid consumption for more than 12 months, such that even though synthetic cannabinoid use has occurred during this period, the definitional requirements for dependence have not been met.

Exclusions:

- Episode of harmful use of synthetic cannabinoids (6C42.0)
- Harmful pattern of use of synthetic cannabinoids (6C42.1)

Synthetic cannabinoid dependence, sustained full remission 6C42.23

After a diagnosis of synthetic cannabinoid dependence, and often following a treatment episode or other intervention (including self-intervention), the person has been abstinent from synthetic cannabinoid use for 12 months or longer.

Exclusions:

- Episode of harmful use of synthetic cannabinoids (6C42.0)
- Harmful pattern of use of synthetic cannabinoids (6C42.1)

Synthetic cannabinoid intoxication 6C42.3

Synthetic cannabinoid intoxication is a clinically significant transient condition that develops during or shortly after the consumption of synthetic cannabinoids that is characterized by disturbances in consciousness, cognition, perception, affect, behavior, or coordination. These disturbances are caused by the known pharmacological effects of synthetic cannabinoids and their intensity is closely related to the amount of synthetic cannabinoid consumed. They are time-limited and abate as synthetic cannabinoid is cleared from the body. Presenting features may include inappropriate euphoria, impaired attention, impaired judgment, perceptual alterations (such as the sensation of floating, altered perception of time), changes in sociability, increased appetite, anxiety, intensification of ordinary experiences, impaired short-term memory, and sluggishness. Physical signs include conjunctival injection (red or bloodshot eyes) and tachycardia. Intoxication with synthetic cannabinoids may also cause delirium or acute psychosis.

Synthetic cannabinoid withdrawal 6C42.4

Synthetic cannabinoid withdrawal is a clinically significant cluster of symptoms, behaviors and/or physiological features, varying in degree of severity and duration, that occurs upon cessation or reduction of use of synthetic cannabinoids in individuals who have developed Synthetic cannabinoid dependence or have used synthetic cannabinoids for a prolonged period or in large amounts. Presenting features of Synthetic cannabinoid withdrawal may include irritability, anger, aggression, shakiness, insomnia and disturbing dreams, restlessness, anxiety, depressed mood and appetite disturbance. In the early phase, Synthetic cannabinoid withdrawal may be accompanied by residual features of intoxication from the drug, such as paranoid ideation and auditory and visual hallucinations.

Synthetic cannabinoid-induced delirium 6C42.5

Synthetic cannabinoid-induced delirium is characterized by an acute state of disturbed attention and awareness with specific features of delirium that develops during or soon after substance intoxication or withdrawal or during the use of synthetic cannabinoids. The amount and duration of synthetic cannabinoid use must be capable of producing delirium. The symptoms are not better explained by a primary mental disorder, by use of or withdrawal from a different substance, or by another health condition that is not classified under Mental, behavioral and neurodevelopmental disorders.

Synthetic cannabinoid-induced psychotic disorder 6C42.6

Synthetic cannabinoid-induced psychotic disorder is characterized by psychotic symptoms (e.g., delusions, hallucinations, disorganized thinking, grossly disorganized behavior) that develop during or soon after intoxication with or withdrawal from synthetic cannabinoids. The intensity or duration of the symptoms is substantially in excess of psychotic-like disturbances of perception, cognition, or behavior that are characteristic of Synthetic cannabinoid intoxication or Synthetic cannabinoid withdrawal. The amount and duration of synthetic cannabinoid use must be capable of producing psychotic symptoms. The symptoms are not better explained by a primary mental disorder (e.g., Schizophrenia, a Mood disorder with psychotic symptoms), as might be the case if the psychotic symptoms preceded the onset of the synthetic cannabinoid use, if the symptoms persist for a substantial period of time after cessation of the synthetic cannabinoid use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with psychotic symptoms (e.g., a history of prior episodes not associated with synthetic cannabinoid use).

Synthetic cannabinoid-induced mood disorder 6C42.70

Synthetic cannabinoid-induced mood disorder is characterized by mood symptoms (e.g., depressed or elevated mood, decreased engagement in pleasurable activities, increased or decreased energy levels) that develop during or soon after intoxication with or withdrawal from synthetic cannabinoids. The intensity or duration of the symptoms is substantially in excess of mood disturbances that are characteristic of Synthetic cannabinoid intoxication or Synthetic cannabinoid withdrawal. The amount and duration of synthetic cannabinoid use must be capable of producing mood symptoms. The symptoms are not better explained by a primary mental disorder (e.g., a Depressive disorder, a Bipolar disorder, Schizoaffective disorder), as might be the case if the mood symptoms preceded the onset of the synthetic cannabinoid use, if the symptoms persist for a substantial period of time after cessation of the synthetic cannabinoid use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with mood symptoms (e.g., a history of prior episodes not associated with synthetic cannabinoid use).

Synthetic cannabinoid-induced anxiety disorder 6C42.71

Synthetic cannabinoid-induced anxiety disorder is characterized by anxiety symptoms (e.g., apprehension or worry, fear, physiological symptoms of excessive autonomic arousal, avoidance behavior) that develop during or soon after intoxication with or withdrawal from synthetic cannabinoids. The intensity or duration of the symptoms is substantially in excess of anxiety symptoms that are characteristic of Synthetic cannabinoid intoxication or Synthetic cannabinoid withdrawal. The amount and duration of synthetic cannabinoid use must be capable of producing anxiety symptoms. The symptoms are not better explained by a primary

mental disorder (e.g., an Anxiety and Fear-Related Disorder, a Depressive Disorder with prominent anxiety symptoms), as might be the case if the anxiety symptoms preceded the onset of the synthetic cannabinoid use, if the symptoms persist for a substantial period of time after cessation of the synthetic cannabinoid use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with anxiety symptoms (e.g., a history of prior episodes not associated with synthetic cannabinoid use).

Disorders due to use of opioids (6C43)

Disorders due to use of opioids are characterized by the pattern and consequences of opioid use. In addition to Opioid intoxication, opioids have dependence-inducing properties, resulting in Opioid dependence in some people and Opioid withdrawal when use is reduced or discontinued. Opioids are implicated in a wide range of harms affecting most organs and systems of the body, which may be classified as Single episode of harmful use of opioids and Harmful pattern of use of opioids. Harm to others resulting from behavior during Opioid intoxication is included in the definitions of Harmful use of opioids. Several opioid-induced mental disorders are recognized.

Exclusions:

- Hazardous use of opioids (QE11.0)

Harmful pattern of use of opioids 6C43.1

A pattern of use of opioids that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of opioid use is evident over a period of at least 12 months if substance use is episodic or at least one month if use is continuous (i.e., daily or almost daily). Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to opioid intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of opioids applies.

Exclusions:

- Episode of harmful use of opioids (6C43.0)
- Opioid dependence (6C43.2)

Harmful pattern of use of opioids, episodic 6C43.10

A pattern of episodic or intermittent use of opioids that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of episodic opioid use is evident over a period of at least 12 months. Harm to

health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to opioid intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of opioids applies.

Exclusions:

- Episode of harmful use of opioids (6C43.0)
- Opioid dependence (6C43.2)

Harmful pattern of use of opioids, continuous 6C43.11

A pattern of continuous (daily or almost daily) use of opioids that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of continuous opioid use is evident over a period of at least one month. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to opioid intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of opioids applies.

Exclusions:

- Episode of harmful use of opioids (6C43.0)
- Opioid dependence (6C43.2)

Opioid dependence 6C43.2

Opioid dependence is a disorder of regulation of opioid use arising from repeated or continuous use of opioids. The characteristic feature is a strong internal drive to use opioids, which is manifested by impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a subjective sensation of urge or craving to use opioids. Physiological features of dependence may also be present, including tolerance to the effects of opioids, withdrawal symptoms following cessation or reduction in use of opioids, or repeated use of opioids or pharmacologically similar substances to prevent or alleviate withdrawal symptoms. The features of dependence are usually evident over a period of at least 12 months but the diagnosis may be made if opioid use is continuous (daily or almost daily) for at least 1 month.

Exclusions:

- Episode of harmful use of opioids (6C43.0)
- Harmful pattern of use of opioids (6C43.1)

Opioid dependence, current use 6C43.20

Opioid dependence, with use of an opioid within the past month.

Exclusions:

- Episode of harmful use of opioids (6C43.0)
- Harmful pattern of use of opioids (6C43.1)

Opioid dependence, early full remission 6C43.21

After a diagnosis of opioid dependence, and often following a treatment episode or other intervention (including self-help intervention), the individual has been abstinent from opioid use during a period lasting from between 1 and 12 months.

Exclusions:

- Episode of harmful use of opioids (6C43.0)
- Harmful pattern of use of opioids (6C43.1)

Opioid dependence, sustained partial remission 6C43.22

After a diagnosis of Opioid dependence, and often following a treatment episode or other intervention (including self-help intervention), there is a significant reduction in opioid consumption for more than 12 months, such that even though opioid use has occurred during this period, the definitional requirements for dependence have not been met.

Exclusions:

- Episode of harmful use of opioids (6C43.0)
- Harmful pattern of use of opioids (6C43.1)

Opioid dependence, sustained full remission 6C43.23

After a diagnosis of Opioid dependence, and often following a treatment episode or other intervention (including self-intervention), the person has been abstinent from opioids for 12 months or longer.

Exclusions:

- Episode of harmful use of opioids (6C43.0)
- Harmful pattern of use of opioids (6C43.1)

Opioid intoxication 6C43.3

Opioid intoxication is a clinically significant transient condition that develops during or shortly after the consumption of opioids that is characterized by disturbances in consciousness, cognition, perception, affect, behavior, or coordination. These disturbances are caused by the

known pharmacological effects of opioids and their intensity is closely related to the amount of opioids consumed. They are time-limited and abate as opioids are cleared from the body. Presenting features may include somnolence, mood changes (e.g., inappropriate euphoria followed by apathy and dysphoria), reduced movement, impaired judgment, respiratory depression, slurred speech, and impairment of memory and attention. In severe intoxication coma may ensue. A characteristic physical sign is pupillary constriction but this sign may be absent when intoxication is due to synthetic opioids. Severe opioid intoxication can lead to death due to excessive respiratory depression.

Exclusions:

- opioid poisoning (NE60)
- Possession trance disorder (6B63)

Opioid withdrawal 6C43.4

Opioid withdrawal is a clinically significant cluster of symptoms, behaviors and/or physiological features, varying in degree of severity and duration, that occurs upon cessation or reduction of use of opioids in individuals who have developed Opioid dependence or have used opioids for a prolonged period or in large amounts. Opioid withdrawal can also occur when prescribed opioids have been used in standard therapeutic doses. Presenting features of Opioid withdrawal may include dysphoric mood, craving for an opioid, anxiety, nausea or vomiting, abdominal cramps, muscle aches, yawning, perspiration, hot and cold flushes, lacrimation, rhinorrhea, hypersomnia (typically in the initial phase) or insomnia, diarrhea and piloerection.

Opioid-induced delirium 6C43.5

Opioid-induced delirium is characterized by an acute state of disturbed attention and awareness with specific features of delirium that develops during or soon after substance intoxication or withdrawal or during the use of opioids. The amount and duration of opioid use must be capable of producing delirium. The symptoms are not better explained by a primary mental disorder, by use of or withdrawal from a different substance, or by another health condition that is not classified under Mental, Behavioral, and Neurodevelopmental Disorders.

Inclusions: Delirium induced by opioid withdrawal

Opioid-induced psychotic disorder 6C43.6

Opioid-induced psychotic disorder is characterized by psychotic symptoms (e.g., delusions, hallucinations, disorganized thinking, grossly disorganized behavior) that develop during or soon after intoxication with or withdrawal from opioids. The intensity or duration of the symptoms is substantially in excess of psychotic-like disturbances of perception, cognition, or behavior that are characteristic of Opioid intoxication or Opioid withdrawal. The amount and

duration of opioid use must be capable of producing psychotic symptoms. The symptoms are not better explained by a primary mental disorder (e.g., Schizophrenia, a Mood disorder with psychotic symptoms), as might be the case if the psychotic symptoms preceded the onset of the opioid use, if the symptoms persist for a substantial period of time after cessation of the opioid use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with psychotic symptoms (e.g., a history of prior episodes not associated with opioid use).

Opioid-induced mood disorder 6C43.70

Opioid-induced mood disorder is characterized by mood symptoms (e.g., depressed or elevated mood, decreased engagement in pleasurable activities, increased or decreased energy levels) that develop during or soon after intoxication with or withdrawal from opioids. The intensity or duration of the symptoms is substantially in excess of mood disturbances that are characteristic of Opioid intoxication or Opioid withdrawal. The amount and duration of opioid use must be capable of producing mood symptoms. The symptoms are not better explained by a primary mental disorder (e.g., a Depressive disorder, a Bipolar disorder, Schizoaffective disorder), as might be the case if the mood symptoms preceded the onset of the opioid use, if the symptoms persist for a substantial period of time after cessation of the opioid use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with mood symptoms (e.g., a history of prior episodes not associated with opioid use).

Opioid-induced anxiety disorder 6C43.71

Opioid-induced anxiety disorder is characterized by anxiety symptoms (e.g., apprehension or worry, fear, physiological symptoms of excessive autonomic arousal, avoidance behavior) that develop during or soon after intoxication with or withdrawal from opioids. The intensity or duration of the symptoms is substantially in excess of anxiety symptoms that are characteristic of Opioid intoxication or Opioid withdrawal. The amount and duration of opioid use must be capable of producing anxiety symptoms. The symptoms are not better explained by a primary mental disorder (e.g., an Anxiety and Fear-Related Disorder, a Depressive Disorder with prominent anxiety symptoms), as might be the case if the anxiety symptoms preceded the onset of the opioid use, if the symptoms persist for a substantial period of time after cessation of the opioid use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with anxiety symptoms (e.g., a history of prior episodes not associated with opioid use).

Episode of harmful use of opioids 6C43.0

A single episode of opioid use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. Harm to health of the

individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior due to opioid intoxication on the part of the person to whom the diagnosis of single episode of harmful use applies. This diagnosis should not be made if the harm is attributed to a known pattern of opioid use.

Exclusions:

- Harmful pattern of use of opioids (6C43.1)
- Opioid dependence (6C43.2)

Disorders due to use of sedatives, hypnotics or anxiolytics (6C44)

Disorders due to use of sedatives, hypnotics or anxiolytics are characterized by the pattern and consequences of sedative use. In addition to Sedative, hypnotic or anxiolytic intoxication, sedatives have dependence-inducing properties, resulting in Sedative, hypnotic or anxiolytic dependence in some people and Sedative, hypnotic or anxiolytic withdrawal when use is reduced or discontinued. Sedatives are implicated in a wide range of harms affecting most organs and systems of the body, which may be classified as Single episode of harmful use of sedatives, hypnotics or anxiolytics and Harmful pattern of use of sedatives, hypnotics or anxiolytics. Harm to others resulting from behavior during Sedative, hypnotic or anxiolytic intoxication is included in the definitions of Harmful use of sedatives, hypnotics or anxiolytics. Several sedative-induced mental disorders and sedative-related forms of neurocognitive impairment are recognized.

Exclusions:

- Hazardous use of sedatives, hypnotics or anxiolytics (QE11.2)

Episode of harmful use of sedatives, hypnotics or anxiolytics 6C44.0

A single episode of use of a sedative, hypnotic or anxiolytic that has caused damage to a person's physical or mental health or has resulted in behaviour leading to harm to the health of others. Harm to health of the individual occurs due to one or more of the following: (1) behaviour related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior due to sedative, hypnotic or anxiolytic intoxication on the part of the person to whom the diagnosis of single episode of harmful use applies. This diagnosis should not be made if the harm is attributed to a known pattern of sedative, hypnotic or anxiolytic use.

Exclusions:

- Sedative, hypnotic or anxiolytic dependence (6C44.2)
- Harmful pattern of use of sedatives, hypnotics or anxiolytics (6C44.1)

Harmful pattern of use of sedatives, hypnotics or anxiolytics 6C44.1

A pattern of sedative, hypnotic, or anxiolytic use that has caused clinically significant harm to a person's physical or mental health or in which behavior induced by sedatives, hypnotics or anxiolytics has caused clinically significant harm to the health of other people. The pattern of sedative, hypnotic, or anxiolytic use is evident over a period of at least 12 months if use is episodic and at least one month if use is continuous (i.e., daily or almost daily). Harm may be caused by the intoxicating effects of sedatives, hypnotics or anxiolytics, the direct or secondary toxic effects on body organs and systems, or a harmful route of administration.

Exclusions:

- Sedative, hypnotic or anxiolytic dependence (6C44.2)
- Episode of harmful use of sedatives, hypnotics or anxiolytics (6C44.0)

Harmful pattern of use of sedatives, hypnotics or anxiolytics, episodic 6C44.10

A pattern of episodic or intermittent use of sedatives, hypnotics or anxiolytics that has caused clinically significant harm to a person's physical or mental health or in which behavior induced by sedatives, hypnotics or anxiolytics has caused clinically significant harm to the health of other people. The pattern of episodic or intermittent use of sedatives, hypnotics or anxiolytics is evident over a period of at least 12 months. Harm may be caused by the intoxicating effects of sedatives, hypnotics or anxiolytics, the direct or secondary toxic effects on body organs and systems, or a harmful route of administration.

Exclusions:

- Episode of harmful use of sedatives, hypnotics or anxiolytics (6C44.0)
- Sedative, hypnotic or anxiolytic dependence (6C44.2)

Harmful pattern of use of sedatives, hypnotics or anxiolytics, episodic 6C44.11

A pattern of continuous use of sedatives, hypnotics or anxiolytics (daily or almost daily) that has caused clinically significant harm to a person's physical or mental health or in which behavior induced by sedatives, hypnotics or anxiolytics has caused clinically significant harm to the health of other people. The pattern of continuous use of sedatives, hypnotics or anxiolytics is evident over a period of at least one month. Harm may be caused by the intoxicating effects of sedatives, hypnotics or anxiolytics, the direct or secondary toxic effects on body organs and systems, or a harmful route of administration.

Exclusions:

- Episode of harmful use of sedatives, hypnotics or anxiolytics (6C44.0)
- Sedative, hypnotic or anxiolytic dependence (6C44.2)

Sedative, hypnotic or anxiolytic dependence 6C44.2

Sedative, hypnotic or anxiolytic dependence is a disorder of regulation of sedative use arising from repeated or continuous use of these substances. The characteristic feature is a strong internal drive to use sedatives, hypnotics, or anxiolytics, which is manifested by impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a subjective sensation of urge or craving to use these substances. Physiological features of dependence may also be present, including tolerance to the effects of sedatives, hypnotics or anxiolytics, withdrawal symptoms following cessation or reduction in use, or repeated use of sedatives or pharmacologically similar substances to prevent or alleviate withdrawal symptoms. The features of dependence are usually evident over a period of at least 12 months but the diagnosis may be made if sedative use is continuous (daily or almost daily) for at least 1 month.

Exclusions:

- Episode of harmful use of sedatives, hypnotics or anxiolytics (6C44.0)
- Harmful pattern of use of sedatives, hypnotics or anxiolytics (6C44.1)

Sedative, hypnotic or anxiolytic dependence, current use 6C44.20

Current Sedative, hypnotic or anxiolytic dependence with use of a sedative, hypnotic or anxiolytic drug within the past month.

Exclusions:

- Episode of harmful use of sedatives, hypnotics or anxiolytics (6C44.0)
- Harmful pattern of use of sedatives, hypnotics or anxiolytics (6C44.1)

Sedative, hypnotic or anxiolytic dependence, early full remission 6C44.21

After a diagnosis of Sedative, hypnotic or anxiolytic dependence, and often following a treatment episode or other intervention (including self-help intervention), the individual has been abstinent from sedatives, hypnotics or anxiolytics during a period lasting from between 1 and 12 months.

Exclusions:

- Episode of harmful use of sedatives, hypnotics or anxiolytics (6C44.0)
- Harmful pattern of use of sedatives, hypnotics or anxiolytics (6C44.1)

Sedative, hypnotic or anxiolytic dependence, sustained partial remission 6C44.22

After a diagnosis of Sedative, hypnotic or anxiolytic dependence, and often following a treatment episode or other intervention (including self-help intervention), there is a significant reduction in sedative, hypnotic or anxiolytic consumption for more than 12 months, such that

even though sedative, hypnotic or anxiolytic use has occurred during this period, the definitional requirements for dependence have not been met.

Exclusions:

- Episode of harmful use of sedatives, hypnotics or anxiolytics (6C44.0)
- Harmful pattern of use of sedatives, hypnotics or anxiolytics (6C44.1)

Sedative, hypnotic or anxiolytic dependence, sustained full remission 6C44.23

After a diagnosis of Sedative, hypnotic or anxiolytic dependence, and often following a treatment episode or other intervention (including self-intervention), the person has been abstinent from alcohol for 12 months or longer.

Exclusions:

- Episode of harmful use of sedatives, hypnotics or anxiolytics (6C44.0)
- Harmful pattern of use of sedatives, hypnotics or anxiolytics (6C44.1)

Sedative, hypnotic or anxiolytic intoxication 6C44.3

Sedative, hypnotic or anxiolytic intoxication is a clinically significant transient condition that develops during or shortly after the consumption of sedatives, hypnotics or anxiolytics that is characterized by disturbances in consciousness, cognition, perception, affect, behavior, or coordination. These disturbances are caused by the known pharmacological effects of sedatives, hypnotics or anxiolytics and their intensity is closely related to the amount of sedatives, hypnotics or anxiolytics consumed. They are time-limited and abate as sedatives, hypnotics or anxiolytics are cleared from the body. Presenting features may include somnolence, impaired judgment, slurred speech, impaired motor coordination, unsteady gait, mood changes, as well as impaired memory, attention and concentration. Nystagmus (repetitive, uncontrolled eye movements) is a common physical sign.

Exclusions:

- sedative, hypnotic drugs and other CNS depressants poisoning (NE60)
- Possession trance disorder (6B63)

Sedative, hypnotic or anxiolytic withdrawal 6C44.4

Sedative, hypnotic or anxiolytic withdrawal is a clinically significant cluster of symptoms, behaviors and/or physiological features, varying in degree of severity and duration, that occurs upon cessation or reduction of use of sedatives, hypnotics or anxiolytics in individuals who have developed dependence or have used sedatives, hypnotics or anxiolytics for a prolonged period or in large amounts. Sedative, hypnotic or anxiolytic withdrawal can also occur when prescribed sedatives, hypnotics or anxiolytics have been used in standard therapeutic doses. Presenting features of Sedative, hypnotic or anxiolytic withdrawal may include anxiety, psychomotor

agitation, insomnia, increased hand tremor, nausea or vomiting, and transient visual, tactile or auditory illusions or hallucinations. There may be signs of autonomic hyperactivity, or postural hypotension. The withdrawal state may be complicated by seizures. Less commonly there may be progression to a more severe form of delirium characterized by confusion and disorientation, delusions, and more prolonged visual, tactile or auditory hallucinations. In such cases, a separate diagnosis of Sedative, hypnotic, or anxiolytic-induced delirium should be assigned.

Sedative, hypnotic or anxiolytic withdrawal, uncomplicated 6C44.40

All diagnostic requirements for Sedative, hypnotic or anxiolytic Withdrawal are met and the withdrawal state is not accompanied by perceptual disturbances or seizures.

Sedative, hypnotic or anxiolytic withdrawal, with perceptual disturbances 6C44.41

All diagnostic requirements for Sedative, hypnotic or anxiolytic withdrawal are met and the withdrawal state is accompanied by perceptual disturbances (e.g., visual or tactile hallucinations or illusions) with intact reality testing. There is no evidence of confusion and other diagnostic requirements for Delirium are not met. The withdrawal state is not accompanied by seizures.

Sedative, hypnotic or anxiolytic withdrawal, with seizures 6C44.42

All diagnostic requirements for Sedative, hypnotic or anxiolytic withdrawal are met and the withdrawal state is accompanied by seizures (i.e., generalized tonic-clonic seizures) but not by perceptual disturbances.

Sedative, hypnotic or anxiolytic withdrawal, with perceptual disturbances and seizures 6C44.43

All diagnostic requirements for Sedative, hypnotic or anxiolytic withdrawal are met and the withdrawal state is accompanied by both seizures (i.e., generalized tonic-clonic seizures) and perceptual disturbances (e.g., visual or tactile hallucinations or illusions) with intact reality testing. Diagnostic requirements for Delirium are not met.

Sedative, hypnotic or anxiolytic-induced delirium 6C44.5

Sedative, hypnotic or anxiolytic-induced delirium is characterized by an acute state of disturbed attention and awareness with specific features of delirium that develops during or soon after substance intoxication or withdrawal or during the use of sedatives, hypnotics, or anxiolytics. Specific features of Sedative, hypnotic or anxiolytic-induced delirium may include confusion and

disorientation, paranoid delusions, and recurrent visual, tactile or auditory hallucinations. The amount and duration of sedative, hypnotic, or anxiolytic use must be capable of producing delirium. The symptoms are not better explained by a primary mental disorder, by use of or withdrawal from a different substance, or by another health condition that is not classified under Mental, behavioral and neurodevelopmental disorders.

Inclusions: Delirium induced by sedative, hypnotic or anxiolytic withdrawal.

Sedative, hypnotic or anxiolytic-induced psychotic disorder 6C44.6

Sedative, hypnotic or anxiolytic-induced psychotic disorder is characterized by psychotic symptoms (e.g., delusions, hallucinations, disorganized thinking, grossly disorganized behavior) that develop during or soon after intoxication with or withdrawal from sedatives, hypnotics or anxiolytics. The intensity or duration of the symptoms is substantially in excess of psychotic-like disturbances of perception, cognition, or behavior that are characteristic of intoxication or withdrawal due to sedatives, hypnotics or anxiolytics. The amount and duration of sedative, hypnotic or anxiolytic use must be capable of producing psychotic symptoms. The symptoms are not better explained by a primary mental disorder (e.g., Schizophrenia, a Mood disorder with psychotic symptoms), as might be the case if the psychotic symptoms preceded the onset of the sedative, hypnotic or anxiolytic use, if the symptoms persist for a substantial period of time after cessation of the sedative, hypnotic or anxiolytic use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with psychotic symptoms (e.g., a history of prior episodes not associated with sedative, hypnotic or anxiolytic use).

Sedative, hypnotic or anxiolytic-induced mood disorder 6C44.70

Sedative, hypnotic or anxiolytic-induced mood disorder is characterized by mood symptoms (e.g., depressed or elevated mood, decreased engagement in pleasurable activities, increased or decreased energy levels) that develop during or soon after intoxication with or withdrawal from sedatives, hypnotics or anxiolytics. The intensity or duration of the symptoms is substantially in excess of mood disturbances that are characteristic of intoxication or withdrawal due to sedatives, hypnotics or anxiolytics. The amount and duration of sedative, hypnotic or anxiolytic use must be capable of producing mood symptoms. The symptoms are not better explained by a primary mental disorder (e.g., a Depressive disorder, a Bipolar disorder, Schizoaffective disorder), as might be the case if the mood symptoms preceded the onset of the sedative, hypnotic or anxiolytic use, if the symptoms persist for a substantial period of time after cessation of the sedative, hypnotic or anxiolytic use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with mood symptoms (e.g., a history of prior episodes not associated with sedative, hypnotic or anxiolytic use).

Sedative, hypnotic or anxiolytic-induced anxiety disorder 6C44.71

Sedative, hypnotic or anxiolytic-induced anxiety disorder is characterized by anxiety symptoms (e.g., apprehension or worry, fear, physiological symptoms of excessive autonomic arousal, avoidance behaviour) that develop during or soon after intoxication with or withdrawal from sedatives, hypnotics or anxiolytics. The intensity or duration of the symptoms is substantially in excess of anxiety symptoms that are characteristic of intoxication or withdrawal due to sedatives, hypnotics or anxiolytics. The amount and duration of sedative, hypnotic or anxiolytic use must be capable of producing anxiety symptoms. The symptoms are not better explained by a primary mental disorder (e.g., an Anxiety and Fear-Related Disorder, a Depressive Disorder with prominent anxiety symptoms), as might be the case if the anxiety symptoms preceded the onset of the sedative, hypnotic or anxiolytic use, if the symptoms persist for a substantial period of time after cessation of the sedative, hypnotic or anxiolytic use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with anxiety symptoms (e.g., a history of prior episodes not associated with sedative, hypnotic or anxiolytic use).

Disorders due to use of cocaine (6C45)

Disorders due to use of cocaine are characterized by the pattern and consequences of cocaine use. In addition to Cocaine intoxication, cocaine has dependence-inducing properties, resulting in Cocaine dependence in some people and Cocaine withdrawal when use is reduced or discontinued. Cocaine is implicated in a wide range of harms affecting most organs and systems of the body, which may be classified as Single episode of harmful use of cocaine and Harmful pattern of use of cocaine. Harm to others resulting from behavior during Cocaine intoxication is included in the definitions of Harmful use of cocaine. Several cocaine-induced mental disorders are recognized.

Exclusions:

- Disorders due to use of stimulants including amphetamines, methamphetamine or methcathinone (6C46)
- Hazardous use of cocaine (QE11.3)

Episode of harmful use of cocaine 6C45.0

A single episode of use of cocaine that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior due to cocaine intoxication on the part of the person to whom the diagnosis of single episode of harmful use applies. This diagnosis should not be made if the harm is attributed to a known pattern of cocaine use.

Exclusions:

- Cocaine dependence (6C45.2)
- Harmful pattern of use of cocaine (6C45.1)

Harmful pattern of use of cocaine 6C45.1

A pattern of use of cocaine that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of cocaine use is evident over a period of at least 12 months if substance use is episodic or at least one month if use is continuous (i.e., daily or almost daily). Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to cocaine intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of cocaine applies.

Exclusions:

- Cocaine dependence (6C45.2)
- Episode of harmful use of cocaine (6C45.0)

Harmful pattern of use of cocaine, episodic 6C45.10

A pattern of episodic or intermittent cocaine use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of episodic cocaine use is evident over a period of at least 12 months. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to cocaine intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of cocaine applies.

Exclusions:

- Cocaine dependence (6C45.2)
- Episode of harmful use of cocaine (6C45.0)

Harmful pattern of use of cocaine, continuous 6C45.11

A pattern of continuous (daily or almost daily) cocaine use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of continuous cocaine use is evident over a period of at least one month. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3)

a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to cocaine intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of cocaine applies.

Exclusions:

- Cocaine dependence (6C45.2)
- Episode of harmful use of cocaine (6C45.0)

Cocaine dependence 6C45.2

Cocaine dependence is a disorder of regulation of cocaine use arising from repeated or continuous use of cocaine. The characteristic feature is a strong internal drive to use cocaine, which is manifested by impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a subjective sensation of urge or craving to use cocaine. Physiological features of dependence may also be present, including tolerance to the effects of cocaine, withdrawal symptoms following cessation or reduction in use of cocaine, or repeated use of cocaine or pharmacologically similar substances to prevent or alleviate withdrawal symptoms. The features of dependence are usually evident over a period of at least 12 months but the diagnosis may be made if cocaine use is continuous (daily or almost daily) for at least 1 month.

Exclusions:

- Episode of harmful use of cocaine (6C45.0)
- Harmful pattern of use of cocaine (6C45.1)

Cocaine dependence, current use 6C45.20

Current cocaine dependence with cocaine use within the past month.

Exclusions:

- Episode of harmful use of cocaine (6C45.0)
- Harmful pattern of use of cocaine (6C45.1)

Cocaine dependence, early full remission 6C45.21

After a diagnosis of Cocaine dependence, and often following a treatment episode or other intervention (including self-help intervention), the individual has been abstinent from cocaine during a period lasting from between 1 and 12 months.

Exclusions:

- Episode of harmful use of cocaine (6C45.0)
- Harmful pattern of use of cocaine (6C45.1)

Cocaine dependence, sustained partial remission 6C45.22

After a diagnosis of Cocaine dependence, and often following a treatment episode or other intervention (including self-help intervention), there is a significant reduction in cocaine consumption for more than 12 months, such that even though cocaine use has occurred during this period, the definitional requirements for dependence have not been met.

Exclusions:

- Episode of harmful use of cocaine (6C45.0)
- Harmful pattern of use of cocaine (6C45.1)

Cocaine dependence, sustained full remission 6C45.23

After a diagnosis of cocaine dependence, and often following a treatment episode or other intervention (including self-intervention), the person has been abstinent from cocaine for 12 months or longer.

Exclusions:

- Episode of harmful use of cocaine (6C45.0)
- Harmful pattern of use of cocaine (6C45.1)

Cocaine intoxication 6C45.3

Cocaine intoxication is a clinically significant transient condition that develops during or shortly after the consumption of cocaine that is characterized by disturbances in consciousness, cognition, perception, affect, behavior, or coordination. These disturbances are caused by the known pharmacological effects of cocaine and their intensity is closely related to the amount of cocaine consumed. They are time-limited and abate as cocaine is cleared from the body. Presenting features may include inappropriate euphoria, anxiety, anger, impaired attention, hypervigilance, psychomotor agitation, paranoid ideation (sometimes of delusional intensity), auditory hallucinations, confusion, and changes in sociability. Perspiration or chills, nausea or vomiting, and palpitations and chest pain may be experienced. Physical signs may include tachycardia, elevated blood pressure, and pupillary dilatation. In rare instances, usually in severe intoxication, cocaine use can result in seizures, muscle weakness, dyskinesia, or dystonia.

Exclusions:

- cocaine poisoning (NE60)
- Possession trance disorder (6B63)

Cocaine-induced delirium 6C45.5

Cocaine-induced delirium is characterized by an acute state of disturbed attention and awareness with specific features of delirium that develops during or soon after substance intoxication or withdrawal or during the use of cocaine. The amount and duration of cocaine use must be capable of producing delirium. The symptoms are not better explained by a primary mental disorder, by use of or withdrawal from a different substance, or by another health condition that is not classified under Mental, behavioral, and neurodevelopmental disorders.

Cocaine-induced psychotic disorder 6C45.6

Cocaine-induced psychotic disorder is characterized by psychotic symptoms (e.g., delusions, hallucinations, disorganized thinking, grossly disorganized behavior) that develop during or soon after intoxication with or withdrawal from cocaine. The intensity or duration of the symptoms is substantially in excess of psychotic-like disturbances of perception, cognition, or behavior that are characteristic of Cocaine intoxication or Cocaine withdrawal. The amount and duration of cocaine use must be capable of producing psychotic symptoms. The symptoms are not better explained by a primary mental disorder (e.g., Schizophrenia, a Mood disorder with psychotic symptoms), as might be the case if the psychotic symptoms preceded the onset of the cocaine use, if the symptoms persist for a substantial period of time after cessation of the cocaine use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with psychotic symptoms (e.g., a history of prior episodes not associated with cocaine use).

Cocaine-induced psychotic disorder with hallucinations 6C45.60

Cocaine-induced psychotic disorder with hallucinations is characterized by the by the presence of hallucinations that are judged to be the direct consequence of cocaine use. Neither delusions nor other psychotic symptoms are present. The symptoms do not occur exclusively during hypnogogic or hypnopompic states, are not better accounted for by another mental and behavioral disorder (e.g., schizophrenia), and are not due to another disorder or disease classified elsewhere (e.g., epilepsies with visual symptoms).

Cocaine-induced psychotic disorder with delusions 6C45.61

Cocaine-induced psychotic disorder with delusions is characterized by the by the presence of delusions that are judged to be the direct consequence of cocaine use. Neither hallucinations nor other psychotic symptoms are present. The symptoms do not occur exclusively during hypnogogic or hypnopompic states, are not better accounted for by another mental and

behavioral disorder (e.g., schizophrenia), and are not due to another disorder or disease classified elsewhere (e.g., epilepsies with visual symptoms).

Cocaine-induced psychotic disorder with mixed psychotic symptoms 6C45.62

Cocaine-induced psychotic disorder with mixed psychotic symptoms is characterized by the presence of multiple psychotic symptoms, primarily hallucinations and delusions, when these are judged to be the direct consequence of cocaine use. The symptoms do not occur exclusively during hypnogogic or hypnopompic states, are not better accounted for by another mental and behavioral disorder (e.g., Schizophrenia), and are not due to another disorder or disease classified elsewhere (e.g., epilepsies with visual symptoms).

Disorders due to use of stimulants including amphetamines, methamphetamine or methcathinone (6C46)

Disorders due to use of stimulants including amphetamines, methamphetamine or methcathinone are characterized by the pattern and consequences of stimulant use. In addition to Stimulant intoxication including amphetamines, methamphetamine or methcathinone, stimulants have dependence-inducing properties, resulting in Stimulant dependence including amphetamines, methamphetamine or methcathinone in some people and Stimulant withdrawal including amphetamines, methamphetamine or methcathinone when use is reduced or discontinued. Stimulants are implicated in a wide range of harms affecting most organs and systems of the body, which may be classified as Single episode of harmful use of stimulants including amphetamines, methamphetamine or methcathinone and Harmful pattern of use of stimulants including amphetamines, methamphetamine or methcathinone. Harm to others resulting from behavior during Stimulant intoxication including amphetamines, methamphetamine or methcathinone is included in the definitions of Harmful use of stimulants including amphetamines, methamphetamine or methcathinone. Several stimulant-induced mental disorders are recognized.

Exclusions:

- Disorders due to use of synthetic cathinones (6C47)
- Disorders due to use of caffeine (6C48)
- Disorders due to use of cocaine (6C45)
- Hazardous use of stimulants including amphetamines or methamphetamine (QE11.4)

Episode of harmful use of stimulants including amphetamines, methamphetamine or methcathinone 6C46.0

A single episode of use of a stimulant including amphetamines, methamphetamine and methcathinone that has caused damage to a person's physical or mental health or has resulted

in behavior leading to harm to the health of others. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior due to stimulant intoxication on the part of the person to whom the diagnosis of single episode of harmful use applies. This diagnosis should not be made if the harm is attributed to a known pattern of stimulant including amphetamines, methamphetamine and methcathinone use.

Exclusions:

- Harmful pattern of use of stimulants including amphetamines, methamphetamine or methcathinone (6C46.1)
- Stimulant dependence including amphetamines, methamphetamine or methcathinone (6C46.2)

Harmful pattern of use of stimulants including amphetamines, methamphetamine or methcathinone 6C46.1

A pattern of use of stimulants including amphetamines, methamphetamine and methcathinone but excluding caffeine, cocaine and synthetic cathinones that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of stimulant use is evident over a period of at least 12 months if substance use is episodic or at least one month if use is continuous. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to stimulant intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of stimulants including amphetamines, methamphetamine and methcathinone applies.

Exclusions:

- Harmful pattern of use of caffeine (6C48.1)
- Harmful pattern of use of cocaine (6C45.1)
- Harmful pattern of use of synthetic cathinones (6C47.1)
- Episode of harmful use of stimulants including amphetamines, methamphetamine or methcathinone (6C46.0)
- Stimulant dependence including amphetamines, methamphetamine or methcathinone (6C46.2)

Harmful pattern of use of stimulants including amphetamines, methamphetamine or methcathinone, episodic 6C46.10

A pattern of episodic or intermittent use of stimulants including amphetamines, methamphetamine and methcathinone but excluding caffeine, cocaine and synthetic cathinones that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of episodic stimulant use is evident over a period of at least 12 months. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to stimulant intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of stimulants including amphetamines, methamphetamine and methcathinone applies.

Exclusions:

- Episode of harmful use of stimulants including amphetamines, methamphetamine or methcathinone (6C46.0)
- Stimulant dependence including amphetamines, methamphetamine or methcathinone (6C46.2)

Harmful pattern of use of stimulants including amphetamines, methamphetamine or methcathinone, continuous 6C46.11

A pattern of use of stimulants including amphetamines, methamphetamine and methcathinone but excluding caffeine, cocaine and synthetic cathinones that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of stimulant use is evident over a period of at least 12 months if substance use is episodic or at least one month if use is continuous (i.e., daily or almost daily). Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to stimulant intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of stimulants including amphetamines, methamphetamine and methcathinone applies.

Exclusions:

- Episode of harmful use of stimulants including amphetamines, methamphetamine or methcathinone (6C46.0)
- Stimulant dependence including amphetamines, methamphetamine or methcathinone (6C46.2)

Stimulant dependence including amphetamines, methamphetamine or methcathinone 6C46.2

Stimulant dependence including amphetamines, methamphetamine or methcathinone is a disorder of regulation of stimulant use arising from repeated or continuous use of stimulants. The characteristic feature is a strong internal drive to use stimulants, which is manifested by impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a subjective sensation of urge or craving to use stimulants. Physiological features of dependence may also be present, including tolerance to the effects of stimulants, withdrawal symptoms following cessation or reduction in use of stimulants, or repeated use of stimulants or pharmacologically similar substances to prevent or alleviate withdrawal symptoms. The features of dependence are usually evident over a period of at least 12 months but the diagnosis may be made if stimulant use is continuous (daily or almost daily) for at least 1 month.

Exclusions:

- Cocaine dependence (6C45.2)
- Synthetic cathinone dependence (6C47.2)
- Episode of harmful use of stimulants including amphetamines, methamphetamine or methcathinone (6C46.0)
- Harmful pattern of use of stimulants including amphetamines, methamphetamine or methcathinone (6C46.1)

Stimulant dependence including amphetamines, methamphetamine or methcathinone, current use 6C46.20

Stimulant dependence including amphetamines, methamphetamine and methcathinone but excluding caffeine, cocaine and synthetic cathinones refers to amphetamine or other stimulant use within the past month.

Exclusions:

- Harmful pattern of use of stimulants including amphetamines, methamphetamine or methcathinone (6C46.1)
- Episode of harmful use of stimulants including amphetamines, methamphetamine or methcathinone (6C46.0)

Stimulant dependence including amphetamines, methamphetamine or methcathinone, early full remission 6C46.21

After a diagnosis of Stimulant dependence including amphetamines, methamphetamine and methcathinone but excluding caffeine, cocaine and synthetic cathinones, and often following a treatment episode or other intervention (including self-help intervention), the individual has been abstinent from stimulants during a period lasting from between 1 and 12 months.

Exclusions:

- Harmful pattern of use of stimulants including amphetamines, methamphetamine or methcathinone (6C46.1)
- Episode of harmful use of stimulants including amphetamines, methamphetamine or methcathinone (6C46.0)

Stimulant dependence including amphetamines, methamphetamine or methcathinone, sustained partial remission 6C46.22

After a diagnosis of Stimulant dependence including amphetamines, methamphetamine and methcathinone but excluding caffeine, cocaine and synthetic cathinones, and often following a treatment episode or other intervention (including self-help intervention), there is a significant reduction in amphetamine or other stimulant consumption for more than 12 months, such that even though amphetamine or other stimulant use has occurred during this period, the definitional requirements for dependence have not been met.

Exclusions:

- Harmful pattern of use of stimulants including amphetamines, methamphetamine or methcathinone (6C46.1)
- Episode of harmful use of stimulants including amphetamines, methamphetamine or methcathinone (6C46.0)

Stimulant dependence including amphetamines, methamphetamine or methcathinone, sustained full remission 6C46.23

After a diagnosis of Stimulant dependence including amphetamines, methamphetamine and methcathinone but excluding caffeine, cocaine and synthetic cathinones, and often following a treatment episode or other intervention (including self-intervention), the person has been abstinent from amphetamine or other stimulants for 12 months or longer.

Exclusions:

- Harmful pattern of use of stimulants including amphetamines, methamphetamine or methcathinone (6C46.1)
- Episode of harmful use of stimulants including amphetamines, methamphetamine or methcathinone (6C46.0)

Stimulant intoxication including amphetamines, methamphetamine or methcathinone 6C46.3

Stimulant intoxication including amphetamines, methamphetamine and methcathinone but excluding caffeine, cocaine and synthetic cathinones is a clinically significant transient condition that develops during or shortly after the consumption of amphetamine or other stimulants that is characterized by disturbances in consciousness, cognition, perception, affect, behavior, or

coordination. These disturbances are caused by the known pharmacological effects of amphetamine or other stimulants and their intensity is closely related to the amount of amphetamine or other stimulant consumed. They are time-limited and abate as amphetamine or another stimulant is cleared from the body. Presenting features may include anxiety, anger, impaired attention, hypervigilance, psychomotor agitation, paranoid ideation (often of delusional intensity), auditory hallucinations, confusion, and changes in sociability. Perspiration or chills, nausea or vomiting, and palpitations may be experienced. Physical signs may include tachycardia, elevated blood pressure, pupillary dilatation, dyskinesias and dystonias, and skin sores may be evident. In rare instances, usually in severe intoxication, use of stimulants including amphetamines, methamphetamine and methcathinone can result in seizures.

Exclusions:

- amphetamine poisoning (NE60)
- Caffeine intoxication (6C48.2)
- Cocaine intoxication (6C45.3)
- Synthetic cathinone intoxication (6C47.3)
- Possession trance disorder (6B63)

Stimulant withdrawal including amphetamines, methamphetamine or methcathinone 6C46.4

Stimulant withdrawal including amphetamines, methamphetamine and methcathinone is a clinically significant cluster of symptoms, behaviors and/or physiological features, varying in degree of severity and duration, that occurs upon cessation or reduction of use of stimulants in individuals who have developed Stimulant dependence or have used stimulants for a prolonged period or in large amounts. Stimulant withdrawal can also occur when prescribed stimulants have been used in standard therapeutic doses. Presenting features of stimulant withdrawal may include dysphoric mood, irritability, fatigue, insomnia or (more commonly) hypersomnia, increased appetite, psychomotor agitation or retardation, and craving for amphetamine and related stimulants.

Exclusions:

- Cocaine withdrawal (6C45.4)
- Caffeine withdrawal (6C48.3)
- Synthetic cathinone withdrawal (6C47.4)

Stimulant-induced delirium including amphetamines, methamphetamine or methcathinone 6C46.5

Stimulant-induced delirium including amphetamines, methamphetamine and methcathinone is characterized by an acute state of disturbed attention and awareness with specific features of delirium that develops during or soon after substance intoxication or withdrawal or during the

use of stimulants. The amount and duration of stimulants use must be capable of producing delirium. The symptoms are not better explained by a primary mental disorder, by use of or withdrawal from a different substance, or by another health condition that is not classified under Mental, behavioral and neurodevelopmental disorders.

Exclusions:

- Cocaine-induced delirium (6C45.5)
- Synthetic cathinone-induced delirium (6C47.5)
- Disorders due to use of caffeine (6C48)

Stimulant-induced psychotic disorder including amphetamines, methamphetamine or methcathinone 6C46.6

Stimulant-induced psychotic disorder including amphetamines, methamphetamine and methcathinone is characterized by psychotic symptoms (e.g., delusions, hallucinations, disorganized thinking, grossly disorganized behavior) that develop during or soon after intoxication or withdrawal due to stimulants. The intensity or duration of the symptoms is substantially in excess of psychotic-like disturbances of perception, cognition, or behavior that are characteristic of Stimulant intoxication or Stimulant withdrawal. The amount and duration of stimulant use must be capable of producing psychotic symptoms. The symptoms are not better explained by a primary mental disorder (e.g., Schizophrenia, a Mood disorder with psychotic symptoms), as might be the case if the psychotic symptoms preceded the onset of the stimulant use, if the symptoms persist for a substantial period of time after cessation of the stimulant use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with psychotic symptoms (e.g., a history of prior episodes not associated with use of stimulants).

Exclusions:

- Cocaine-induced delirium (6C45.5)
- Synthetic cathinone-induced delirium (6C47.5)
- Disorders due to use of caffeine (6C48)

Stimulant-induced psychotic disorder including amphetamines, methamphetamine or methcathinone with hallucinations 6C46.60

Stimulant-induced psychotic disorder with hallucinations is characterized by the presence of hallucinations that are judged to be the direct consequence of stimulant use. Neither delusions nor other psychotic symptoms are present. The symptoms do not occur exclusively during hypnogogic or hypnopompic states, are not better accounted for by another mental and behavioral disorder (e.g., schizophrenia), and are not due to another disorder or disease classified elsewhere (e.g., epilepsies with visual symptoms).

Exclusions:

- Cocaine-induced psychotic disorder with hallucinations (6C45.60)
- Disorders due to use of caffeine (6C48)
- Synthetic cathinone-induced psychotic disorder with hallucinations (6C47.60)

Stimulant-induced psychotic disorder including amphetamines, methamphetamine or methcathinone with delusions 6C46.61

Stimulant-induced psychotic disorder including amphetamines, methamphetamine and methcathinone is characterized by psychotic symptoms (e.g., delusions, hallucinations, disorganized thinking, grossly disorganized behavior) that develop during or soon after intoxication or withdrawal due to stimulants. The intensity or duration of the symptoms is substantially in excess of psychotic-like disturbances of perception, cognition, or behavior that are characteristic of Stimulant intoxication or Stimulant withdrawal. The amount and duration of stimulant use must be capable of producing psychotic symptoms. The symptoms are not better explained by a primary mental disorder (e.g., Schizophrenia, a Mood disorder with psychotic symptoms), as might be the case if the psychotic symptoms preceded the onset of the stimulant use, if the symptoms persist for a substantial period of time after cessation of the stimulant use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with psychotic symptoms (e.g., a history of prior episodes not associated with use of stimulants).

Exclusions:

- Disorders due to use of caffeine (6C48)
- Cocaine-induced psychotic disorder with delusions (6C45.61)
- Synthetic cathinone-induced psychotic disorder with delusions (6C47.61)

Stimulant-induced psychotic disorder including amphetamines but excluding caffeine or cocaine with mixed psychotic symptoms 6C46.62

Stimulant-induced psychotic disorder with mixed psychotic symptoms is characterized by the presence of multiple psychotic symptoms, primarily hallucinations and delusions, when these are judged to be the direct consequence of stimulant use. The symptoms do not occur exclusively during hypnogogic or hypnopompic states, are not better accounted for by another mental and behavioral disorder (e.g., Schizophrenia), and are not due to another disorder or disease classified elsewhere (e.g., epilepsies with visual symptoms).

Exclusions:

- Disorders due to use of caffeine (6C48)
- Cocaine-induced psychotic disorder with mixed psychotic symptoms (6C45.62)
- Synthetic cathinone-induced psychotic disorder with mixed psychotic symptoms (6C47.62)

Stimulant-induced mood disorder including amphetamines, methamphetamine or methcathinone 6C46.70

Stimulant-induced mood disorder including amphetamines, methamphetamine and methcathinone is characterized by mood symptoms (e.g., depressed or elevated mood, decreased engagement in pleasurable activities, increased or decreased energy levels) that develop during or soon after intoxication or withdrawal due to stimulants. The intensity or duration of the symptoms is substantially in excess of mood disturbances that are characteristic of Stimulant intoxication or Stimulant withdrawal. The amount and duration of stimulant use must be capable of producing mood symptoms. The symptoms are not better explained by a primary mental disorder (e.g., a Depressive disorder, a Bipolar disorder, Schizoaffective disorder), as might be the case if the mood symptoms preceded the onset of the stimulant use, if the symptoms persist for a substantial period of time after cessation of the stimulant use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with mood symptoms (e.g., a history of prior episodes not associated with use of stimulants).

Exclusions:

- Synthetic cathinone-induced mood disorder (6C47.70)
- Cocaine-induced mood disorder (6C45.70)
- Disorders due to use of caffeine (6C48)

Stimulant-induced anxiety disorder including amphetamines, methamphetamine or methcathinone 6C46.71

Stimulant-induced anxiety disorder including amphetamines, methamphetamine and methcathinone is characterized by anxiety symptoms (e.g., apprehension or worry, fear, physiological symptoms of excessive autonomic arousal, avoidance behavior) that develop during or soon after intoxication or withdrawal due to stimulants. The intensity or duration of the symptoms is substantially in excess of anxiety symptoms that are characteristic of Stimulant intoxication or Stimulant withdrawal. The amount and duration of stimulant use must be capable of producing anxiety symptoms. The symptoms are not better explained by a primary mental disorder (e.g., an Anxiety and fear-related disorder, a Depressive disorder with prominent anxiety symptoms), as might be the case if the anxiety symptoms preceded the onset of the stimulant use, if the symptoms persist for a substantial period of time after cessation of the stimulant use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with anxiety symptoms (e.g., a history of prior episodes not associated with use of stimulants).

Exclusions:

- Cocaine-induced anxiety disorder (6C45.71)
- Caffeine-induced anxiety disorder (6C48.40)
- Synthetic cathinone-induced anxiety disorder (6C47.71)

Stimulant-induced obsessive-compulsive or related disorder including amphetamines, methamphetamine or methcathinone 6C46.72

Stimulant-induced obsessive-compulsive or related disorder including amphetamines, methamphetamine and methcathinone is characterized by either repetitive intrusive thoughts or preoccupations, normally associated with anxiety and typically accompanied by repetitive behaviors performed in response, or by recurrent and habitual actions directed at the integument (e.g., hair pulling, skin picking) that develop during or soon after intoxication with or withdrawal from stimulants. The intensity or duration of the symptoms is substantially in excess of analogous disturbances that are characteristic of Stimulant intoxication or Stimulant withdrawal. The amount and duration of stimulant use must be capable of producing obsessive-compulsive or related symptoms. The symptoms are not better explained by a primary mental disorder (in particular an Obsessive-compulsive or related disorder), as might be the case if the symptoms preceded the onset of the stimulant use, if the symptoms persist for a substantial period of time after cessation of the stimulant use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with obsessive-compulsive or related symptoms (e.g., a history of prior episodes not associated with stimulant use).

Exclusions:

- Cocaine-induced obsessive-compulsive or related disorder (6C45.72)
- Synthetic cathinone-induced obsessive-compulsive or related syndrome (6C47.72)
- Disorders due to use of caffeine (6C48)

Stimulant-induced impulse control disorder including amphetamines, methamphetamine or methcathinone 6C46.73

Stimulant-induced impulse control disorder including amphetamines, methamphetamine and methcathinone is characterized by persistently repeated behaviors in which there is recurrent failure to resist an impulse, drive, or urge to perform an act that is rewarding to the person, at least in the short-term, despite longer-term harm either to the individual or to others (e.g., fire setting or stealing without apparent motive, repetitive sexual behavior, aggressive outbursts) that develop during or soon after intoxication with or withdrawal from stimulants. The intensity or duration of the symptoms is substantially in excess of disturbances of impulse control that are characteristic of Stimulant intoxication or Stimulant withdrawal. The amount and duration of stimulant use must be capable of producing disturbances of impulse control. The symptoms are not better explained by a primary mental disorder (e.g., an Impulse control disorder, a Disorder due to addictive behaviors), as might be the case if the impulse control disturbances preceded the onset of the stimulant use, if the symptoms persist for a substantial period of time after cessation of the stimulant use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with impulse control symptoms (e.g., a history of prior episodes not associated with stimulant use).

Disorders due to use of synthetic cathinones (6C47)

Disorders due to use of synthetic cathinones are characterized by the pattern and consequences of synthetic cathinone use. In addition to Synthetic cathinone intoxication, synthetic cathinones have dependence-inducing properties, resulting in Synthetic cathinone dependence in some people and Synthetic cathinone withdrawal when use is reduced or discontinued. Synthetic cathinones are implicated in a wide range of harms affecting most organs and systems of the body, which may be classified as Single episode of harmful use of synthetic cathinones and Harmful pattern of use of synthetic cathinones. Harm to others resulting from behavior during Synthetic cathinone intoxication is included in the definitions of Harmful use of synthetic cathinones. Several synthetic cathinone-induced mental disorders are recognized.

Episode of harmful use of synthetic cathinones 6C47.0

A single episode of synthetic cathinone use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior due to synthetic cathinone intoxication on the part of the person to whom the diagnosis of single episode of harmful use applies. This diagnosis should not be made if the harm is attributed to a known pattern of synthetic cathinone use.

Exclusions:

- Harmful pattern of use of synthetic cathinones (6C47.1)
- Synthetic cathinone dependence (6C47.2)

Harmful pattern of use of synthetic cathinones 6C47.1

A pattern of use of synthetic cathinones that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of synthetic cathinone use is evident over a period of at least 12 months if substance use is episodic or at least one month if use is continuous (i.e., daily or almost daily). Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to synthetic cathinone intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of synthetic cathinones applies.

Exclusions:

- Episode of harmful use of synthetic cathinones (6C47.0)
- Synthetic cathinone dependence (6C47.2)

Harmful pattern of use of synthetic cathinones, episodic 6C47.10

A pattern of episodic or intermittent use of synthetic cathinones that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of episodic synthetic cathinone use is evident over a period of at least 12 months. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to synthetic cathinone intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of synthetic cathinones applies.

Exclusions

- Episode of harmful use of synthetic cathinones (6C47.0)
- Synthetic cathinone dependence (6C47.2)

Harmful use of synthetic cathinones, continuous 6C47.11

A pattern of continuous (daily or almost daily) use of synthetic cathinones that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of continuous synthetic cathinone use is evident over a period of at least one month. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to synthetic cathinone intoxication on the part of the person to whom the diagnosis of Harmful use of synthetic cathinones applies.

Exclusions

- Episode of harmful use of synthetic cathinones (6C47.0)
- Synthetic cathinone dependence (6C47.2)

Synthetic cathinone dependence 6C47.2

Synthetic cathinone dependence is a disorder of regulation of synthetic cathinone use arising from repeated or continuous use of synthetic cathinones. The characteristic feature is a strong internal drive to use synthetic cathinones, which is manifested by impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a subjective sensation of

urge or craving to use synthetic cathinones. Physiological features of dependence may also be present, including tolerance to the effects of synthetic cathinones, withdrawal symptoms following cessation or reduction in use of synthetic cathinones, or repeated use of synthetic cathinones or pharmacologically similar substances to prevent or alleviate withdrawal symptoms. The features of dependence are usually evident over a period of at least 12 months but the diagnosis may be made if synthetic cathinone use is continuous (daily or almost daily) for at least 1 month.

Exclusions

- Episode of harmful use of synthetic cathinones (6C47.0)
- Harmful pattern of use of synthetic cathinones (6C47.1)

Synthetic cathinone dependence, current use 6C47.20

Current synthetic cathinone dependence with use of synthetic cathinones within the past month.

Exclusions

- Episode of harmful use of synthetic cathinones (6C47.0)
- Harmful pattern of use of synthetic cathinones (6C47.1)

Synthetic cathinone dependence, current use 6C47.21

After a diagnosis of synthetic cathinone dependence, and often following a treatment episode or other intervention (including self-help intervention), the individual has been abstinent from synthetic cathinone use during a period lasting from between 1 and 12 months.

Exclusions

- Episode of harmful use of synthetic cathinones (6C47.0)
- Harmful pattern of use of synthetic cathinones (6C47.1)

Synthetic cathinone dependence, sustained partial remission 6C47.22

After a diagnosis of synthetic cathinone dependence, and often following a treatment episode or other intervention (including self-help intervention), there is a significant reduction in synthetic cathinone consumption for more than 12 months, such that even though synthetic cathinone use has occurred during this period, the definitional requirements for dependence have not been met.

Exclusions

- Episode of harmful use of synthetic cathinones (6C47.0)
- Harmful pattern of use of synthetic cathinones (6C47.1)

Synthetic cathinone dependence, sustained full remission 6C47.23

After a diagnosis of synthetic cathinone dependence, and often following a treatment episode or other intervention (including self-intervention), the person has been abstinent from synthetic cathinone use for 12 months or longer.

Exclusions

- Episode of harmful use of synthetic cathinones (6C47.0)
- Harmful pattern of use of synthetic cathinones (6C47.1)

Synthetic cathinone intoxication 6C47.3

Synthetic cathinone intoxication is a clinically significant transient condition that develops during or shortly after the consumption of synthetic cathinones that is characterized by disturbances in consciousness, cognition, perception, affect, behavior, or coordination. These disturbances are caused by the known pharmacological effects of synthetic cathinones and their intensity is closely related to the amount of synthetic cathinones consumed. They are time-limited and abate as the synthetic cathinone is cleared from the body. Presenting features may include anxiety, anger, hypervigilance, psychomotor agitation, panic, confusion, paranoid ideation, auditory hallucinations and changes in sociability, perspiration or chills, and nausea or vomiting. Physical signs may include tachycardia, elevated blood pressure, pupillary dilatation, and hyperthermia. In rare instances, usually in severe intoxication, use of synthetic cathinones can result in seizures.

Synthetic cathinone withdrawal 6C47.4

Synthetic cathinone withdrawal is a clinically significant cluster of symptoms, behaviors and/or physiological features, varying in degree of severity and duration, that occurs upon cessation or reduction of use of synthetic cathinones in individuals who have developed Synthetic cathinone dependence or have used synthetic cathinones for a prolonged period or in large amounts. Presenting features of Synthetic cathinone withdrawal may include dysphoric mood, irritability, fatigue, insomnia or hypersomnia, increased appetite, anxiety, and craving for stimulants, including cathinones.

Synthetic cathinone-induced delirium 6C47.5

Synthetic cathinone-induced delirium is characterized by an acute state of disturbed attention and awareness with specific features of delirium that develops during or soon after substance intoxication or withdrawal or during the use of synthetic cathinones. The amount and duration of synthetic cathinone use must be capable of producing delirium. The symptoms are not better explained by a primary mental disorder, by use of or withdrawal from a different substance, or

by another health condition that is not classified under Mental, behavioral and neurodevelopmental disorders.

Synthetic cathinone-induced psychotic disorder 6C47.6

Synthetic cathinone-induced psychotic disorder is characterized by psychotic symptoms (e.g., delusions, hallucinations, disorganized thinking, grossly disorganized behavior) that develop during or soon after intoxication with or withdrawal from synthetic cathinones. The intensity or duration of the symptoms is substantially in excess of psychotic-like disturbances of perception, cognition, or behavior that are characteristic of Synthetic cathinone intoxication or Synthetic cathinone withdrawal. The amount and duration of synthetic cathinone use must be capable of producing psychotic symptoms. The symptoms are not better explained by a primary mental disorder (e.g., Schizophrenia, a Mood disorder with psychotic symptoms), as might be the case if the psychotic symptoms preceded the onset of the synthetic cathinone use, if the symptoms persist for a substantial period of time after cessation of the synthetic cathinone use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with psychotic symptoms (e.g., a history of prior episodes not associated with synthetic cathinone use).

Synthetic cathinone-induced psychotic disorder with hallucinations 6C47.60

Synthetic cathinone-induced psychotic disorder with hallucinations is characterized by the presence of hallucinations that are judged to be the direct consequence of synthetic cathinone use. Neither delusions nor other psychotic symptoms are present. The symptoms do not occur exclusively during hypnogogic or hypnopompic states, are not better accounted for by another mental and behavioral disorder (e.g., schizophrenia), and are not due to another disorder or disease classified elsewhere (e.g., epilepsies with visual symptoms).

Synthetic cathinone-induced psychotic disorder with delusions 6C47.61

Synthetic cathinone psychotic disorder with delusions is characterized by the presence of delusions that are judged to be the direct consequence of synthetic cathinone use. Neither hallucinations nor other psychotic symptoms are present. The symptoms do not occur exclusively during hypnogogic or hypnopompic states, are not better accounted for by another mental and behavioral disorder (e.g., schizophrenia), and are not due to another disorder or disease classified elsewhere (e.g., epilepsies with visual symptoms).

Synthetic cathinone-induced psychotic disorder with mixed psychotic symptoms 6C47.62

Synthetic cathinone-induced psychotic disorder with mixed psychotic symptoms is characterized by the presence of multiple psychotic symptoms, primarily hallucinations and

delusions, when these are judged to be the direct consequence of synthetic cathinone use. The symptoms do not occur exclusively during hypnogogic or hypnopompic states, are not better accounted for by another mental and behavioral disorder (e.g., Schizophrenia), and are not due to another disorder or disease classified elsewhere (e.g., epilepsies with visual symptoms).

Synthetic cathinone-induced mood disorder 6C47.70

Synthetic cathinone-induced mood disorder is characterized by mood symptoms (e.g., depressed or elevated mood, decreased engagement in pleasurable activities, increased or decreased energy levels) that develop during or soon after intoxication with or withdrawal from synthetic cathinones. The intensity or duration of the symptoms is substantially in excess of mood disturbances that are characteristic of Synthetic cathinone intoxication or Synthetic cathinone withdrawal. The amount and duration of synthetic cathinone use must be capable of producing mood symptoms. The symptoms are not better explained by a primary mental disorder (e.g., a Depressive disorder, a Bipolar disorder, Schizoaffective disorder), as might be the case if the mood symptoms preceded the onset of the synthetic cathinone use, if the symptoms persist for a substantial period of time after cessation of the synthetic cathinone use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with mood symptoms (e.g., a history of prior episodes not associated with synthetic cathinone use).

Synthetic cathinone-induced anxiety disorder 6C47.71

Synthetic cathinone-induced anxiety disorder is characterized by anxiety symptoms (e.g., apprehension or worry, fear, physiological symptoms of excessive autonomic arousal, avoidance behavior) that develop during or soon after intoxication with or withdrawal from synthetic cathinones. The intensity or duration of the symptoms is substantially in excess of anxiety symptoms that are characteristic of Synthetic cathinone intoxication or Synthetic cathinone withdrawal. The amount and duration of synthetic cathinone use must be capable of producing anxiety symptoms. The symptoms are not better explained by a primary mental disorder (e.g., an Anxiety and fear-related disorder, a Depressive disorder with prominent anxiety symptoms), as might be the case if the anxiety symptoms preceded the onset of the synthetic cathinone use, if the symptoms persist for a substantial period of time after cessation of the synthetic cathinone use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with anxiety symptoms (e.g., a history of prior episodes not associated with synthetic cathinone use).

Synthetic cathinone-induced obsessive-compulsive or related syndrome 6C47.72

Synthetic cathinone-induced obsessive-compulsive or related disorder is characterized by either repetitive intrusive thoughts or preoccupations, normally associated with anxiety and typically

accompanied by repetitive behaviors performed in response, or by recurrent and habitual actions directed at the integument (e.g., hair pulling, skin picking) that develop during or soon after intoxication with or withdrawal from synthetic cathinones. The intensity or duration of the symptoms is substantially in excess of analogous disturbances that are characteristic of Synthetic cathinone intoxication or Synthetic cathinone withdrawal. The amount and duration of synthetic cathinone use must be capable of producing obsessive-compulsive or related symptoms. The symptoms are not better explained by a primary mental disorder (in particular an Obsessive-compulsive or related disorder), as might be the case if the symptoms preceded the onset of the synthetic cathinone use, if the symptoms persist for a substantial period of time after cessation of the synthetic cathinone use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with obsessive-compulsive or related symptoms (e.g., a history of prior episodes not associated with synthetic cathinone use).

Synthetic cathinone-induced impulse control disorder 6C47.73

Synthetic cathinone-induced impulse control disorder is characterized by persistently repeated behaviors in which there is recurrent failure to resist an impulse, drive, or urge to perform an act that is rewarding to the person, at least in the short-term, despite longer-term harm either to the individual or to others (e.g., fire setting or stealing without apparent motive, repetitive sexual behavior, aggressive outbursts) that develop during or soon after intoxication with or withdrawal from synthetic cathinones. The intensity or duration of the symptoms is substantially in excess of disturbances of impulse control that are characteristic of Synthetic cathinone intoxication or Synthetic cathinone withdrawal. The amount and duration of synthetic cathinone use must be capable of producing disturbances of impulse control. The symptoms are not better explained by a primary mental disorder (e.g., an Impulse control disorder, a Disorder due to addictive behaviors), as might be the case if the impulse control disturbances preceded the onset of the synthetic cathinone use, if the symptoms persist for a substantial period of time after cessation of the synthetic cathinone use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with impulse control symptoms (e.g., a history of prior episodes not associated with synthetic cathinone use).

Disorders due to use of hallucinogens (6C49)

Disorders due to use of hallucinogens are characterized by the pattern and consequences of hallucinogen use. In addition to Hallucinogen intoxication, hallucinogens have dependence-inducing properties, resulting in Hallucinogen dependence in some people. Hallucinogens are implicated in a wide range of harms affecting most organs and systems of the body, which may be classified as Single episode of harmful use of hallucinogens and Harmful pattern of use of hallucinogens. Harm to others resulting from behavior during Hallucinogen intoxication is

included in the definitions of Harmful use of hallucinogens. Several hallucinogen-induced mental disorders are recognized.

Episode of harmful use of hallucinogens 6C49.0

A single episode of hallucinogen use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior due to hallucinogen intoxication on the part of the person to whom the diagnosis of single episode of harmful use applies. This diagnosis should not be made if the harm is attributed to a known pattern of hallucinogen use.

Harmful pattern of use of hallucinogens 6C49.1

A pattern of use of hallucinogens that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of hallucinogen use is evident over a period of at least 12 months if substance use is episodic or at least one month if use is continuous (i.e., daily or almost daily). Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to hallucinogen intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of hallucinogens applies.

Exclusions:

- Hallucinogen dependence (6C49.2)
- Episode of harmful use of hallucinogens (6C49.0)

Harmful pattern of use of hallucinogens, episodic 6C49.10

A pattern of episodic or intermittent use of hallucinogens that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of episodic hallucinogen use is evident over a period of at least 12 months. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to hallucinogen intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of hallucinogens applies.

Exclusions:

- Hallucinogen dependence (6C49.2)
- Episode of harmful use of hallucinogens (6C49.0)

Harmful pattern of use of hallucinogens, continuous 6C49.11

A pattern of continuous (daily or almost daily) use of hallucinogens that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of continuous hallucinogen use is evident over a period of at least one month. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to hallucinogen intoxication on the part of the person to whom the diagnosis of Harmful use of hallucinogens applies.

Exclusions:

- Hallucinogen dependence (6C49.2)
- Episode of harmful use of hallucinogens (6C49.0)

Hallucinogen dependence 6C49.2

Hallucinogen dependence is a disorder of regulation of hallucinogen use arising from repeated or continuous use of hallucinogens. The characteristic feature is a strong internal drive to use hallucinogens, which is manifested by impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a subjective sensation of urge or craving to use hallucinogens. The features of dependence are usually evident over a period of at least 12 months but the diagnosis may be made if hallucinogens use is continuous (daily or almost daily) for at least 1 month.

Exclusions:

- Episode of harmful use of hallucinogens (6C49.0)
- Harmful pattern of use of hallucinogens (6C49.1)

Hallucinogen dependence, current use 6C49.20

Current hallucinogen dependence with hallucinogen use within the past month.

Exclusions:

- Episode of harmful use of hallucinogens (6C49.0)
- Harmful pattern of use of hallucinogens (6C49.1)

Hallucinogen dependence, early full remission 6C49.21

After a diagnosis of Hallucinogen dependence, and often following a treatment episode or other intervention (including self-help intervention), the individual has been abstinent from hallucinogens during a period lasting from between 1 and 12 months.

Exclusions:

- Episode of harmful use of hallucinogens (6C49.0)
- Harmful pattern of use of hallucinogens (6C49.1)

Hallucinogen dependence, sustained partial remission 6C49.22

After a diagnosis of Hallucinogen dependence, and often following a treatment episode or other intervention (including self-help intervention), there is a significant reduction in hallucinogen consumption for more than 12 months, such that even though intermittent or continuing hallucinogen use has occurred during this period, the definitional requirements for dependence have not been met.

Exclusions:

- Episode of harmful use of hallucinogens (6C49.0)
- Harmful pattern of use of hallucinogens (6C49.1)

Hallucinogen dependence, sustained full remission 6C49.23

After a diagnosis of Hallucinogen dependence, and often following a treatment episode or other intervention (including self-intervention), the person has been abstinent from hallucinogens for 12 months or longer.

Exclusions:

- Episode of harmful use of hallucinogens (6C49.0)
- Harmful pattern of use of hallucinogens (6C49.1)

Hallucinogen intoxication 6C49.3

Hallucinogen intoxication is a clinically significant transient condition that develops during or shortly after the consumption of hallucinogens that is characterized by disturbances in consciousness, cognition, perception, affect, behavior, or coordination. These disturbances are caused by the known pharmacological effects of hallucinogens and their intensity is closely related to the amount of hallucinogen consumed. They are time-limited and abate as the hallucinogen is cleared from the body. Presenting features may include hallucinations, illusions, perceptual changes (such as depersonalization, derealization, synesthesias (blending of senses, such as a visual stimulus evoking a smell), anxiety or depression, ideas of reference, paranoid ideation, impaired judgment, palpitations, sweating, blurred vision, tremors and incoordination.

Physical signs may include tachycardia, elevated blood pressure, and pupillary dilatation. In rare instances, hallucinogen intoxication may increase suicidal behavior.

Exclusions:

- hallucinogens poisoning (NE60)
- Possession trance disorder (6B63)

Hallucinogen-induced delirium 6C49.4

Hallucinogen-induced delirium is characterized by an acute state of disturbed attention and awareness with specific features of delirium that develops during or soon after substance intoxication or during the use of hallucinogens. The amount and duration of hallucinogen use must be capable of producing delirium. The symptoms are not better explained by a primary mental disorder, by use of or withdrawal from a different substance, or by another health condition that is not classified under Mental, behavioral and neurodevelopmental disorders.

Hallucinogen-induced psychotic disorder 6C49.5

Hallucinogen-induced psychotic disorder is characterized by psychotic symptoms (e.g., delusions, hallucinations, disorganized thinking, grossly disorganized behavior) that develop during or soon after intoxication with hallucinogens. The intensity or duration of the symptoms is substantially in excess of psychotic-like disturbances of perception, cognition, or behavior that are characteristic of hallucinogen intoxication. The amount and duration of hallucinogen use must be capable of producing psychotic symptoms. The symptoms are not better explained by a primary mental disorder (e.g., Schizophrenia, a Mood disorder with psychotic symptoms), as might be the case if the psychotic symptoms preceded the onset of the hallucinogen use, if the symptoms persist for a substantial period of time after cessation of the hallucinogen use, or if there is other evidence of a pre-existing primary mental disorder with psychotic symptoms (e.g., a history of prior episodes not associated with hallucinogen use).

Exclusions:

- Psychotic disorder induced by other specified psychoactive substance (6C4E.6)
- Alcohol-induced psychotic disorder (6C40.6)

Hallucinogen-induced mood disorder 6C49.60

Hallucinogen-induced mood disorder is characterized by mood symptoms (e.g., depressed or elevated mood, decreased engagement in pleasurable activities, increased or decreased energy levels) that develop during or soon after intoxication with hallucinogens. The intensity or duration of the symptoms is substantially in excess of mood disturbances that are characteristic of hallucinogen intoxication. The amount and duration of hallucinogen use must be capable of producing mood symptoms. The symptoms are not better explained by a primary mental

disorder (e.g., a Depressive disorder, a Bipolar disorder, Schizoaffective disorder), as might be the case if the mood symptoms preceded the onset of the hallucinogen use, if the symptoms persist for a substantial period of time after cessation of the hallucinogen use, or if there is other evidence of a pre-existing primary mental disorder with mood symptoms (e.g., a history of prior episodes not associated with hallucinogen use).

Hallucinogen-induced anxiety disorder 6C49.61

Hallucinogen-induced anxiety disorder is characterized by anxiety symptoms (e.g., apprehension or worry, fear, physiological symptoms of excessive autonomic arousal, avoidance behavior) that develop during or soon after intoxication with hallucinogens. The intensity or duration of the symptoms is substantially in excess of anxiety symptoms that are characteristic of hallucinogen intoxication. The amount and duration of hallucinogen use must be capable of producing anxiety symptoms. The symptoms are not better explained by a primary mental disorder (e.g., an Anxiety and Fear-Related Disorder, a Depressive Disorder with prominent anxiety symptoms), as might be the case if the anxiety symptoms preceded the onset of the hallucinogen use, if the symptoms persist for a substantial period of time after cessation of the hallucinogen use, or if there is other evidence of a pre-existing primary mental disorder with anxiety symptoms (e.g., a history of prior episodes not associated with hallucinogen use).

Disorders due to use of nicotine (6C4A)

Disorders due to use of nicotine are characterized by the pattern and consequences of nicotine use. In addition to Nicotine intoxication, nicotine has dependence-inducing properties, resulting in Nicotine dependence in some people and Nicotine withdrawal when use is reduced or discontinued. Nicotine is implicated in a wide range of harms affecting most organs and systems of the body, which may be classified as Single episode of harmful use of nicotine and Harmful pattern of use of nicotine. Nicotine-induced sleep-wake disorder is recognized.

Episode of harmful use of nicotine 6C4A.0

A single episode of nicotine use that has caused damage to a person's physical or mental health. Harm to health of the individual occurs due to one or more of the following: (1) direct or secondary toxic effects on body organs and systems; or (2) a harmful route of administration. This diagnosis should not be made if the harm is attributed to a known pattern of nicotine use.

Exclusions:

- Nicotine dependence (6C4A.2)
- Harmful pattern of use of nicotine (6C4A.1)

Harmful pattern of use of nicotine 6C4A.1

A pattern of nicotine use that has caused damage to a person's physical or mental health. The pattern of nicotine use is evident over a period of at least 12 months if substance use is episodic or at least one month if use is continuous (i.e., daily or almost daily). Harm to health of the individual occurs due to one or more of the following: (1) direct or secondary toxic effects on body organs and systems; or (2) a harmful route of administration.

Exclusions:

- Nicotine dependence (6C4A.2)
- Episode of harmful use of nicotine (6C4A.0)

Harmful pattern of use of nicotine, episodic 6C4A.10

A pattern of episodic or intermittent nicotine use that has caused damage to a person's physical or mental health. The pattern of episodic nicotine use is evident over a period of at least 12 months. Harm to health of the individual occurs due to one or more of the following: (1) direct or secondary toxic effects on body organs and systems; or (2) a harmful route of administration.

Exclusions:

- Nicotine dependence (6C4A.2)
- Episode of harmful use of nicotine (6C4A.0)

Harmful pattern of use of nicotine, continuous 6C4A.11

A pattern of continuous (daily or almost daily) nicotine use that has caused damage to a person's physical or mental health. The pattern of continuous nicotine use is evident over a period of at least one month. Harm to health of the individual occurs due to one or more of the following: (1) direct or secondary toxic effects on body organs and systems; or (2) a harmful route of administration.

Exclusions:

- Nicotine dependence (6C4A.2)
- Episode of harmful use of nicotine (6C4A.0)

Nicotine dependence 6C4A.2

Nicotine dependence is a disorder of regulation of nicotine use arising from repeated or continuous use of nicotine. The characteristic feature is a strong internal drive to use nicotine, which is manifested by impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a subjective sensation of urge or craving to use nicotine. Physiological features of dependence may also be present, including tolerance to the effects of nicotine, withdrawal symptoms following cessation or reduction in use of nicotine, or repeated

use of nicotine or pharmacologically similar substances to prevent or alleviate withdrawal symptoms. The features of dependence are usually evident over a period of at least 12 months.

Exclusions:

- Episode of harmful use of nicotine (6C4A.0)
- Harmful pattern of use of nicotine (6C4A.1)

Nicotine dependence, current use 6C4A.20

Current nicotine dependence with nicotine use within the past month.

Exclusions:

- Episode of harmful use of nicotine (6C4A.0)
- Harmful pattern of use of nicotine (6C4A.1)

Nicotine dependence, early full remission 6C4A.21

After a diagnosis of nicotine dependence, and often following a treatment episode or other intervention (including self-help intervention), the individual has been abstinent from nicotine during a period lasting from between 1 and 12 months.

Exclusions:

- Episode of harmful use of nicotine (6C4A.0)
- Harmful pattern of use of nicotine (6C4A.1)

Nicotine dependence, sustained partial remission 6C4A.22

After a diagnosis of nicotine dependence, and often following a treatment episode or other intervention (including self-help intervention), there is a significant reduction in nicotine consumption for more than 12 months, such that even though intermittent or continuing nicotine use has occurred during this period, the definitional requirements for dependence have not been met.

Exclusions:

- Episode of harmful use of nicotine (6C4A.0)
- Harmful pattern of use of nicotine (6C4A.1)

Nicotine dependence, sustained full remission 6C4A.23

After a diagnosis of nicotine dependence, and often following a treatment episode or other intervention (including self-intervention), the person has been abstinent from nicotine for 12 months or longer.

Exclusions:

- Episode of harmful use of nicotine (6C4A.0)
- Harmful pattern of use of nicotine (6C4A.1)

Nicotine intoxication 6C4A.3

Nicotine intoxication is a clinically significant transient condition that develops during or shortly after the consumption of nicotine that is characterized by disturbances in consciousness, cognition, perception, affect, behavior, or coordination. These disturbances are caused by the known pharmacological effects of nicotine and their intensity is closely related to the amount of nicotine consumed. They are time-limited and abate as nicotine is cleared from the body. Presenting features may include restlessness, psychomotor agitation, anxiety, cold sweats, headache, insomnia, palpitations, paresthesias, nausea or vomiting, abdominal cramps, confusion, bizarre dreams, burning sensations in the mouth, and salivation. In rare instances, paranoid ideation, perceptual disturbances, convulsions or coma and may occur. Nicotine intoxication occurs most commonly in naïve (non-tolerant) users or among those taking higher than accustomed doses.

Inclusions: "Bad trips" (nicotine)

Exclusions:

- Episode of harmful use of nicotine (6C4A.0)
- Harmful pattern of use of nicotine (6C4A.1)

Nicotine withdrawal 6C4A.4

Nicotine withdrawal is a clinically significant cluster of symptoms, behaviors and/or physiological features, varying in degree of severity and duration, that occurs upon cessation or reduction of use of nicotine (typically used as a constituent of tobacco) in individuals who have developed Nicotine dependence or have used nicotine for a prolonged period or in large amounts. Presenting features of Nicotine withdrawal may include dysphoric or depressed mood, insomnia, irritability, frustration, anger, anxiety, difficulty concentrating, restlessness, bradycardia, increased appetite, and weight gain and craving for tobacco (or other nicotine-containing products). Other physical symptoms may include increased cough and mouth ulceration.

Disorders due to use of volatile inhalants (6C4B)

Disorders due to use of volatile inhalants are characterized by the pattern and consequences of volatile inhalant use. In addition to Volatile inhalant intoxication, volatile inhalants have dependence-inducing properties, resulting in Volatile inhalant dependence in some people and Volatile inhalant withdrawal when use is reduced or discontinued. Volatile inhalants are implicated in a wide range of harms affecting most organs and systems of the body, which may be classified as Single episode of harmful use of volatile inhalants and Harmful pattern of use of volatile inhalants. Harm to others resulting from behavior during Volatile inhalant intoxication is included in the definitions of Harmful use of volatile inhalants. Several volatile inhalant-induced mental disorders are recognized.

Episode of harmful use of volatile inhalants 6C4B.0

A single episode of volatile inhalant use or unintentional exposure (e.g., occupational exposure) that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior due to volatile inhalant intoxication on the part of the person to whom the diagnosis of single episode of harmful use applies. This diagnosis should not be made if the harm is attributed to a known pattern of volatile inhalant use.

Exclusions:

- Harmful pattern of use of volatile inhalants (6C4B.1)
- Volatile inhalant dependence (6C4B.2)

Harmful pattern of use of volatile inhalants 6C4B.1

A pattern of volatile inhalant use of that has caused damage to a person's physical or mental health. The pattern of volatile inhalant use is evident over a period of at least 12 months if substance use is episodic or at least one month if use is continuous (i.e., daily or almost daily). Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (1) direct or secondary toxic effects on body organs and systems; or (2) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to volatile inhalant intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of volatile inhalants applies.

Exclusions:

- Episode of harmful use of volatile inhalants (6C4B.0)
- Volatile inhalant dependence (6C4B.2)

Harmful pattern of use of volatile inhalants, episodic 6C4B.10

A pattern of episodic or intermittent volatile inhalant use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of episodic volatile inhalant use is evident over a period of at least 12 months. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to volatile inhalant intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of volatile inhalants applies.

Exclusions:

- Episode of harmful use of volatile inhalants (6C4B.0)
- Volatile inhalant dependence (6C4B.2)

Harmful pattern of use of volatile inhalants, continuous 6C4B.11

A pattern of continuous (daily or almost daily) volatile inhalant use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of continuous volatile inhalant use is evident over a period of at least one month. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to volatile inhalant intoxication on the part of the person to whom the diagnosis of Harmful pattern of use of volatile inhalants applies.

Exclusions:

- Episode of harmful use of volatile inhalants (6C4B.0)
- Volatile inhalant dependence (6C4B.2)

Volatile inhalant dependence 6C4B.2

Volatile inhalant dependence is a disorder of regulation of volatile inhalant use arising from repeated or continuous use of volatile inhalants. The characteristic feature is a strong internal drive to use volatile inhalants, which is manifested by impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a subjective sensation of urge or craving to use volatile inhalants. Physiological features of dependence may also be present, including tolerance to the effects of volatile inhalants, withdrawal symptoms following cessation or reduction in use of volatile inhalants, or repeated use of volatile inhalants or pharmacologically similar substances to prevent or alleviate withdrawal symptoms. The features of dependence are usually evident over a period of at least 12 months but the diagnosis may be made if volatile inhalant use is continuous (daily or almost daily) for at least 1 month.

Exclusions:

- Episode of harmful use of volatile inhalants (6C4B.0)
- Harmful pattern of use of volatile inhalants (6C4B.1)

Volatile inhalant dependence, current use 6C4B.20

Current volatile inhalant dependence with volatile inhalant use within the past month.

Exclusions:

- Episode of harmful use of volatile inhalants (6C4B.0)
- Harmful pattern of use of volatile inhalants (6C4B.1)

Volatile inhalant dependence, early full remission 6C4B.21

After a diagnosis of volatile inhalant dependence, and often following a treatment episode or other intervention (including self-help intervention), the individual has been abstinent from volatile inhalants during a period lasting from between 1 and 12 months.

Exclusions:

- Episode of harmful use of volatile inhalants (6C4B.0)
- Harmful pattern of use of volatile inhalants (6C4B.1)

Volatile inhalant dependence, sustained partial remission 6C4B.22

After a diagnosis of Volatile inhalant dependence, and often following a treatment episode or other intervention (including self-help intervention), there is a significant reduction in volatile inhalant consumption for more than 12 months, such that even though intermittent or continuing volatile inhalant use has occurred during this period, the definitional requirements for dependence have not been met.

Exclusions:

- Episode of harmful use of volatile inhalants (6C4B.0)
- Harmful pattern of use of volatile inhalants (6C4B.1)

Volatile inhalant dependence, sustained full remission 6C4B.23

After a diagnosis of Volatile inhalant dependence, and often following a treatment episode or other intervention (including self-intervention), the person has been abstinent from volatile inhalants for 12 months or longer.

Exclusions:

- Episode of harmful use of volatile inhalants (6C4B.0)
- Harmful pattern of use of volatile inhalants (6C4B.1)

Volatile inhalant intoxication 6C4B.3

Volatile inhalant intoxication is a clinically significant transient condition that develops during or shortly after the consumption of a volatile inhalant that is characterized by disturbances in consciousness, cognition, perception, affect, behavior, or coordination. These disturbances are caused by the known pharmacological effects of volatile inhalants and their intensity is closely related to the amount of volatile inhalant consumed. They are time-limited and abate as the volatile inhalant is cleared from the body. Presenting features may include inappropriate

euphoria, impaired judgment, aggression, somnolence, coma, dizziness, tremor, lack of coordination, slurred speech, unsteady gait, lethargy and apathy, psychomotor retardation, and visual disturbance. Muscle weakness and diplopia may occur. Use of volatile inhalants may cause cardiac arrhythmias, cardiac arrest, and death. Inhalants containing lead (e.g. some forms of petrol/gasoline) may cause confusion, irritability, coma and seizures.

Exclusions:

- E Possession trance disorder (6B63)

Volatile inhalant withdrawal 6C4B.4

Volatile inhalant withdrawal is a clinically significant cluster of symptoms, behaviors and/or physiological features, varying in degree of severity and duration, that occurs upon cessation or reduction of use of volatile inhalants in individuals who have developed Volatile inhalant dependence or have used volatile inhalants for a prolonged period or in large amounts. Presenting features of Volatile inhalant withdrawal may include insomnia, anxiety, irritability, dysphoric mood, shakiness, perspiration, nausea, and transient illusions.

Volatile inhalant-induced delirium 6C4B.5

Volatile inhalant-induced delirium is characterized by an acute state of disturbed attention and awareness with specific features of delirium that develops during or soon after substance intoxication or withdrawal or during the use of volatile inhalants. The amount and duration of volatile inhalant use must be capable of producing delirium. The symptoms are not better explained by a primary mental disorder, by use of or withdrawal from a different substance, or by another health condition that is not classified under Mental, behavioral and neurodevelopmental disorders.

Note: This category should never be used in primary tabulation. The codes are provided for use as supplementary or additional codes when it is desired to identify the presence of dementia in diseases classified elsewhere. When dementia is due to multiple etiologies, code all that apply.

Volatile inhalant-induced psychotic disorder 6C4B.6

A cluster of psychotic phenomena that occur during or following psychoactive substance use but that are not explained on the basis of acute intoxication alone and do not form part of a withdrawal state. The disorder is characterized by hallucinations (typically auditory, but often in more than one sensory modality), perceptual distortions, delusions (often of a paranoid or persecutory nature), psychomotor disturbances (excitement or stupor), and an abnormal affect, which may range from intense fear to ecstasy. The sensorium is usually clear but some degree of clouding of consciousness, though not severe confusion, may be present., Volatile inhalant psychotic disorder is characterized by the development of psychotic symptoms that occur

during, or soon after, Volatile inhalant intoxication and are judged to be a direct consequence of volatile inhalant use. The amount and duration of inhalant use must be sufficient to be capable of producing the psychotic symptoms. The symptoms are not better accounted for by Volatile inhalant intoxication (i.e., they are substantially in excess of the symptoms normally associated with inhalant intoxication) and also not better accounted for by a Volatile inhalant-induced delirium. Moreover, the psychotic symptoms are not better accounted for by another mental and behavioral disorder, as might be the case if the psychotic symptoms preceded the onset of the inhalant use or if the symptoms persist for a substantial period of time after cessation of Volatile inhalant use., Volatile inhalant-induced psychotic disorder is characterized by psychotic symptoms (e.g., delusions, hallucinations, disorganized thinking, grossly disorganized behavior) that develop during or soon after intoxication with or withdrawal from volatile inhalants. The intensity or duration of the symptoms is substantially in excess of psychotic-like disturbances of perception, cognition, or behavior that are characteristic of Volatile inhalant intoxication or Volatile inhalant withdrawal. The amount and duration of volatile inhalant use must be capable of producing psychotic symptoms. The symptoms are not better explained by a primary mental disorder (e.g., Schizophrenia, a Mood disorder with psychotic symptoms), as might be the case if the psychotic symptoms preceded the onset of the volatile inhalant use, if the symptoms persist for a substantial period of time after cessation of the volatile inhalant use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with psychotic symptoms (e.g., a history of prior episodes not associated with volatile inhalant use).

Volatile inhalant-induced mood disorder 6C4B.70

Volatile inhalant-induced mood disorder is characterized by mood symptoms (e.g., depressed or elevated mood, decreased engagement in pleasurable activities, increased or decreased energy levels) that develop during or soon after intoxication with or withdrawal from volatile inhalants. The intensity or duration of the symptoms is substantially in excess of mood disturbances that are characteristic of Volatile inhalant intoxication or Volatile inhalant withdrawal. The amount and duration of volatile inhalant use must be capable of producing mood symptoms. The symptoms are not better explained by a primary mental disorder (e.g., a Depressive disorder, a Bipolar disorder, Schizoaffective disorder), as might be the case if the mood symptoms preceded the onset of the volatile inhalant use, if the symptoms persist for a substantial period of time after cessation of the volatile inhalant use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with mood symptoms (e.g., a history of prior episodes not associated with volatile inhalant use).

Volatile inhalant-induced anxiety disorder 6C4B.71

Volatile inhalant-induced anxiety disorder is characterized by anxiety symptoms (e.g., apprehension or worry, fear, physiological symptoms of excessive autonomic arousal, avoidance behavior) that develop during or soon after intoxication with or withdrawal from volatile inhalants. The intensity or duration of the symptoms is substantially in excess of anxiety symptoms that are characteristic of Volatile inhalant intoxication or Volatile inhalant withdrawal. The amount and duration of volatile inhalant use must be capable of producing anxiety symptoms. The symptoms are not better explained by a primary mental disorder (e.g., an Anxiety and Fear-Related Disorder, a Depressive Disorder with prominent anxiety symptoms), as might be the case if the anxiety symptoms preceded the onset of the volatile inhalant use, if the symptoms persist for a substantial period of time after cessation of the volatile inhalant use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with anxiety symptoms (e.g., a history of prior episodes not associated with volatile inhalant use).

Disorders due to use of multiple specified psychoactive substances, including medications (6C4F)

Disorders due to use of multiple specified psychoactive substances, including medications are characterized by the pattern and consequences of multiple specified psychoactive substance use. In addition to Intoxication due to multiple specified psychoactive substances, multiple specified substances have dependence-inducing properties, resulting in Multiple specified psychoactive substances dependence in some people and Multiple specified psychoactive substances withdrawal when use is reduced or discontinued. Multiple specified psychoactive substances are implicated in a wide range of harms affecting most organs and systems of the body, which may be classified as Single episode of harmful use of multiple specified psychoactive substances and Harmful pattern of use of multiple specified psychoactive substances. Harm to others resulting from behavior during Intoxication due to multiple specified psychoactive substances is included in the definitions of Harmful use of multiple specified psychoactive substances. Several multiple specified psychoactive substances-induced mental disorders are recognized.

Episode of harmful use of multiple specified psychoactive substances 6C4F.0

A single episode of use of multiple specified psychoactive substances or medications that are not included in the other substance classes specifically identified under Disorder Due to Substance Use that has caused damage to a person’s physical or mental health or has resulted in behavior leading to harm to the health of others. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to multiple substance intoxication or psychoactive medication use (2) direct or secondary toxic effects on body organs and systems;

or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior due to multiple substance intoxication or psychoactive medication use on the part of the person to whom the diagnosis of single episode of harmful use of multiple specified psychoactive substances applies. This diagnosis should not be made if the harm is attributed to a known pattern of use of the multiple psychoactive substances.

Exclusions:

- Harmful pattern of use of multiple specified psychoactive substances (6C4F.1)
- Multiple specified psychoactive substance dependence (6C4F.2)

Harmful pattern of use of multiple specified psychoactive substances 6C4F.1

A pattern of use of a multiple specified psychoactive substances or medications that are not included in the other substance classes specifically identified under Disorders Due to Substance Use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of substance use is evident over a period of at least 12 months if use is episodic or at least one month if use is continuous (i.e., daily or almost daily). Harm to health of the individual occurs due to one or more of the following: (1) behavior related to multiple substance intoxication or psychoactive medication use; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to multiple substance intoxication or psychoactive medication use on the part of the person to whom the diagnosis of Harmful pattern of use of multiple specified psychoactive substances applies.

Exclusions:

- Episode of harmful use of multiple specified psychoactive substances (6C4F.0)
- Multiple specified psychoactive substance dependence (6C4F.2)

Harmful pattern of use of multiple specified psychoactive substances, episodic 6C4F.10

A pattern of episodic or intermittent use of a specified psychoactive substance or medication that is not included in the other substance classes specifically identified under Disorders Due to Substance Use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of episodic substance use is evident over a period of at least 12 months. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to intoxication; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to intoxication due to the specified substance or medication on

the part of the person to whom the diagnosis of Harmful pattern of use of other specified psychoactive substance applies.

Exclusions:

- Episode of harmful use of multiple specified psychoactive substances (6C4F.0)
- Multiple specified psychoactive substance dependence (6C4F.2)

Harmful pattern of use of multiple specified psychoactive substances, continuous 6C4F.11

A pattern of continuous (daily or almost daily) use of a multiple specified psychoactive substance or medication that is not included in the other substance classes specifically identified under Disorders Due to Substance Use that has caused damage to a person's physical or mental health or has resulted in behavior leading to harm to the health of others. The pattern of continuous substance use is evident over a period of at least one month. Harm to health of the individual occurs due to one or more of the following: (1) behavior related to multiple substance intoxication or psychoactive medication use; (2) direct or secondary toxic effects on body organs and systems; or (3) a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behavior related to multiple substance intoxication or psychoactive medication use on the part of the person to whom the diagnosis of Harmful pattern of multiple specified psychoactive substances applies.

Exclusions:

- Episode of harmful use of multiple specified psychoactive substances (6C4F.0)
- Multiple specified psychoactive substance dependence (6C4F.2)

Multiple specified psychoactive substance dependence 6C4F.2

Multiple specified psychoactive substances dependence is a disorder of regulation of use of multiple specified substances arising from repeated or continuous use of the specified substances. The characteristic feature is a strong internal drive to use the specified substances, which is manifested by impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a subjective sensation of urge or craving to use the specified substances. Physiological features of dependence may also be present, including tolerance to the effects of the specified substances, withdrawal symptoms following cessation or reduction in use of the specified substances, or repeated use of the specified substances or pharmacologically similar substances to prevent or alleviate withdrawal symptoms. The features of dependence are usually evident over a period of at least 12 months but the diagnosis may be made if use of the specified substances is continuous (daily or almost daily) for at least 1 month.

Exclusions:

- Episode of harmful use of multiple specified psychoactive substances (6C4F.0)
- Harmful pattern of use of multiple specified psychoactive substances (6C4F.1)

Intoxication due to multiple specified psychoactive substances 6C4F.3

Intoxication due to multiple specified psychoactive substances is a clinically significant transient condition that develops during or shortly after the consumption of multiple specified substances or medications that is characterized by disturbances in consciousness, cognition, perception, affect, behavior, or coordination. These disturbances are caused by the known pharmacological effects of the multiple specified psychoactive substances and their intensity is closely related to the amount of the substances consumed. They are time-limited and abate as the multiple specified substances are cleared from the body.

Multiple specified psychoactive substances withdrawal 6C4F.4

Multiple specified psychoactive substance withdrawal is a clinically significant cluster of symptoms, behaviors and physiological features, varying in degree of severity and duration, that occurs upon cessation or reduction of use of multiple specified substances in individuals who have developed dependence or have used the specified substances for a prolonged period or in large amounts. Multiple specified psychoactive substance withdrawal can also occur when prescribed psychoactive medications have been used in standard therapeutic doses. The specific features of the withdrawal state depend on the pharmacological properties of the specified substances and their interactions.

Delirium induced by multiple specified psychoactive substances including medications 6C4F.5

Delirium induced by multiple specified psychoactive substances is characterized by an acute state of disturbed attention and awareness with specific features of delirium that develops during or soon after substance intoxication or withdrawal or during the use of multiple specified substances. The amount and duration of use of the multiple specified substances must be capable of producing delirium. The symptoms are not better explained by a primary mental disorder, by use of or withdrawal from a substance other than those specified, or by another health condition that is not classified under Mental, behavioral and neurodevelopmental disorders.

Psychotic disorder induced by multiple specified psychoactive substances 6C4F.6

Psychotic disorder induced by multiple specified psychoactive substances is characterized by psychotic symptoms (e.g., delusions, hallucinations, disorganized thinking, grossly disorganized behavior) that develop during or soon after intoxication with or withdrawal from multiple specified psychoactive substances. The intensity or duration of the symptoms is substantially in

excess of psychotic-like disturbances of perception, cognition, or behavior that are characteristic of intoxication with or withdrawal from multiple specified psychoactive substances. The amount and duration of use of the multiple specified psychoactive substances must be capable of producing psychotic symptoms. The symptoms are not better explained by a primary mental disorder (e.g., Schizophrenia, a Mood disorder with psychotic symptoms), as might be the case if the psychotic symptoms preceded the onset of the use of the multiple specified psychoactive substances, if the symptoms persist for a substantial period of time after cessation of the use of the multiple specified psychoactive substances or withdrawal from the multiple specified psychoactive substances, or if there is other evidence of a pre-existing primary mental disorder with psychotic symptoms (e.g., a history of prior episodes not associated with the use of the multiple specified psychoactive substances).

Mood disorder induced by multiple specified psychoactive substances 6C4F.70

Mood disorder induced by multiple specified psychoactive substances is characterized by mood symptoms (e.g., depressed or elevated mood, decreased engagement in pleasurable activities, increased or decreased energy levels) that develop during or soon after intoxication with or withdrawal from multiple specified psychoactive substances. The intensity or duration of the symptoms is substantially in excess of mood disturbances that are characteristic of intoxication with or withdrawal from multiple specified psychoactive substances. The amount and duration of use of the multiple specified psychoactive substances must be capable of producing mood symptoms. The symptoms are not better explained by a primary mental disorder (e.g., a Depressive disorder, a Bipolar disorder, Schizoaffective disorder), as might be the case if the mood symptoms preceded the onset of the use of the multiple specified psychoactive substances, if the symptoms persist for a substantial period of time after cessation of the use of the multiple specified psychoactive substances or withdrawal from the multiple specified psychoactive substances, or if there is other evidence of a pre-existing primary mental disorder with mood symptoms (e.g., a history of prior episodes not associated with the use of the multiple specified psychoactive substances).

Anxiety disorder induced by multiple specified psychoactive substances 6C4F.71

Anxiety disorder induced by multiple specified psychoactive substances is characterized by anxiety symptoms (e.g., apprehension or worry, fear, physiological symptoms of excessive autonomic arousal, avoidance behavior) that develop during or soon after intoxication with or withdrawal from multiple specified psychoactive substances. The intensity or duration of the symptoms is substantially in excess of anxiety symptoms that are characteristic of intoxication with or withdrawal from multiple specified psychoactive substances. The amount and duration of use of the multiple specified psychoactive substances must be capable of producing anxiety symptoms. The symptoms are not better explained by a primary mental disorder (e.g., an

Anxiety and fear-related disorder, a Depressive disorder with prominent anxiety symptoms), as might be the case if the anxiety symptoms preceded the onset of the use of the multiple specified psychoactive substances, if the symptoms persist for a substantial period of time after cessation of the use of the multiple specified psychoactive substances or withdrawal from the multiple specified psychoactive substances, or if there is other evidence of a pre-existing primary mental disorder with anxiety symptoms (e.g., a history of prior episodes not associated with the use of the multiple specified psychoactive substances).

Obsessive-compulsive or related disorder induced by multiple specified psychoactive substances 6C4F.72

Obsessive-compulsive or related disorder induced by multiple specified psychoactive substances is characterized by either repetitive intrusive thoughts or preoccupations, normally associated with anxiety and typically accompanied by repetitive behaviors performed in response, or by recurrent and habitual actions directed at the integument (e.g., hair pulling, skin picking) that develop during or soon after intoxication with or withdrawal from multiple specified psychoactive substances. The intensity or duration of the symptoms is substantially in excess of analogous disturbances that are characteristic of intoxication with or withdrawal from the multiple specified psychoactive substances. The amount and duration of the multiple specified psychoactive substances use must be capable of producing obsessive-compulsive or related symptoms. The symptoms are not better explained by a primary mental disorder (in particular an Obsessive-compulsive or related disorder), as might be the case if the symptoms preceded the onset of the use of multiple specified psychoactive substances, if the symptoms persist for a substantial period of time after cessation of the multiple specified psychoactive substance use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with obsessive-compulsive or related symptoms (e.g., a history of prior episodes not associated with multiple specified psychoactive substances use).

Impulse control syndrome induced by multiple specified psychoactive substances 6C4F.73

Impulse control disorder induced by multiple specified psychoactive substances is characterized by persistently repeated behaviors in which there is recurrent failure to resist an impulse, drive, or urge to perform an act that is rewarding to the person, at least in the short-term, despite longer-term harm either to the individual or to others (e.g., fire setting or stealing without apparent motive, repetitive sexual behavior, aggressive outbursts) that develop during or soon after intoxication with or withdrawal from multiple specified psychoactive substances. The intensity or duration of the symptoms is substantially in excess of disturbances of impulse control that are characteristic of intoxication with or withdrawal from the multiple specified psychoactive substances. The amount and duration of the multiple specified psychoactive substances use must be capable of producing disturbances of impulse control. The symptoms

are not better explained by a primary mental disorder (e.g., an Impulse control disorder, a Disorder due to addictive behaviors), as might be the case if the impulse control disturbances preceded the onset of the use of multiple specified psychoactive substances, if the symptoms persist for a substantial period of time after cessation of the multiple specified psychoactive substance use or withdrawal, or if there is other evidence of a pre-existing primary mental disorder with impulse control symptoms (e.g., a history of prior episodes not associated with multiple specified psychoactive substances use).

Disorders due to use of unknown or unspecified psychoactive substances (6C4G)

Disorders due to use of unknown or unspecified psychoactive substances are characterized by the pattern and consequences of unknown or unspecified psychoactive substance use. In addition to Intoxication due to unknown or unspecified psychoactive substance, unknown or unspecified psychoactive substances have dependence-inducing properties, resulting in Unknown or unspecified psychoactive substance dependence in some people and Withdrawal due to unknown or unspecified psychoactive substance when use is reduced or discontinued. Unknown or unspecified psychoactive substances are implicated in a wide range of harms affecting most organs and systems of the body, which may be classified as Single episode of harmful use of unknown or unspecified psychoactive substances and Harmful pattern of use of unknown or unspecified psychoactive substance. Harm to others resulting from behavior during Intoxication due to unknown or unspecified psychoactive substance is included in the definitions of Harmful use of unknown or unspecified psychoactive substance. Several unspecified psychoactive substance-induced mental disorders are recognized.

Comorbidity

Although not everyone who uses drugs develops disorders such as dependence, contact with substances can lead to other risks and significant consequences for health. The term comorbidity[66] refers to the presence of two or more disorders or illnesses in the same person, which may occur at the same time or one after the other. This concept also assumes that the implicated disorders or diseases interact between them, which can worsen their evolution.

Substance use and mental disorders

In people with drug use disorders, it is particularly difficult to reliably detect concurrent mental illnesses[67], especially because drug withdrawal can produce similar effects to those of mental disorders. Drug use can induce, worsen, or attenuate psychiatric symptoms and vice versa, which, in addition to hindering diagnosis, can affect the outcome of the therapeutic process.

From the various alternatives developed as explanations of the relationship between drug use disorders and other mental disorders, the currently considered three primary mechanisms are[68]:

1. Substance dependence as the primary disorder and inducer of psychiatric pathology: acute intoxication, chronic consumption, and withdrawal or suppression syndrome can produce symptomatology, similar to mental disorders', such as depressed mood, anxiety (ranging from mild forms up to panic attacks) and even hallucinations, among others.

2. Psychopathology as a risk factor for the development of substance dependence: here is considered the theory of self-medication, proposed by Khantzian, which states that consumption alleviates the symptomatology and discomfort produced by mental disorders.

3. Coexistence of a particular vulnerability of the person to suffer both disorders: there is a common vulnerability for the development of concurrent conditions, or a related third

[66] NIDA. (2018, August 1). Comorbidity: Substance Use Disorders and Other Mental Illnesses. Retrieved from https://www.drugabuse.gov/publications/drugfacts/comorbidity-substance-use-disorders-other-mental-illnesses
[67] Torrens, M., Astals, M., & Castillo, C. (2006). Diagnóstico de la comorbilidad psiquiátrica. En *Tratado SET de Trastornos Adictivos. Sociedad Española de Toxicomanías* (pp. 341 – 351), Madrid, España: Colegio Iberoamericano de Trastornos Adictivos.
[68] Ochoa, E., Salvador, E., Vicente, M., & Madoz, A. (2010).Comorbilidad psiquiátrica y adicciones. En C., Pereiro (Eds). Manual de Adicciones para médicos especialistas en formación (pp. 701 – 731). Madrid, España: SOCIDROGALCOHOL.

party, such as, for example, personality disorder. Some influences in the predisposition could be common temperamental traits, neurobiological and psychosocial dysfunctions, or environmental factors.

In comparison with the general population, there are higher proportions of different mental disorders in people who consume alcohol and other drugs[69].

Anxiety

In people with cocaine dependence, there is a higher frequency of social phobia, agoraphobia, post-traumatic stress disorder, and obsessive-compulsive disorder, although these disorders have different etiopathogenetic associations [70,71,72].

The consumption of cocaine, in addition to producing euphoria and, sometimes, dysphoria, also increases anxiety and suspiciousness[73]. The stimulating effects of snorted cocaine last between 30 and 60 minutes, and when they begin to decrease; anxiety is experienced, which frequently leads to the consumption of the next dose[74]. Similarly, with cocaine base paste, which reaches the brain rapidly when smoked, there is a rapid drop-off of these effects, and manifestations such as distress and anxiety, among others, appear[75]. Anxiety symptoms have also been described in patients experiencing cocaine withdrawal syndrome.

Depression

Drugs exert their effects through different pathways and neural networks, which involve multiple mechanisms of neurotransmission; alterations in them can lead to mood disorders, such as depression. Studies in the general population have documented the joint presence of depression and alcohol use disorders[76,77]. Also, there is an association between disorders due to

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[75] UNODC, JND. (2007). *Pasta base de cocaína, prácticas y gestión de riesgos en adolescentes uruguayos*. Montevideo: Oficina de las Naciones Unidas contra la Droga y el Delito, Junta Nacional de Drogas del Uruguay.
[76] Conway, K. P., Compton, W., Stinson, F. S., et al. (2006). Lifetime comorbidity of DSM-IV mood and anxiety disorders and specific drug use disorders: results from The National Epidemiologic Survey on Alcohol and Related Conditions. The Journal of Clinical Psychiatry, 67, 247 – 58.

high alcohol consumption and an elevated risk of short depressive episodes, suicidal ideas, suicide attempts, and severe anxiety and insomnia[78].

Schizophrenia

The consumption of alcohol, amphetamines, cannabis, and cocaine increases the risk of presenting psychotic symptoms[79], and people with schizophrenia who are drug-dependent present symptoms earlier on[80] and report a lower quality of life.

Suicide

Historically, Latin American countries have recorded suicide rates below the world average[81]. There may be several possible reasons for this, among which it is noteworthy that the mortality data corresponding to the region has been described as irregular, especially when compared with information from European countries[82]. When performing different analysis, it is necessary to consider these elements. However, there is substantial evidence of the association between substance use and suicide risk. There are reports of the association between suicidal ideation and substance use[83]. Both acute and chronic cannabis use are risk factors that can influence ***suicidality***[84], although the analysis of the evidence is still inconclusive and ongoing[85].

For more information, please visit:

ISSUP networks: https://www.issup.net/networks

- **Co-occurring disorders: https://www.issup.net/network/45**

[77] Cranford, J. A., Nolen-Hoeksema, S., & Zucker, R. A. (2011). Alcohol involvement as a function of co-occurring alcohol use disorders and major depressive episode: Evidence from The National Epidemiologic Survey on Alcohol and Related Conditions. Drug Alcohol Depend, 117, 145 – 51.
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[79] Regier, D. A., Farmer, M. E., Rae, D. S., Locke, B. Z., Keith, S. J., et al. (1990). Comorbidity of mental disorders with alcohol and other drug abuse. Results from the Epidemiologic Catchment Area (ECA) study. *JAMA*, 264, 2511 – 2518.
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[81] Vijayakumar, L., Nagaraj, K., Pirkis, J., & Whiteford, H. (2005). Suicide in developing countries (1): frequency, distribution, association with socioeconomic indicators. *Crisis*, 26, 104 – 111.
[82] Bertolote, J. L., & Fleischman, A. (2002). A global perspective in the epidemiology of suicide. *Sociology*, 7, 6 – 8.
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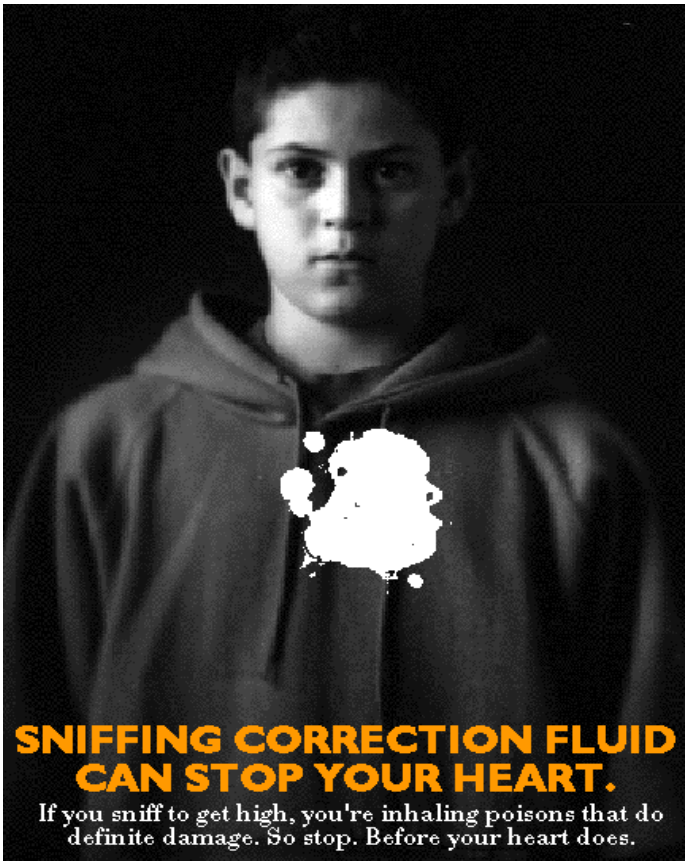
[84] Salvo, L.. & Melipillán, R. (2008). Predictores de suicidalidad en adolescentes. *Revista chilena de neuro-psiquiatría, 46* (2), 115 – 123.
[85] Borges, G., Bagge, C., & Orozco, R. (2016). A literature review and meta-analyses of cannabis use and suicidality. *JAD, 195*, 63 – 74.

Substance use and organic diseases

People who use drugs expose themselves to risk factors that may adversely affect their health. Beyond the dependency syndrome, affectations of different organs and systems may occur.

Cardiac arrhythmias

Consumption of inhalable solvents can provoke cardiac arrhythmias because those substances block the sodium channels in the heart's conduction system[86].



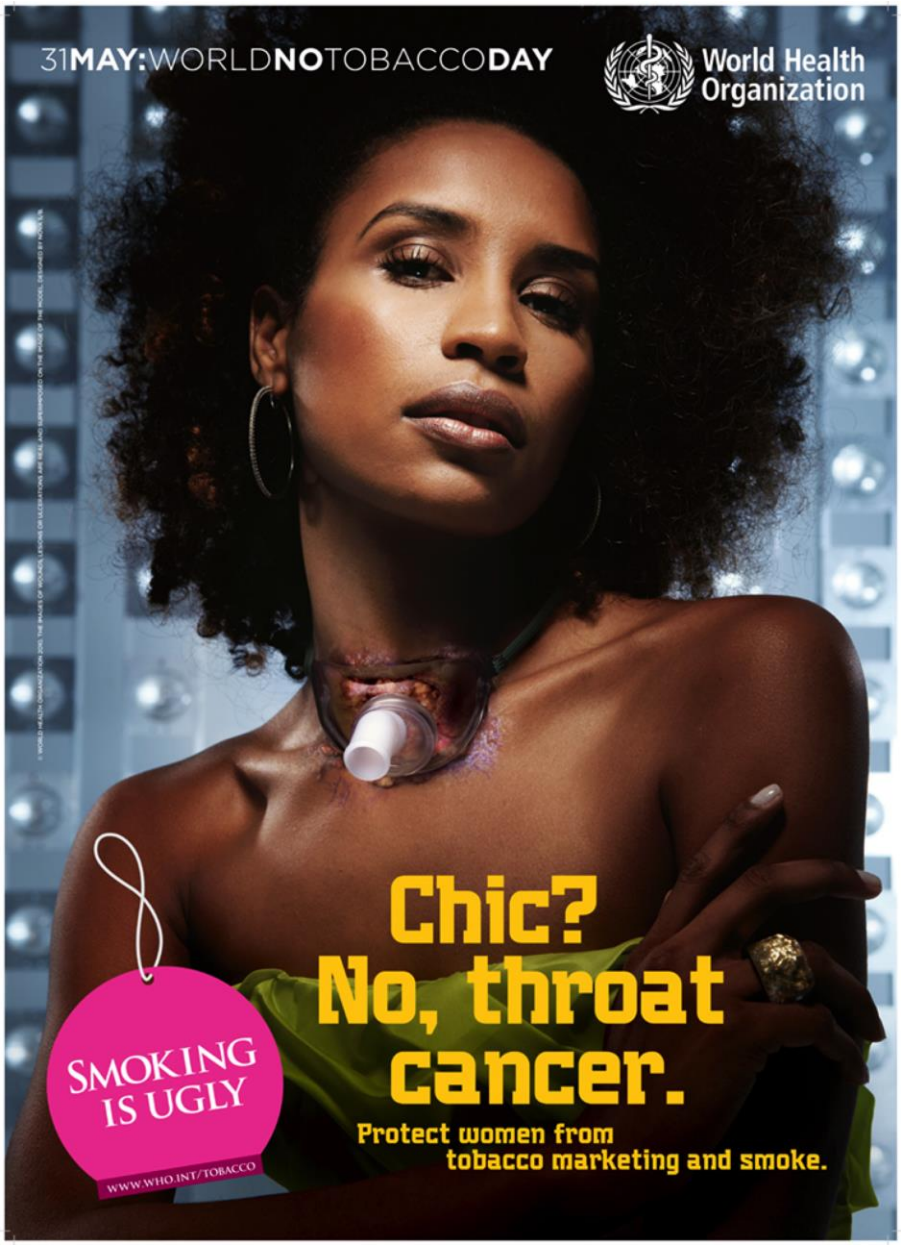
Cancer

Breast cancer. Smoking tobacco increases the risk of breast cancer in women who started before they got pregnant for the first time[87].

[86] Cruz, M. C. S, Orta-Salazar, G., Gauthereau, M., Millán, L., & Salinas-Stefanon, E. (2003). Inhibition of cardiac sodium currents by toluene exposure. *British Journal of Pharmacology*, 140, 653 – 660.
[87] Gaudet, M., Gapstur, S. M., & Sun, J. (2013). Active smoking and breast cancer risk: original cohort data and meta-analysis. *J Natl Cancer Inst*, *105* (8), 515 –525.

Lung cancer. Smoking tobacco is a significant risk factor for developing lung cancer. The risk increases with daily use, cumulative doses, the number of years of consumption and onset at an early age[88].

Alcohol and cancer. Although the underlying biological mechanisms are not yet fully understood, there is epidemiological evidence that alcohol consumption increases the risk of developing cancer of the oropharynx, larynx, esophagus, liver, colon, rectum and breast[89].



[88] Caicoya, M. &Mirón, J.A. (2003). Cáncer de pulmón y tabaco en Asturias. Un estudio de casos y controles. *Gac Sanit, 17* (3), 226 – 30.
[89] Connor, J. (2016). Alcohol consumption as a cause of cancer. *Addiction*, 112 (2), 222 – 228.

Diabetes

The relationship between alcohol consumption and the development of diabetes has been well known for several years and continues to be documented, contrary to the supposed 'benefits' of drinking small alcohol quantities[90].

Cerebrovascular disease

There is a link between smoking cannabis and developing arteriopathies[91] and cerebrovascular disease[92]. Recent reports document cases of young cannabis-smokers with cerebrovascular disease, in whom the proposed underlying mechanism would be intimal hyperplasia[93].

Hypertension

There is evidence of the relationship of substance use (e.g., alcohol or cocaine) with an increase in the risk of developing high blood pressure levels[94].

Ictus

Cocaine generates vasospasm, which can produce severe complications. The use of this stimulant is an independent cerebrovascular risk factor for both ischemic and hemorrhagic events, particularly in those under 55 years of age[95], regardless of frequency or duration of use[96,97,98].

Acute kidney injury

Methamphetamine use can cause hepatotoxicity, rhabdomyolysis, cardiotoxicity, nephrotoxicity, and neurotoxicity separately or sometimes combined as multi-systemic

[90] Pereiro, C. (2006). Alcohol y diabetes: más evidencias sobre daños para la salud. *Adicciones, 18* (3), 283 – 284.
[91] Desbois, A. C., Cacoub, P,, & France, P. (2013). Cannabis-associated arterial disease. *Ann Vasc Surg*, *27*, 996 – 1005.
[92] Wolff, V,, Armspach, J. P., Lauer, V., *et al*. (2013). Cannabis-related stroke myth or reality? *Stroke*, *44*, 558 – 563.
[93] Ntlholang, O., McDonagh, R., Nicholson, S., Brett, F., Bradley, D., & Harbison, J. (2015). Is intimal hyperplasia associated with cranial arterial stenosis in cannabis-associated cerebral infarction? *Int J Stroke, 10* (6), E56 – E59.
[94] Lozano, J. V. (2001). Hipertensión arterial por ingestión de sustancias exógenas. *Hipertensión, 18* (1), 25 – 29.
[95] Larrosa-Campo, D., Ramón-Carbajo, C., Benavente-Fernández, L., Álvarez-Escudero, R., Zeidan-Ramón, N., Calleja-Puerta, S., et al. (2013). Diagnóstico del ictus por cocaína y sus complicaciones. *Rev Neurol, 57*, 167 – 70.
[96] Daras, M., Tuchman, A. J., & Marks, S. (1991). Central nervous system infarction related to cocaine abuse. *Stroke*, 22, 1320 – 1325.
[97] Westover, A. N., McBride, S., & Haley, R. W. (2007). Stroke in young adults who abuse amphetamines or cocaine: a population-based study of hospitalized patients. *Arch Gen Psychiatry, 64*, 495 – 502.
[98] Brown, E., Prager, J., Lee, H. Y., & Ramsey, R. G. (1992). CNS complications of cocaine abuse: prevalence, pathophysiology and neuroradiology. *AJR Am J Roentgenol*, *159*, 137 – 147.

toxicity[99]. Nephrotoxicity usually presents as acute kidney injury, hyponatremia, and hypertension[100].

Digestive pathology

The harmful use of alcohol is one of the leading causes of pancreatitis worldwide[101]. There are reports of gastroduodenal perforations in crack users[102].

[99] Gurel, A. (2016). Multisystem toxicity after methamphetamine use, Case Report. *Clinical Case Reports*, *4* (3), 226 – 227.
[100] Campbell, G. & Rosner, M. (2008). The agony of ecstasy: MDMA and kidney. *Clin. J Am Soc Nephrol, 3*, 1852 – 1860.
[101] González, A. (2004). Pancreatitis aguda. *Rev Gastroenterol Mex*, *69*, 133 – 135.
[102] Warner, E. (1993). Cocaine abuse. *Ann Intern Med*, *119*, 226 – 235.

Substance use and infectious diseases

Hepatitis C

People who inject drugs are at high risk of infection with hepatitis C virus (HCV). Approximately between 2% and 20% of the population with chronic HCV infection will develop liver cirrhosis within 20 years[103]. Monitoring a series of biological and histological markers, assessment of inflammation and fibrosis in the liver tissue, and liver enzymes levels should inform the decision of prescribing treatment with interferon. It is necessary to address the concurrent HIV infection integrally.

Tuberculosis

There is a higher frequency of latent and active tuberculosis infection among people who inject drugs, as well as among some chronic alcohol users[104]. Elements such as the chronicity conditions of consumption, the route of administration and context of use influence the possibility of being in contact with the infectious agent. It is recommended to incorporate tuberculosis-screening tests in populations with the highest risk of exposure.

HIV/AIDS

People that use contaminated material to inject drugs can contract the Human Immunodeficiency Virus (HIV), which produces the Acquired Immune Deficiency Syndrome (AIDS). There is a link between the harmful use of alcohol and multiple health problems in people living with HIV[105]. Also, a study from the year 2000[106] showed that there is a higher risk of HIV infection for people who use alcohol and cocaine, compared to those who use only one substance or do not consume any.

For people living with HIV, cocaine generates more extensive lung damage through mechanisms of exacerbated edema and fibrosis, mediated by the gp120 protein and cocaine consumption[107].

[103] Santesmases, X., Tor, J., & Muga, R. (2006). Comorbilidad médica, en: Tratado SET de Trastornos Adictivos. Sociedad Española de Toxicomanías, Colegio Iberoamericano de Trastornos Adictivos: Madrid pp. 378 – 387.
[104] Santesmases X, Tor J, Muga R. (2006). Comorbilidad médica, en: Tratado SET de Trastornos Adictivos. Sociedad Española de Toxicomanías, Colegio Iberoamericano de Trastornos Adictivos: Madrid pp. 378 – 387.
[105] Wandeler, G., Kraus, D., Fehr, J., et al (2016). The J-curve in HIV: low and moderate alcohol intake predicts mortality but not the occurrence of major cardiovascular events. J Acquir Immune Defic Syndr, 71 (3), 302–309.
[106] Rasch, R., Weisen, C., MacDonald, B., Wechsberg, W., Perritt, R., & Dennis, M. (2000). Patterns of HIV risk and alcohol use among African-American crack abusers. Drug and Alcohol Dependence, 58, 259 – 266.
[107] Zhang, X., Jiang, S., Yu, J., Kuzontkoski, P., & Groopman, J. (2015).Cocaine Enhanced HIV Damage to Lung Lymphatics. Physiol Rep, 3 (8), 1 – 16.

DRUG and ALCOHOL USE–
A SIGNIFICANT RISK FACTOR FOR HIV

A third of the 1.2 million Americans with HIV currently use drugs or binge on alcohol. Many people are unaware that the increased risk of HIV infection among substance users can result from **BOTH** the sharing of contaminated injection equipment as well as impaired judgment that can lead to risky sexual behavior and HIV transmission. This is why substance abuse treatment can play an important role in preventing the spread of HIV.

1.2 MILLION PEOPLE
IN THE U.S. ARE LIVING WITH HIV[1]

FROM 2005 TO 2009, **1 IN 3** PERSONS WITH HIV WAS A CURRENT DRUG USER OR BINGED ON ALCOHOL.[2]

DRUG AND ALCOHOL USE ARE ASSOCIATED WITH LESS FREQUENT CONDOM USE.[3]

HIV INCIDENCE BY TRANSMISSION, 2010[1]

24%
OF ALL PERSONS WITH HIV ARE IN NEED OF SUBSTANCE ABUSE TREATMENT[2]

NIH National Institute on Drug Abuse

(1) CDC; (2) NSDUH; (3) CDC (*) Injection drug use.

Substance use during pregnancy

The use of alcohol, tobacco, and other drugs during pregnancy can produce many health and social problems for the mother and offspring. Pregnancy can also be an excellent opportunity for the future mother, her partner and the other people with whom they live, to change their consumption patterns.

It is essential that health professionals who are in contact with and provide care to pregnant women, understand the complexity of the physical, mental and social problems experienced by mothers who use drugs. By doing so, they will be able to provide valuable assistance and offer continuous support.

Fetal Alcohol Syndrome (FAS)

Jacqueline Rouquette[108] initially described it in 1957 during her stay at the Center for Child Hygiene of the Paul Park Foundation, in Paris. FAS is a significant cause of mental retardation worldwide[109]. Affected individuals characteristically show deficient or decreased growth and development, abnormal facial features and anomalies of the central nervous system. FAS is part of the spectrum of the fetal alcohol spectrum disorders (FASD), which are clinical entities caused by exposure to alcohol during the prenatal period. Ethanol is a well know teratogen that can cross both the blood-brain and placental barriers, and also interrupts or alters the embryological or fetal development at any stage of gestation[110]. Under the code LD2F.00, the International Classification of Diseases, 11th Revision (ICD-11), describes FAS as a malformation syndrome caused by maternal consumption of alcohol during pregnancy, with the following characteristics: prenatal and/or postnatal growth deficiency (weight and/or height <10th percentile); a unique cluster of minor facial anomalies (short palpebral fissures, flat and smooth philtrum, and thin upper lip) that presents across all ethnic groups, is identifiable at birth, and does not diminish with age. Affected children exhibit severe central nervous system abnormalities including microcephaly, cognitive and behavioral impairment (intellectual disability, a deficit in general cognition, learning and language, executive function, visual-spatial processing, memory, and attention).

[108] Rouquette, J. (1957). Influence de la toxicomanie alcoolique parental sur le développement physique & psychique des jeunes enfants. Paris: Faculté de Médecine, Université de Paris.
[109] Evrard, S. (2010). Criterios diagnósticos del síndrome alcohólico fetal y los trastornos del espectro del alcoholismo fetal. Arch Argent Pediatr, 108 (1), 61 – 67.
[110] Jones, K. & Smith, D. (1973). Recognition of the fetal alcohol syndrome in early infancy. Lancet, 2, 999 – 1001.

Inhalants use during pregnancy

Research on this matter is scarce yet, mainly because generally the population that consumes these drugs does not have access to or does not attend regular health services[111],[112]. The in utero exposure to these substances produces a syndrome similar to FAS (microcephaly, craniofacial alterations, growth retardation, learning deficit, language, and locomotor coordination). Although it has not been possible to clarify whether it is due only to inhalants use or combined consumption with alcohol, research with animal models demonstrates that exposure to solvents during pregnancy produces growth restriction, locomotor delay and a higher rate of malformations[113].

Cannabis use during pregnancy

The maternal consumption of cannabis during pregnancy can produce restrictions on fetal growth and lower birth weight, which is more noticeable with continuous exposure. In comparison with unexposed fetuses, there are reports of reduction in fetal weight gain of -14.44 g per week and skull circumference of -0.21 mm per week in exposed individuals[114]. The results from a recent meta-analysis[115] also report an increase in the risk of low birth weight and the probability of requiring intensive care, as well as a more significant risk of anemia for mothers.

For more information about the consequences of using drugs during pregnancy, please visit:

ISSUP networks: https://www.issup.net/networks

- **in utero:** https://www.issup.net/network/49

[111] Hans, S. L. (1999). Demographic and psychosocial characteristics of substance-abusing pregnant women. Clin Perinatol, 26 (1), 55 – 74.
[112] NICE. (2010). Pregnancy and complex social factors: a model for service provision for pregnant women with complex social factors (CG110), Clinical guideline. London: National Institute for Health and Care Excellence.
[113] Jones, H. & Balster, R. (1998). Inhalant abuse in pregnancy. Obstetrics and Gynecology Clinics of North America, 25, 153 – 167.
[114] CONACE. (2010). Mujeres y Tratamiento de Drogas. Santiago, Chile: Consejo Nacional para el Control de Estupefacientes.
[115] Gunn, J. K. L., Rosales, C. B., Center, K. E., Nuñez, A., Gibson, S. J., Christ, C., & Ehiri, J. E. (2016). Prenatal exposure to cannabis and maternal and child health outcomes: a systematic review and meta-analysis. BMJ Open. http://bmjopen.bmj.com/content/6/4/e009986?cpetoc

SECTION 2: FOUNDATION FOR PRACTICE AND INTERVENTIONS

Patterns of drug use: from experimental use to dependence

Most of the world's population does not use alcohol, tobacco, or other drugs, and among people who do, only some will develop problematic use and associated diseases[116]. Considering the information reviewed in the section about models and theories on the development of drug use disorders, a great variety of individual and environmental risk factors influence the transition from the first contacts with drugs to dependence. The relationship between people and psychoactive substances, as well as its consequences, comprises a broad spectrum of possible combinations and results.

The typical description of the evolution of the drug use pattern begins with voluntary choices of experimenting. Initially, the positive and pleasant effect prevails, and users believe to be in control. Gradual increases in doses and frequency of administration modify the reasons why people utilize psychoactive substances since the seeking of pleasure slowly turns into the need to avoid discomfort. Finally, some individuals lose control of the conduct of consumption, which becomes compulsive and hard to suspend, despite being aware of risks and harms.

Previously, the course of the phenomenon was known only through the observation of users' behaviors. Nowadays, research on neurobiology provides details of possible stages of addiction[117]. Initially, the intensely pleasurable experiences of the experimental contacts with drugs lead to the release of dopamine in the nucleus accumbens, but the repeated use gradually favors the participation of the prefrontal cortex and its glutamatergic projections towards the nucleus accumbens. This change from dopaminergic to glutamatergic release shows that during the development of drug use disorders, different sequential events occur in many networks of the neurological reward circuit, while cellular adaptations in neurons happen. As an example, schematically addiction has three stages: 1) acute effects produced by drugs; 2) transition from recreational use to characteristic patterns of dependence; and 3) final stage of dependence or addiction (characterized by an overwhelming desire to consume and decreased pleasurable effects of natural positive reinforcers like biological rewards. This proposal provides a basic understanding of the development of disorders. The diversity of risk factors and the multiple determinants involved make each person's case unique and requires an individual approach, regardless of whether it fits or complies with theoretical phases or stages.

[116] OAS. (213). The Drug Problem in the Americas. Studies: Drugs and Public Health. Organization of American States: Washington, DC.
[117] Kalivas, P. & Volkow, N. (2005). The Neural Basis of Addiction: A Pathology of Motivation and Choice. Am J Psychiatry, 162, 1403 – 1413.

Impact of drug use in public health

What is the impact? How do we measure it? One way to do this is by calculating what we call the Global Burden of Disease (GBD), which is the result of adding the number of years of healthy life that the population loses due to the premature deaths, illness, and disability produced by drugs.

The units used in this process are the DALY (Disability-Adjusted Life Year), which reflect the number of years of healthy life lost.

The formula to calculate the DALY is DALY = YLL + YLD.

The amount of DALY's is the result of adding the years of life lost (YLL) to the years of life lost due to disability (YLD).

In 2013, The Lancet published a study that analyzes the available data for the year 2010 on the global burden of disease attributable to alcohol and other drugs. The results show that mental disorders and substance abuse caused the loss of 183.9 million years of healthy life in the world population[118]. The burden of the disease is higher for the economically active age group, which means that the associated problems and consequences of mental disorders and substance use could accompany young people for several years of their lives.

Due to its impact, mental and substance use disorders represent a growing challenge for the health systems of the countries of the world. Improving people's health worldwide will only be possible if states give priority to both prevention and treatment.

[118] Whiteford, H. A., Degenhardt, L., Rehm, J., Baxter, A. J., Ferrari, A. J., Erskine, H. E., ... & Burstein, R. (2013). Global burden of disease attributable to mental and substance use disorders: findings from the Global Burden of Disease Study 2010. The lancet, 382(9904), 1575-1586.

Drug Demand Reduction

In June 1998, the General Assembly of the United Nations adopted the Declaration on the guiding principles of drug demand reduction (A/RES/S-20/3), which establishes among other elements:

1. All countries are affected by the devastating consequences of drug abuse and illicit trafficking: adverse effects on health; the upsurge in crime, violence and corruption; the draining of human, natural and financial resources that might otherwise be used for social and economic development; the destruction of individuals, families and communities; and the undermining of political, cultural, social and economic structures.

2. Drug abuse affects all sectors of society and countries at all levels of development. Therefore, drug demand reduction policies and programmes should address all sectors of society.

3. A rapidly changing social and economic climate, coupled with increased availability and promotion of drugs and the demand for them, have contributed to the increasing magnitude of the global drug abuse problem. The complexity of the problem has been compounded by changing patterns of drug abuse, supply and distribution. There has been an increase in social and economic factors which make people, especially the young, more vulnerable and likely to engage in drug use and drug related risk-taking behaviour.

4. Extensive efforts have been and continue to be made by Governments at all levels to suppress the illicit production, trafficking and distribution of drugs. The most effective approach to the drug problem consists of a comprehensive, balanced and coordinated approach, by which supply control and demand reduction reinforce each other, together with the appropriate application of the principle of shared responsibility. There is now a need to intensify our efforts at demand reduction and to provide adequate resources towards that end.

5. Programmes to reduce the demand for drugs should be part of a comprehensive strategy to reduce the demand for all substances of abuse. Such programmes should be integrated to promote cooperation among all concerned, should include a wide variety of appropriate interventions, should promote health and social well-being among individuals, for the individual and for society as a whole.

The Continuum of Care for Drug Demand Reduction

The primary objective of any drug demand reduction policy is not only to prevent and address problems due to psychoactive substance use. In broad terms, it aims to reduce or minimize social consequences through the implementation of a large number of strategies and interventions[119].

Despite the vast diversity that exists in different countries, cities, and communities, there are common categories in the Continuum of Care for Drug Demand Reduction.

Since not all individuals have the same problems or the same needs, it is necessary to adapt services, programs, and interventions to target populations, which have varied backgrounds, are exposed to several risk and protective factors, consume distinct substances through multiple routes of administration and in diverse contexts[120]. The determination of the gravity of the problems that occur in people due to the use of drugs is crucial to define which actions to take. The options contained in the continuum of care for drug demand reduction range from protective measures, which include health promotion and environmental prevention through law enforcement, imposing taxes, and marketing restrictions. The prevention cluster contains three modalities: universal, which aims to delay or avoid the initiation of using drugs; selective, for those exposed to risk factors (individual characteristics or context) that increase the probability of consumption; and the indicated modality for who already had contact with psychoactive substances but with no problem use.

Other interventions such as detoxification and management of withdrawal symptoms, treatment for dependence, relapse prevention during recovery, and social reintegration may be utilized to correct imbalances produced by drug use.

[119] OAS. (2013). The Drug Problem in the Americas. Studies: Drugs and Public Health. Washington, DC: Organization of American States.
[120] Medina-Mora, M. E., Real, T., Villatoro, J., & Natera, G. (2013). Las drogas y la salud pública: ¿hacia dónde vamos? Salud Pública, 55, 67 – 73.

Quality Standards for Treatment Centers

Approved in 2014 by CICAD Group of Experts on Demand Reduction

Today, the international consensus is that a public health approach should be emphasized when finding responses to the problems of drug use. Essential elements of that approach are the types of treatment services available for people with drug use problems. There is currently a significant gap between the need for care and treatment, and what is available to deal with problems of alcohol, tobacco and other drugs, and therefore efforts must be made to make available treatment that is accessible, timely, and non-discriminatory, in a framework of respect for human rights, and that is as safe and effective as possible.

In the Americas, just as with health care services in general, the care given to people with drug use problems is segmented and patchy.[121] Treatment grew up essentially outside the public sector, in a poorly organized network of care made up largely of separate facilities that are run by private individuals or non-governmental organizations, many of which are religious institutions. Public sector services consist mainly of mental health institutions that are under-resourced, and in much of the hemisphere, tend to operate as shelters rather than health care facilities.

With this background, there are wide variations in how each country defines and applies standards to allow treatment centers for people with problem drug use to begin operations. The definitions, legal terminology, procedures and authorities in charge differ from country to country, which makes it difficult to apply a homogeneous process based on international standards. There is also a wide variation in the standards that treatment centers that have already been authorized must meet in order to continue to operate, or be accredited or certified.

In developing a process of quality assurance, each country should encourage the authorities responsible for dealing with the drug problem to participate along with different areas of the health care sector, and other stakeholders and institutions involved in providing care for people with problems of the use of alcohol, tobacco and other drugs.[122] National and international agencies have undertaken a number of initiatives in this field, and regulatory instruments have been developed in several countries, with varying degrees of development. Based on these experiences, we discuss below some references and tools that will help increase the quality and efficiency of treatment services for drug-related health problems, based on some standardized requirements for operating a treatment center.

[121] Organization of American States. (2013). *The Drug Problem in the Americas: Studies*. Washington, D.C.: Organization of American States, Drugs and Public Health.
[122] WHO. (1998). *Expert Committee on Drug Dependence*, *Thirtieth Report*. Geneva: World Health Organization.

The criteria or standards presented here are simply a proposal for consideration by government authorities, so that each country can take them into account as part of the requirements to be followed by treatment centers for people with drug use problems.

A decision should also be made about the characteristics and types of interventions that are regarded as "treatment." Ideally, this should be stipulated by law (typically in health legislation), or at least in some type of regulatory instrument to support and guide therapeutic interventions. Some useful references here may be:

- The WHO Expert Committee on Drug Dependence defines ***treatment***[123] *as the process that begins when psychoactive substance users come into contact with a health provider or other community service, and may continue through a succession of specific interventions until the highest attainable level of health and well-being is reached.*

- The United Nations Office on Drugs and Crime (UNODC)[124] states that treatment can be defined in general terms as the provision of one or more structured interventions designed to manage health and other problems as a consequence of drug abuse and to improve or maximize personal and social functioning.

Problems due to the use of psychoactive substances should be addressed systemically, from a broad, comprehensive perspective, by means of a continuum of interventions that are coordinated and interconnected, and that involve the participation of all relevant sectors. This is called a ***Comprehensive System of (Healthcare) Services***.

While the recommendations made in this document could apply to a number of different fields, we focus here on services that are specifically for the treatment of people diagnosed with *mental and behavioral disorders due to psychoactive substance use* (ICD-10, WHO), which we shall call, for our purposes here, *treatment centers*. Treatment centers are specialized units that are coordinated with other types of public health services, such as primary care units, general and specialized hospitals, and mental health services. Self-help groups and other forms of community organizations are found in the social and private sectors. Beyond the health care sector, there are also links with the criminal justice system, and with the social development and education sectors, among others. There should also be coordination with universities and other educational establishments that train health care and other personnel.

For practical purposes here, the standards are divided into two large categories: 1) organizational, involving structural/functional standards, and process requirements, and 2) time periods or sequences that involved in the start-up of a treatment center, with a baseline or minimum needed for it to be defined as a *treatment center*, and then follow-up, or the general requirements that must be met and maintained over time.

[123] WHO Expert Committee on Drug Dependence. (1998). *Thirtieth Report*. Geneva: World Health Organization.
[124] United Nations Office on Drugs and Crime. (2003). *Drug Abuse Treatment and Rehabilitation: A Practical Planning and Implementation Guide*. New York: United Nations.

General Recommendations

First. Since drug use disorders are health conditions, they must be addressed as a public health matter. Staff and institutions working in this field are subject to government health regulations, policies and other official standards in each country, regardless of whether they are public or private.

Second. Authorization to operate a treatment center that meets the government's requirements and rules should be time-limited. Each country set such a time period based on what is locally most appropriate.

Third. There should be no delay in meeting requirements that are deemed essential since they involve client safety. In the case of requirements and standards that go beyond the level of essential, a wait period can be allowed, but, depending on particular circumstances, should not exceed one year.

Fourth. Treatment centers must be supervised/audited/checked on a regular basis. It is recommended that audits be conducted annually, or more frequently if circumstances and available resources allow.

Fifth. Quality control committees should be set up and coordinated by the health care authority, with the support of the national drug commission, local government, community representatives and representatives of the service providers. Such committee should schedule and conduct the audits, and prepare reports and recommendations for continuous improvement of the quality of services. The audit findings should be shared with the authorities and with the treatment facilities audited.

Sixth. Each country's regulations should stipulate the repercussions or penalties that will be imposed on treatment centers that fail to meet the standards.

Seventh. Consideration should be given to the possibility of closing a facility temporarily or permanently where warranted, particularly if the safety, security or lives of the clients are in danger.

ESSENTIAL REQUIREMENTS FOR OPENING AND OPERATING A TREATMENT CENTER

Approved in 2014 by CICAD Group of Experts on Demand Reduction

STRUCTURAL REQUIREMENTS

Category 1: Infrastructure and facilities

- A treatment center's facilities and surroundings must meet essential requirements to ensure the safety of the clients and of the staff working there:
  - Safe buildings and surroundings (to guard against natural phenomena such as floods, earthquakes, etc.)
  - Compliance with rules and regulations on infrastructure and health and safety (seismic codes, materials, etc.)
  - Spacious rooms to avoid overcrowding of patients and to facilitate evacuation in case of emergency (evacuation routes clearly marked)

- Residential treatment centers that perform detoxification or hospitalization are governed by health and safety regulations.

Category 2: Ethical principles and rights of people in the programs

- A treatment center must have explicit rules to protect the rights of patients/clients in order to prohibit inhumane and degrading treatment, in accordance with the United Nations Charter on Human Rights.

- Prior to admission, the client/patient and his family must be given a letter that clearly explains the treatment program and its cost, with a copy to the authorities. The patient or his family or representative must give their informed consent for the measures to be taken.

Category 3: Regulatory matters

- A treatment center must be properly registered according to the law and regulations.
- A treatment center must have written internal operating procedures and manuals, which should be available to the staff, patients and their families.
- The treatment program manual developed by the center must be available in writing, and must specify the model of care that will be used, the scientific basis for the model, the work schedule, and the people in charge.
- A treatment center must have explicit procedures for handling the treatment of people in special situations (minors, people in conflict with the law, street people, etc.).
- A treatment center must have civil defense plan, and a committee appointed to be in charge of dealing with contingencies and emergency situations.

Category 4: Financial matters

- A treatment center must have an administrative office that is responsible for all aspects of the financing of the services, and for keeping proper records.

Category 5: Human resources

- A treatment center must have a clearly identified legal representative.
- A treatment center must have a technical director, who should be professionally qualified, ideally with training and experience in the treatment and management of the addictions.
- Have a basic core staff of professionals and health aides able to carry out the treatment plans. The ratios of professionals per patient established in the treatment protocols should be followed.
- The professionals, technical staff and aides who work in the program must have the necessary skills and competencies.
- Staff supervision and continuing training must be in place and functioning.

OPERATING AND PROCESS REQUIREMENTS
Category 6: Organizational matters
• Written reports should be available on activities carried out and planned in accordance with the treatment and rehabilitation program. • Staff and clients must be fully aware of the procedures to be followed in case of emergencies (such as evacuation and contingency plans), based on a civil defense plan. • Compliance with labor and tax laws. • There is an established program for regular supervision of the performance of all staff. • Training and staff development plan, based on the model of care provided in the treatment center.
Category 7: Information and documentation systems
• A drug treatment center must have a system for registering and monitoring patients. The information in the clinical files must be kept safe and secure, ensuring confidentiality and clinical follow-up and monitoring. • Treatment centers should be linked to institutions that have a role to play recording, analysis and dissemination of information about their activities and impact. • A treatment center reports its activities and statistical information to the health authorities through a centralized systems, statistical offices and the national drug commissions, in accordance with the law and pertinent regulations.
Category 8: Coordination and cooperation mechanisms
• A treatment center should be linked into existing social and health agencies, as well as to community support services. • A mechanism should be determined for the referral of patients to the various health care and social and community support networks, and should be used on a regular basis. • A treatment center, particularly if it is a residential treatment center, should have clearly defined mechanisms for admitting people to treatment, in accordance with the law and ethical considerations. • A treatment center, particularly if it is a residential treatment center, should have first aid facilities and referral of emergencies to be addressed elsewhere, in accordance with the health legislation and human rights laws.

Modifying drug use

What mechanisms can make drug consumption behavior change?

People change their behavior in very different ways and for very different reasons. Some attain to stop using alcohol, tobacco, and other drugs without professional help, while others make unsuccessful attempts, which can lead them to request help.

The decision to modify the behavior is affected mainly by motivation - a state of proneness or desire to change - which shifts along time and in different situations, influenced by multiple factors.

Motivation for change

This dynamic component is determinant to alter unhealthy behaviors, seek, complete and comply with treatment, and achieve long-term goals[125]. The level of motivation is a significant predictor of adherence, dropouts, and outcomes of treatment, and it is useful to identify it for referral of cases[126]. As people recognize the negative consequences of using psychoactive substances, their motivation usually increases. Lack of motivation can be a barrier both to initiate and maintain the interventions aimed at adjusting the drug use pattern, as well as to identify alternative behaviors to drug consumption.

Healthcare professionals can increase people's motivation by using the appropriate interventions. During the treatment and recovery processes, individuals transit through several stages until achieving a strong self-efficacy.

Self-efficacy

Refers to the own confidence in the ability to perform a specific task and achieve it when facing a demanding or risky situation[127]. When people report a higher perception of self-efficacy, they are much more likely to take control and make changes[128]. As will be seen below, it is critical and useful to encourage people who want to change their drug use to verbalize self-efficacy phrases by themselves, which makes its adoption easier.

[125] Substance Abuse and Mental Health Services Administration & Center for Substance Abuse Treatment (2005). Substance Abuse Treatment for Adults in the Criminal Justice System, Treatment Improvement Protocol TIP 44. Maryland, United States of America: Department of Health And Human Services.
[126] Ries, R., & Ellingson, T. (1990). A pilot assessment at one month of 17 dual diagnosis patients. Hospital and Community Psychiatry, 41(11), 1230–1233.
[127] Miller W, Rollnick S. (1991). Motivational interviewing: preparing people to change addictive behavior. New York: The Guilford Press.
[128] Miller W, Rollnick (2002). *Motivational Interviewing*. New York and London: Guilford Press.

Transtheoretical Model of Change

From the different theoretical approaches on this field, currently the most disseminated is the model formulated by Prochaska and DiClemente[129], which has been used to describe the recovery of various types of drug use disorders[130].

This model provides three categories of concepts: ***levels***, ***stages***, and ***processes*** of ***change***. The elements of the first category indicate to what extent is necessary to strive to achieve either reduction or suspension of drug consumption. The second category refers to the different degrees of willingness to modify substance consumption behavior. The third category is for the tools used by each person to face problems and achieve behavioral modifications.

Levels of change

They are the dimensions of the behavior to be modified, which are interrelated and encompass the psychological problems susceptible to treatment:

- Symptoms: the main reason that prompt people to healthcare services.
- Maladaptive Cognitions: elements of the thinking process directly linked to the problem, in this case, drug use, whose commonly correspond to errors in the way of processing information or imbalances in the environment.
- Interpersonal conflicts: struggles of socialization and attachment.
- Intrapersonal conflicts: the individuals' struggling with emotional elements.
- Family conflicts: drug use effects on the social systems of the individual, such as family, couple, etc.

It is essential for health professionals to clearly define, jointly with the patients, the dimensions in which the change in drug use behavior will have an impact since these usually differ even in people who have similar symptoms. To comply with this, besides establishing a goal regarding consumption, it is also necessary to set goals for the areas of life that have been affected by drug use and prioritize which are the most achievable goals to consider in the intervention[131].

[129] Prochaska, J. & Di Clemente, C. (1982). Stages and processes of self-change of smoking: Toward and integrative model of change. Psychotherapy: Theory, research and Practice, 19, 276-288.
[130] Prochaska, J., DiClemente, C., & Norcross, J. (1992). In search of how people change: Applications to addictive behaviors. American Psychologist, 47(9), 1102–1114.
[131] Prochaska, J., DiClemente, C., & Norcross, J. (1992). In search of how people change: Applications to addictive behaviors. American Psychologist, 47(9), 1102–1114.

Example: levels of change

Observe how a healthcare professional was able to identify, according to the levels of change, the dimensions of the behavior to modify in the following case:

A thirty-five year old man, who weighs 175 lbs. (80 kg) and stands 5' 6'' tall (1.75 meters), comes into a counseling service describing great physical discomfort and changes in his marriage, and his relationships with his daughter and his ex-wife. He also says that he is unemployed and has no money **(symptoms)**. He reports that this all came about as the result of his having used cocaine for the past five years. He says, however, that even though he knows that *his use of alcohol and marijuana for the past twenty years makes it difficult for him to stop using cocaine*, he is not ready to give them up. He says that drinking is promoted by society itself, and that marijuana is something that relaxes him and helps him deal with all of the difficulties he has had to overcome in his life **(maladaptive beliefs)**. The client says that he is very good at planning businesses with great growth potential, and because of his skills, he's not willing to hire himself out to any employer in any type of government or private institution. He says that his relationships with his friends and family have been badly affected and get worse when he begins to describe his business skills: people get upset with him and laugh at him because he hasn't had any success in actually building any of these businesses **(interpersonal conflicts)**. His lack of success has caused him to feel upset, and this has been worsened by his physical deterioration as the result of his cocaine use. He reports that he has lost his ability to control his mix of alcohol and marijuana use. He definitely accepts that he's at a very difficult place in his life, and sees that he hasn't been able to establish a successful relationship with his current wife, or with his daughter, much less with his daughter's mother **(intrapersonal conflicts)**. He's feeling desperate, because he doesn't have a successful business, and he doesn't have the money to pay the bills at home. His current wife is very upset at the lack of financial support, and if he doesn't stop using, they will have to end their relationship, and he will have to get out of the house **(family conflicts)**.

Example: levels of change

This section shows strategies that allow healthcare professionals to obtain information about symptoms, maladaptive cognitions, inter, intrapersonal and family conflicts related to drug use. In general, for the identification of **symptoms**, it is handy to use questions such as:

- How do you feel physically? How is your health?
- How does your current physical state relate to the substance use you talked about?
- How does substance use affect your relationship with your spouse, children or family members?
- How is your drug use related to your financial situation?
- How did the use of substances affect the problem that brings you here?

To help people identify their **maladaptive cognitions** is feasible to use questions such as:

- What are the gains of drug use and how do these influence your decision to keep using?
- How would stopping or cutting down your substance use really have an impact on solving your problems?
- What role do your living conditions play in maintaining your substance use? The place where you live, for example, or your living habits?
- How do the benefits of drug use affect the decision to stop using, despite the things you have lost as a result?
- How do beliefs about power and high self-esteem relate to the use of substances such as cocaine or marijuana?

An example of a question to promote the identification of **interpersonal conflicts** caused by substance use is:

- How does consumption affect your day-to-day plans and your relationships with others?

Some questions that can help to identify **intrapersonal conflicts** are:

- How do you feel when you understand what happens to your health when you use drugs or stop using?
- What do you feel while reflecting on the effect that consumption has had on your work life?
- How much does it affect you to know the relationship between your economic condition and drug use?
- What do you feel when you identify that drug use has affected at some extent your relationship with your spouse or family?
- What have been the conditions that others have imposed on you for consuming substances?

Stages or phases of change

A second central component of the Transtheoretical Model of Change considers stages or phases, which are the degrees of readiness to change that people go through when they are modifying a problematic behavior, such as drug use. In any process of change, the person goes through the different stages several times before achieving a stable change.

Different tactics can be used to intervene, depending on which is the stage of change where the person who uses drugs is. Problems of resistance to change can occur when using strategies that don't match to the individual's current stage of change.

Prochaska and DiClemente[132], propose six stages in the wheel or cycle of change: ***Pre-contemplation, Contemplation, Determination, Action, Maintenance, and Relapse***.

Pre-contemplation

This stage represents the entry point in the change process. Characteristically, people have not yet considered that they have a problem or that they need to make a change in their lives. Those in this stage need information and feedback to increase awareness of the problem and acknowledge the possibility of change. Often there is resistance to recognize or modify the problems associated with consumption, even though people may be aware of the risks and associated harms. Generally, the individual perceives more benefits or pros than downsides or cons of drug consumption.

Example: pre-contemplation

Julia is a 50-year-old woman who regularly smokes tobacco. Last week she went to the doctor because of experiencing shortness of breath while climbing the stairs. The doctor examined her, inquired about her habits and ordered some tests that identified a respiratory condition. The physician told her to stop smoking. Despite this, Julia does not consider that her tobacco use is causing her problem, so she has not considered quitting.

[132] Prochaska, J. & Di Clemente, C. (1982). Stages and processes of self-change of smoking: Toward and integrative model of change. Psychotherapy: Theory, research and Practice, 19, 276-288.

The multidisciplinary team, comprised of different healthcare professionals (medical staff, nurses, psychologists, and social workers, among others), can raise awareness about the consequences of drug use in the short, medium, and long term, both for individuals who use substances and those around them. Multiple strategies of sensitization and health education can help to achieve this. Many persons who use drugs are the pre-contemplation stage and are not interested in stop using unless they receive the proper guidance. At this point, everyone in the health team plays a critical role.

Example: pre-contemplation

Health professionals can ask questions such as:

- What are the gains for your health by continue consuming drugs?
- What are the drawbacks of continuing using drugs?
- Which are the downsides for you in stopping or reducing drug consumption?
- Which are the benefits for your health in stopping or reducing drug consumption?

Healthcare professionals need to focus on questions about the drawbacks, losses, and harms of keep using drugs, as well as in the benefits of stopping it. This approach fosters the transition towards contemplation.

Contemplation

This is the next stage in the process of change, where people already consider that drug use is producing problems, or at least speak about the intention to modify consumption in the upcoming months, but with not a significant level of commitment, and without a plan. The objective analysis of the pros and cons can favor deciding to start taking action to stop using drugs. Once the problem is recognized, the individual enters a period characterized by ambivalence, meaning that considers and rejects change at the same time.

Those who are willing to modify their drug consumption within the next six months may fall into the contemplation stage. A person's experience at the contemplation stage is described as a "back and forth" among the reasons for changing and the reasons for continuing to behave in the same way. Because of the ambivalence, someone in the contemplation stage feels concern but at the same time, is not worried, and sees reasons for changing and motivations to continue behaving the same way. There are gains or reinforcers in both options.

Example: contemplation

Health professionals can focus the conversation on analyzing in detail the ***disadvantages of continue using drugs***, and overall on the ***benefits of cutting down or stopping drug use***. Some examples of questions are:

- Which are the organs of your body mainly affected by drug use?
- How has your health deteriorated due to drug use?
- To what extent would your health improve by stopping or reducing drug use?
- How would you feel if you could always remember what you did the day before?
- How would you feel if you manage to stop using drugs on the date you have decided?

The task for healthcare professionals in this stage is to tip the balance of decisions in favor of changing. It is imperative to support the determination to modify drug use by giving feedback, proffer clear and objective advice, and provide both psychological or pharmacological treatment when needed.

Preparation or determination

Individuals are prone to achieve change; their comments reveal a high level of motivation and the identification of reinforcers or gains from alternative behavior to consumption. In the determination stage, the health team has to maintain the motivation of the person towards change, as well as to advise on the most suitable, accessible, and useful therapeutic resources.

Example: preparation or determination

Ana considers she smokes too much. At first, she did not recognize this as a problem, but she watched a television program about the consequences of smoking, where she obtained a phone number to request help to stop smoking. Ana called to ask for more information because she wants a change in her life.

It is common for people in this stage to make small changes in drug use, like decrease frequency and quantity. Despite these improvements, no effective actions have yet been taken to suspend consumption, so all the support must be offered to achieve this definitively. It is at this stage that the person *takes the decision* to change.

Example: preparation or determination

Some useful phrases to ***reinforce motivation to change and offer therapeutic resources*** are:
"*Acknowledging that drug consumption is a problem is a first step to the recovery of physical health. Identifying the consequences of smoking tobacco on your health and social relationships enables you to make effective decisions to change and quit. Now that you called to get information on how to change your tobacco use, you can reach this goal faster and effectively. You can stop smoking if we identify the triggers of your cravings and develop effective strategies to deal with them.*"

Some useful questions can be:

- What could you do when you feel your heartbeat or breathing are faster when in the time and place that you usually smoke?
- How could you reduce your heart beating or slow down your breathing when you feel the urgency to smoke tobacco?
- Could alternative activities or actions bring you a similar satisfaction or pleasure to when you smoke tobacco?

To establish effective action plans it is vital to provide enough information. In the example of Ana:

- Would you like to make a specific plan on how to change, which we can practice and specify for how long?

Action

This is the stage that people often think of as starting therapy. The objective during this stage is to produce a change in the problem to be solved. The person engages in activities and behaviors that will lead to behavioral modification, changing the conduct and life patterns involved in seeking and using drugs. The person selects a strategy and starts to implement it. The action stage is short because people can quickly advance to the maintenance stage, or reverse due to the high risk of relapse.

Example: action

In a psychological care center, Pedro demands attention because he has had many problems due to marijuana use and wants to stop smoking it. When the first session ends, the healthcare personnel asks him to read some handouts, fill out forms, and register information about his daily activities. In the next session, Pedro brings what the healthcare professionals asked and shows that he is taking action to change.

Drastic changes in the pattern of consumption should not be confused with actions efficacious enough to stop using drugs. For example, decreasing to half the daily amount of drug consumed favors success but does not ensure establishing actions to produce change definitively.

Example: action

Some ideas to reinforce the actions aimed at reducing or stopping consumption are:

- You told me that the fact that you moved your furniture around in your room, and changed your schedule has helped you reduce your craving.
- You said that the change in your thoughts and the way in which you have structured your response to the need to use, by rejecting that need and prioritizing the benefits of changing your drug use, has allowed you to maintain your goal of abstinence.
- Observe how you have managed, by yourself, to face the situation of risk and craving for consumption, changing your thoughts and giving priority to the positive consequences of staying sober.
- Your improvement in concentration and memory before the exams period has been a direct effect of the control you have achieved to face situations that make you crave the substance.
- What is the relationship between having chosen to keep sober, the improvement in your concentration on studying and attaining better grades, which, by the way, I see it makes you feel excellent?

Maintenance

People are at this stage once they are making behavioral changes. The challenge is to sustain the modifications achieved in the previous stage and prevent relapse. Maintaining a change may require a different set of skills and strategies than those which were necessary to achieve the initial change. Let's look at the example.

Example: maintenance

María is 55 years old and has not drunk alcohol for 15 years thanks to a treatment program that made her very comfortable. Although she has faced situations that could have influenced her resolution of not drinking alcohol, memories of past bad experiences, and the skills acquired thanks to the treatment program aided her to keep sober. Now she stays healthy exercising and preventing risky situations.

People are in the maintenance stage from six months after stopping using drugs, to an undetermined long-term period, which in some cases can last a lifetime. During this stage, people can be free of drug use and committed to staying that way for more than six months. Success can be easier to achieve with the support and guidance of the healthcare team.

Example: maintenance

The following lines provide ideas on how to ***strengthen the user's self-efficacy*** in this stage:
"*Based on what you told me, you have decided to be healthier by not using drugs. When facing risky situations, you have taken advantage of your capacity of focusing on the pros and positive consequences of staying sober. You have preferred the benefits in your life, such as those with your spouse, family members and at work. Note that the choice to remain sober, even when facing risky situations for relapsing, is the principal driver for maintaining that high level of self-efficacy and confidence that you are experiencing.*"

Relapse

There is a sixth stage in the process of change. If relapse occurs, the person should transition within the change cycle, instead of remaining motionless and allowing the reinstatement of drug consumption. The healthcare professionals need to help people avoid despair and demoralization, continue implementing the proposed modifications, renew determination, and get things back on track towards action and maintenance stages.

Example: relapse

Sara is a 30-year-old woman who has not used cocaine for six months, and also stayed away from her acquaintances who use cocaine. She implemented all the strategies developed in the treatment program, however, the last weekend, she bumped into a group of friends with whom she used to consume, and they offered her a dose. The peer pressure was too hard for Sara, so she accepted the invitation.

Despite their efforts, some people will inevitably continue using drugs or reinstate the consumption behavior at the same levels as before the therapeutic intervention. It is fundamental to consider that people who relapse do not fail. When someone begins to consume drugs again, it is necessary to establish new strategies that allow the consolidation of change. It is crucial to identify the weak or missing links in the implementation of the action plan to modify the individual's conduct and learn from this experience to attain successful interventions in the future.

Example: relapse

In the relapse stage, health professionals can help to get back on track in pursuing the treatment goal with phrases or questions such as:

- Relapse can happen as part of the process of developing a new lifestyle. It is necessary for you to know how to address it.
- What do you think that triggered this relapse?
- In retrospective, how could you have responded to the social pressure to use drugs? How can you reevaluate the benefit of staying sober in comparison to what happens after using drugs?
- What people say to pressure you to use drugs may provide some ideas about what you didn't expect to face and ways to respond that aren't in your plan yet.
- How do you think you could have reacted to avoid relapsing?
- What could help you to keep sober when facing that situation again?
- What do you think could work to strengthen the motivation to change when faced with the risk of relapsing into substance use?

Readiness to change

The willingness of people to change is a critical factor that health professionals should examine during the screening and intervention process. Some studies have shown that initial motivation for treatment influences aftercare services after discharge[133],[134]. Some interventions (i.e., motivational interviewing[135]) explore and promote willingness to change. Many treatment programs include a "pre-treatment," or "preparation" phase, designed to address the needs of participants who are not yet committed to the goals of recovery and continued participation in the treatment. This initial phase addresses the participants' objectives, expectations and their motivation for change, and helps to identify who is ready for more intensive treatment services, as well as who requires full participation in activities designed to promote changes in attitudes and behaviors[136].

Early identification of the readiness to change includes obtaining information on people's knowledge about their substance use, their ability to recognize their need for help, their willingness to receive assistance, their perception of how they feel about of their need for support, and if they have taken steps to change by themselves[137]. In general, people are ready for treatment when they say they want to stop or reduce substance use and recognize the difficulty of staying sober without professional help[138].

In the process of implementing a Brief Intervention, a fundamental task for health personnel is to increase and maintain the probability for the individual to follow a series of steps towards the recommended change, that is, to keep the motivation to achieve goals. Below are the activities that healthcare professionals can perform to increase people's motivation, depending on the stage of change.

[133] De Leon, G. (2000). The Therapeutic Community: Theory, Model, and Method. New York, United States: Springer Publishers.
[134] Simpson, D., & Joe, G. (1993). Motivation as a predictor of early dropout from drug abuse treatment. Psychotherapy 30(2), 357–368.
[135] Miller, W., & Rollnick, S. (2002). Motivational Interviewing: Preparing People for Change. 2d ed. New York, United States: Guilford Press.
[136] Substance Abuse and Mental Health Services Administration & Center for Substance Abuse Treatment (2005). Susbstance Abuse Treatment for Adults in the Criminal Justice System, Treatment Improvement Protocol TIP 44. Maryland, United States of America: Department Of Health And Human Services.
[137] Wanberg, K., & Milkman, H. (1998). Criminal Conduct and Substance Abuse Treatment: Strategies for Self-Improvement and Change. Thousand Oaks, CA: Sage Publications.
[138] Center for Substance Abuse Treatment. (1994). Combining Substance Abuse Treatment With Intermediate Sanctions for Adults in the Criminal Justice System. Treatment Improvement Protocol (TIP) Series 12. DHHS Publication No. (SMA) 94-3004. Rockville, United States: Substance Abuse and Mental Health Services Administration.

Tasks for healthcare professionals to foster change	
Stage of change	**Behavioral strategies**
Pre-contemplation	Increase risk perception and acknowledge harms associated with drug use. Provide information on the causes and consequences of consumption, as well as feedback to increase the recognition of the problem and the possibility of changing.
Contemplation	Identify and highlight the reasons to change and the risks of not changing; increase self-efficacy.
Determination	Guide people to determine the best course of action to follow to achieve change, identifying strategies that are acceptable, accessible, appropriate and effective.
Action	Provide support to carry out activities towards change, help to consider different strategies to reduce or cease drug use.
Maintenance	Help people to sustain behaviors geared towards change, and renew their determination; identify and use strategies to prevent relapse.
Relapse	Foster the re-entry into the change cycle at the most convenient stage (contemplation, determination or action), avoiding despair and providing coping strategies.

Processes of change

The third key element of the Transtheoretical Model of Change refers to processes, which are the tools used by each individual to deal with particular problems and make changes in his behavior.[139] The Transtheoretical Model of Change considers this as a person's actions to modify his feelings, behavior, cognition and relations with other people,[140] and includes cognitive and behavioral activities that help a person move forward towards change.

The cognitive processes of change (*greater awareness, self-reevaluation, environmental reevaluation, dramatic relief, and self-liberation*) are associated with the initial stages of change, namely, pre-contemplation, contemplation and preparation, where self-efficacy needs to be further developed. Processes of change that are behavioral in nature (*social liberation, contingency management, helping relationships, counter-conditioning, and stimulus control*) are related to the stages of action and maintenance.

Awareness refers to activities to increase the amount of information that will encourage the person to find effective responses. The goal is to acknowledge both cognitive and affective experiences. Therapeutic procedures for increasing the individual's awareness about himself and the nature of his problem include psycho-education and cognitive restructuring or reframing.

Example: consciousness raising

The therapist will encourage the person to do a more detailed analysis of the problems that drug use is causing him, and the benefits he would realize from changing his behavior of substance use. The professional can highlight what the person said, and ask*: "So, to sum up: What are the changes you don't like to see in yourself?" Hoping that the client will say things like: "Because of my drug use, I don't have any money left over for the bus. It's very hard for me to get to sleep. I lost my job. I don't remember what I did exactly, I forget stuff. I'm upset all the time, and I'm not interested in things anymore."*

Then the therapist could ask: *What will happen once you stop using?* It is very important to encourage the person to say something like: *"I'll have enough money to pay my expenses. I won't have trouble sleeping. I'll have a job. My memory will improve. I'll stop being upset all the time. And I'll find some meaning in things again.*

[139] Mussi, C. (2006). Entrenamiento en habilidades terapéuticas, Como mejorar los resultados en psicoterapia. Nuevo León, Mexico: UNL.
[140] Prochaska, J.O. & Prochaska, J.M. (1993). A transtheoretical model of change for addictive behaviors. In M. Casas and M. Gossop (eds.), Tratamientos psicológicos en drogodependencias: recaída y prevención de recaídas (pp. 85-136). Barcelona: Ediciones en Neurociencias.

Self-reevaluation refers to the process that begins after reevaluating cognitive and affective aspects. It means reflecting on the need to change things, or not, the conflict with his value system, and the possible benefits and disadvantages. It is often the case that the person may think that even though things would improve after change, this would come at a cost. The therapeutic strategy for guiding the self-reevaluation by means of analyzing the advantages and disadvantages is a decision balance sheet.

Example: self-reevaluation

The therapist encourages the client to assess, cognitively and emotionally, the issue of drug use as it affects his own values and personality, as well as in relation to the benefits that will come when he changes his drug using behavior. The therapist will ask questions such as: *What differences do you see between who you were before and after your drug use became a problem?* ***Encourage the person to say things*** like: *I'm no longer the person I was before. I'm violent now because of my drug use. I've stopped being interested in my family, I don't do my work, and I lie a lot."*

The therapist may ask *questions* such as: "*Which personal values would you like to recoup once you change your substance use?"* The idea is to encourage the person to say things like: "*I want to get back my family's trust in me, feel at ease and good about myself, I want to respect myself, make a contribution at home, and really take up my responsibilities and feel useful."*

Environmental reevaluation means assessing the impact that drug use has on those around him, his interpersonal relations, and how they could improve if he stopped using. In other words, that the consequences of substance use affect not only the person himself, but also his environment and surroundings.

Example: *environmental reevaluation*

The therapist will ask questions such as: "How has your substance use affected your family and your friends?" The hope is to have the person say something like*: "They don't let me see my kids any more. My parents are always worried. I've lost some friends. My boss no longer thinks that I'm a good worker. I get easily angry with people around me. I don't care whether I hurt other people or not." The therapist then asks: "What would be the benefits to your family, friends and co-workers if you changed your drug use?" hoping to hear: "I'd see my children more often. I could make my parents happy when they see that I'm no longer using. I could win the respect of other people. I'd do a good job at work, and do what they ask me to do. I'd stop fighting with people."*

Dramatic relief means that the individual feels and expresses emotions caused by the negative consequences of drug use.

Example: Dramatic relief

The therapist will encourage the person to express his feelings or emotions about the negative consequences of his drug use: *"Given what you've told me, what do you need to change, what will be possible once you change your drug use?" The hoped-for response would be: "I want to stop lying, I want to stop stealing from my family, I want to stop feeling desperate, feeling afraid, feeling guilty all the time. I don't want to go on having all these problems."*

Self-liberation takes place at the moment the person weighs up the consequences, and takes the decision to change his problem behavior. He is seen as having a greater capacity to make choices and take decisions, and it seems feasible that he can acquire the skills he needs in order to change.

Example: self-liberation

The therapist could ask questions such as: "What role do you yourself play in achieving your goal of stopping or reducing your drug use? Can you please describe whether you feel capable at this point of taking the decision to stop using? What do you need to do in order to feel ready to decide to stop using? Would you be interested in finding out what helped other people to stop using drugs?" Encourage the person to say something like: *"I'm now convinced that only I can change my life. Stopping using definitely depends on me. It's clear that accepting that I can't live with the drug will help me change. I need to learn how to stop using, or at least to cut down."*

Social liberation means increasing the person's capacity for decision-making by identifying alternatives to substance use. At this moment, the client becomes aware of the way society views drug use and the social norms that reinforce that position.

Example: social liberation

The therapist might ask: "What do you think you could do in the face of the pressure that other people put on you to have a drink? What did you do or say in the past that worked well to stop this kind of pressure from other people? You've been able to be strong in arguing your position and your decisions. You look the person in the eye and convey your ideas clearly when you're sure of what you want and think. How would you have to act to demonstrate that you won't give in to pressure? What would you need to do to show that you no longer believe that alcohol is not a drug? How would you tell them that drinking isn't fun any longer, and that stopping drinking isn't a sign of weakness, or lack of commitment to your group?"

The therapist will encourage the client to use words such as: "I must be strong and convincing when people offer me alcohol. I need to look them in the eye and be really firm in saying that I won't drink. I don't need to explain my behavior, but if they pressure me, I must be firm in telling them my ideas, and in refusing to drink. It's often worked when I looked them in the eye and firmly tell them that I don't want to drink, without explanations. The more pressure I get, the more I must think about my goals, that my life is more important than getting on with my friends. The more they pressure me, the more I need to get away from them. If I can't get away, then I need to maintain my conviction that social pressures and other people's ideas are only hurting me and putting me at risk of drinking. I've got to be firm and remember the harm that alcohol did to my health, that it stopped me from achieving my goals in school or at work, and in my family or with my partner. I must be firm, and be convincing when I say that it is possible to have fun and enjoy life without drinking alcohol, that I don't need to drink in order to enjoy myself."

Helping relationships mean using the person's social support system to help him stop using, particularly those people who are significant to him.

Example: helping relationships

The therapist might ask questions such as: "Who in your family or among your friends would be willing to work with you on this change that you've planned? How could he or she help you keep to your goal of not using?" Hoping that the person will say: "I'm sure that my wife could help me achieve my goal of not using, particularly if I commit to doing some of the alternatives that we've chosen. I'm sure that my son would be happy to come running with me in the morning to help me recover. I always notice how sad he is when I'm using. I'm sure that my wife would be ready to work with me to plan some alternatives, so that we can change our lifestyle."

Questions and statements:

- *Who in your family or among your friends would be willing to work with you on this change that you have planned? How could this person help you to maintain your goal of not using?*

Encourage the person to say things like:

- *I'm sure my wife could help me to achieve my goal of not using, particularly if I commit to doing some of the alternatives that we've chosen.*
- *I'm sure my son would enjoy coming on a run with me every morning to help me in my recovery. I always noticed how sad he was when I was using.*
- *I'm sure my wife would be ready to plan these alternatives with me, so that we can change our lifestyle.*

Lastly, there are three processes of behavioral change: *contingency management, counter-conditioning* and *stimulus control*.

Contingency management means clearly identifying those things that reinforce substance use, and then promote alternatives that call up a similar class of reinforcing elements without the need to resort to using drugs. In other words, encourage contexts that offer the opportunity to behave in a healthy way and reinforce specific behaviors.

Example: contingency management

The therapist may ask questions such: "What activities could you do after a particular period of time when you stopped using or cut down your use? To what extent is your alternative to drinking as pleasant as drinking, or more or less pleasing? How often do you need to engage in your alternative activity after stopping use so that it becomes a routine? The alternative activity will ensure that this period without substance use will begin and continue to be pleasurable over time. Remaining abstinent is not pleasant right now, for a time, but if every time you don't use you get involved in your alternative activity, the time when you're not using will start to be very enjoyable for you."

The therapist will encourage the client to say things such as: "I realize that for now, if I don't use, I'm not going to feel too good, and that I probably won't enjoy the alternatives that I've chosen, even though I liked them a lot in the past. But I also realize that if I do get back into my alternatives without using at all, I'll begin to like them again."

Counter-conditioning is a procedure for replacing the learned response or reflex of craving the drug with a healthier response, such as, for example, the reflex contrary to craving, which would be relaxation. The reflexes, or conditioned responses, to drug use (behavioral, cognitive and physiological) are modified by relating the context of the risk of drug use to situations that facilitate control of emotions, feelings and thoughts, in order to promote the opportunity for alternative, healthy behaviors.

Example: counter-conditioning

The therapist explains and helps the person to think about engaging in certain behaviors in order to deal with the context of substance use as a trigger for risk of relapse, using phrases such as: "Note that the context or setting in which you used to use drugs or alcohol plays an important role in producing certain automatic, involuntary responses in your body, such as an increased heart rate, more rapid breathing or certain movements in your stomach and intestine that perhaps you hadn't noticed before, but that we interpret as a desire or need to use. If in this context you do relaxation exercises or alternative activities, they will begin to produce a contrary effect in your body, that is, you will no longer feel a craving to use, you will begin to feel more relaxed." Hoping for responses such as: "I realize that being in the place where I used to use, I have to pay attention to how my body is reacting, and to my thoughts and feelings. I must also do my relaxation exercises and alternative activities when I think about that place or go there. I can learn that the place where I used to use now causes reactions of relaxation in my body, and reactions of satisfaction similar to the alternative activities I've been doing."

Stimulus control means identifying the stimuli associated with self-administration, such as the smell of tobacco smoke, or the atmosphere in a bar, as well as the body's own responses to using the drug for the first time. These are factors that may stimulate drug use and precipitate a relapse in people who are trying to stop their use. These stimuli are called *triggering stimuli* or *facilitators.*[141] The person will typically avoid exposing himself to situations that he has identified as powerful triggers of substance use, which were previously difficult to avoid, and will engage in alternative activities that are related to a healthy lifestyle.

Example: stimulus control

The therapist will say: "Once you've identified your thoughts and emotions and how your body reacts when you get to the place where you used to use, and meet the people with whom you used to use, you will need to take action that will enable you to change the way you react, and so achieve your goal of stopping. What you can also do, in addition to relaxing and doing the things we decided on, is change the setting in which you used to use, as well as hanging out with certain people, and look for the support of other people, or plan actions that will help you control and prevent risky situations. In many cases, we will have to use our problem-solving and communications skills, as well as our ability to refuse to use, as we learned."

The therapist will encourage the client to say things like: "So, I realize that when I go to those places and meet my friends, or when it's the time of day when I used to use drugs, I have to put these action plans into practice, and use my communications and problem-solving skills, as well as my techniques for refusing to use when I feel pressured by other people."

Statements and phrases

Once you've identified your thoughts and emotions and how your body reacts when you get to the place where you used to use and meet the people with whom you used to use, you will need to take action that will enable you to change the way you react, and so achieve your goal of stopping.

What you can do, as well as relaxing and doing the things we talked about, is change the setting where you used to drink or use drugs, and change hanging out with certain people, find support from other people, or plan things to do that help you control and prevent risky situations. We will have to call on our problem-solving and communications skills, and our ability to reject drug use.

[141] Lorenzo, J. M., Ladero, J. M., Leza, I., & Lizasoain, I. (2003). Drogodependencia: Farmacología. Patología. Psicología. Legislación (2nd ed.), Spain: Editorial Médica Panamericana.

Cognitive change processes (*consciousness raising, self-reevaluation, environmental reevaluation, dramatic relief, self-liberation*) are associated with the initial stages of change: pre-contemplation, contemplation, and preparation, in which the person's self-efficacy needs to be further developed. Behavioral processes of change (*social liberation, contingency management, helping relationships, counter-conditioning, and stimulus control*) are linked to the stages of action and maintenance.

Motivational strategies help people who use drugs to enter and continue in treatment, or else commit to a strategy for change. As an intervention program, motivational interviewing has reduced program dropout and has increased the client's participation in treatment so as to achieve and maintain behavior change. The basic principles of motivational interviewing are: 1) Express empathy by reflective listening; 2) encourage discrepancy, so that the client verbalizes his reasons for concern about change; 3) work on resistance, without confrontation, and 4) reaffirm the person's ability to change.

Show empathy. This means that the therapist will show and understanding of the person's views, and use words that show affirmation or agreement. The therapist will say things that facilitate empathy with the person using drugs, such as: "I understand. It must be very difficult, and you must feel very bad about what happened. I do understand. The situation you are facing must be difficult. I imagine that it was very difficult for you to take that decision."

Encourage discrepancy, which means making the person using drugs aware of the costs and benefits of change. The therapist will increase the discrepancy between what the person gains and what he loses, with statements like: "What are the advantages and disadvantages you see as a result of your drug use? What are the benefits and disadvantages right now of using drugs? I understand that the disadvantage for you of using drugs is that it makes it less likely that they will let you spend time with your son."

Work on resistance. This means that the therapist listens to the person, and reaffirms his statements without trying to convince him that there is a problem or that a change needs to be made. The therapist will try not to impose solutions to the problem, but rather guide the person towards finding his own alternatives. The therapist will ask questions such as: "How do you think you can deal with your wife's pressuring you at this time? How likely is it that what you're proposing will change that situation once and for all?"

Reaffirm the ability to change. This means that the therapist will identify the person's strengths, and give him feedback on them, in order to increase his confidence in being able to achieve a change. The therapist will say things like: "I think that your idea could work very well, and that

there's a good possibility that it will be successful, that it will help you achieve your goal. I think you've shown that you have the ability to cut down on your use."

The types of motivational behaviors it is suggested be used to show the person that you are interested in his case and in the effectiveness of the intervention are: Look the client in the eye; use gestures, movements and postures that show you are paying attention (head movements, leaning forward so as to hear better); use words and tones of voice that denote interest; emphasize the information you have heard; show interest in understanding clearly, or ask questions; encourage the opportunity for participation and calm, and clearly set out the guidelines for working together.

The specific components of motivational interviewing include:

Provide feedback. People often do not know how to change, or they don't change because they do not have enough information about their situation. The therapist should give the person clear and specific information about his drug-using behavior, and everything related to it. This skill is needed in all of the stages of change, although is most often called on during the initial phase. The therapist will make statements like: "From what you told us, the amount of tobacco you are smoking is enough to put you at risk for a number of diseases."

Give direct advice on the need for change. Clear, precise advice is helpful in promoting change. It is suggested that this advice be timely, clear and precise, and that it set out the advantages of change. Try to have the person ask for advice.

The therapist will ask questions such as: "Would you like to know what has worked for other people in your situation? The support of other people who are important to you can be very helpful. I understand that the person you told me about would be willing to listen to you and to support you. According to what you told me, this person could help you control your drinking, and acknowledge your efforts when she's with you."

Try to remove barriers to change. This means identifying and eliminating obstacles that may come up during the intervention. The therapist should guide the person to identify the circumstances that prevent change or make it more difficult, and guide him to a solution. The therapist could make statements or ask questions such as: "You're telling me that now that you've got your family back, it's become difficult for you to come to treatment because you have nobody to take care of the children. What are your options here, so that you can finish the rest of your treatment?"

Suggest or provide alternatives for change, and encourage the person to generate his own alternatives, and give him the possibility of choosing. You could say: “If this plan that you’re telling me about doesn’t work, what other alternatives do you have?”

Reduce the attractiveness of using alcohol or drugs. Ask the person to identify his incentives for continuing to use, so as to lessen its importance and increase his motivation for change. Guide the person to examine the advantages and disadvantages of his use of drugs and to look at change. Say things such as: “You’ve told me that you enjoy yourself when you’re drinking. But you’ve also said that when you’re with them and you’re drinking, you’ve had problems with your wife, you’ve spent money, and you’ve had accidents, and that on the whole, these are the most powerful reasons for changing your drug use.”

Develop a set of specific goals for change**.** Guide the person towards setting a clear objective, which should be a contrast to his current situation, and should be realistic and attainable. Ask questions such as: “Now that you’ve described how you smoke, and that you’ve decided to stop smoking completely and find alternatives, it’s essential that we decide on the longest time you can remain without smoking, and then we’ll be able to schedule our next appointment. Given the amount of time you’ve stopped smoking, we should set our next session for four days from now. Do you agree?”

The types of motivational techniques that can be used systematically by health care staff include: 1) ask open questions; 2) repeat information that the person has given you, so that he can give you more information about that particular aspect of his life think more about it (like looking in the mirror: repeat and rephrase what he told you. Focus on the information he gave you and give him the opportunity to say it differently); 3) say in your own words what the person told you (paraphrase) so that he can make sure that he covers all the information needed, and 4) understand his feelings, so that he can have the confidence to express himself sincerely.

It is important to note that motivational interviewing cannot, per se, ensure that substance use will cease or be cut back. Rather, it is a style of interaction that encourages a person’s motivation to commit to carrying out specific strategies that will lead him to change and to maintain that change.

Interventions to cause change

The ongoing relationship[142] that is established between the person using drugs and the multidisciplinary heath care team is one of the most important elements in determining the outcomes of therapeutic interventions. If the person who uses drugs feels that he is receiving appropriate care, it is much more likely that he will continue to come into treatment. Using effective strategies that correspond to the person's stage of change will help greatly here, and he will be able to set goals that he is more likely to achieve.

The main advantage of the Transtheoretical Model proposed by Prochaska and DiClemente is that it enables us to understand how to design tailored interventions that will help achieve a change in drug-using behavior. In practical terms, certain interventions[143] are recommended in a primary health care setting that are consistent with the state of change of each person.

Psychoeducation. Providing useful information on drug use and its effects and consequences increases awareness, and helps with stimulus control and social liberation.

A number of interventions can be recommended as helping change drug use behavior: 1) values clarification, 2) problem-solving, 3) goal-setting, 4) planning for relapse, 5) relaxation techniques, 6) assertiveness training, 7) role playing, 8) cognitive techniques, 9) environmental restructuring, 10) role clarification, 11) reinforcement, and 12) social and communications skills.

Example of a conversation between the person (P) and the therapist (T):

P: *I'm not strong-willed, and that's why I use.*
T: *Let me share with you some information about the various things that may be affecting you, and help you understand why you are using. Using drugs or alcohol is a response to a series of influences: for example, your friends invite you to use; your body feels uncomfortable because you need the substance; some people believe that they need to use substances to calm down, or feel that by using the substance, we can get along better with other people, or that we need the substance in order to do certain things. So, while you are firmly convinced that you don't want to drink, it is in fact necessary for us to prepare ourselves to respond effectively to any of those events, and to respond differently from the way you used to. What do you think?*

[142] Caballero, L. (1993). Determinantes y significado de la retención en programas para drogodependientes. In M. Casas & M. Gossop (eds.), *Recaída y prevención de recaída* (pp. 245-266). Barcelona: Citran.
[143] Velasquez, M., Maurer, G., Crouch, C., & DiClemente, C. (2001). *Group treatment for substance abuse. A stages of change therapy manual*. New York, NY: Guilford Press.

Values clarification. The goal is to help the person define his values and the things that he cares about most in his life, by analyzing the discrepancy with drug use. This technique can help with self-reevaluation.

Example of a conversation between the person (P) and the therapist (T):

P: *My mother is constantly worried about my drug use, and this makes me feel very bad, but it's very difficult for me not to use.*
T: *I understand that it's difficult for you to stop using, even though you end up feeling bad because your mother is worried.*
P: *Well yes, but the truth is, I don't want to hurt her, and I've got to do something so as not to hurt her and stop feeling guilty.*
T: *I think that even though it's so difficult for you, it's more important to you that you help your mother and stop feeling guilty.*

Problem-solving. Self-efficacy is increased when people are encouraged to develop strategies for finding different ways of solving problems.

Example of a conversation between the person (P) and the therapist (T):

T. *So, you feel that whenever they invite you to use, you can't say no. But what could you do?*
P. *I don't know—they're the only friends I've got.*
T. *OK, I'm clear that you're worried about losing your friends, but on the other hand, you've also said that you want to stop taking drugs but you can't do that when they invite you to use.*
P. *No, I don't want to lose my friends.*
T. *So tell me: How could you go about not losing their friendship and yet avoid having them invite you to use, or not be influenced by what they say?*
P. *I don't know. It's always the same, I end up using.*
T. *OK. What do you think about doing an exercise in communications in which you tell them you've decided not to use, and you ask them to help you and not offer you drugs?*
P. *But, supposing they get angry?*
T. *Let's practice how to tell them what you've decided, so that they understand you and decide to support you. But you're right, it may turn out that one of your friends decides not to help you and feels upset that you don't want to join him in using. This friend: is he more interested in having you along to use drugs with him, or does he want your friendship?*
P. *I think he's more interested in his own drug use.*
T. *OK, how could you tell him that you want to hang out with him but not use?*

P. *I don't know. When we see each other, it's always to use.*
T. *And supposing you say to him that we could get together, chat and have fun somewhere else where people aren't using? That way, you continue to offer him your friendship, and at the same time, don't expose yourself to risks.*
P. *I don't think he would agree, but I could see who wants to support me and who doesn't.*
T. *Do, you've now identified the solution: try to hang with your friends but at the same time, take care of yourself and not take the risk of using."*

Goal setting. The objective is for the person to distinguish between goals that are realistic and goals that are not realistic; this will help with his self-liberation.

Example of a conversation between the person (P) and the therapist (T):

P. *I'm very upset because they don't trust me at home. Even though I took them my negative urine tests, and they see that I go to my sessions, they're constantly questioning me, and they come out with questions like: Where are you going? Why are you in such a rush? What's wrong with you? Have you used something already? I can't stand it.*
T. *I'm realizing that even though you have stopped using, your family doesn't recognize that you've changed.*
P. *Yes, they don't trust me at all, but they should believe me by now.*
T. *I see. You'd like them to trust you, that they would have confidence in you after you've achieved your important goal of one month without using. What else do you think they would need to see to have more confidence in you?*
P. *I could have drug tests more often, and show them my list of appointments—that's what I'm thinking.*
T. *Good idea! The fact that you think they demand that you stay drug-free will definitely help, and seems to be an idea that has a lot of potential for success. Still, if they see that you are uneasy, what could you do to make them understand why you get worked up, as you say, so that they can understand what's going on?*
P. *Well, I could tell them what's happening to me.*
T. *Very good! You're clear that open communication can be a way for them to understand you, and know what you're going through, and mostly, so that they can understand how they can help you. But even better, I think that this will help you achieve your goal better, and be successful in maintaining it.*

Planning to prevent relapse. Strategies are developed for dealing with situations that provoke the temptation to use, so as to increase the person's commitment to change. This helps with the process of self–liberation.

Example of a conversation between the person (P) and the therapist (T):

T: *Tell me, what situation could come up over the next three months where you would find it difficult not to drink?*
P: *Yes, well, I don't really know whether I can maintain my goal on my birthday, because I always drink so as to enjoy myself.*
T: *OK, I understand that one special day in the year is when you usually celebrate by drinking. But tell me, what are the reasons you would have for not drinking on that occasion?*
P: *I don't know whether I'm able not to drink that day. I like to feel "up" and happy. After all, it's my birthday.*
T: *So, I understand that drinking makes you feel happy and "up". Tell me, though, how is your birthday affected when you are drinking?*
P: *Sometimes, I don't pay any attention to my guests. All I want to do is drink, and then I get upset and even end up fighting with some of them.*
T: *So, on the one hand, drinking makes you feel happy and "up", but on the other, it has consequences such as not paying attention to your guests, getting angry, and even start fighting with some of them.*
P: *And the next day, I don't remember what happened.*
T: *I understand. But, you're right to want to enjoy yourself and have fun on your birthday. Tell me, what kind of thing could you do to have fun on your birthday without actually drinking alcohol?*
P: *Hmm, I don't know.*
T: *What would you like to do? It could be something you don't often do but that you really like, or something that you did before and that you'd like to give yourself as a birthday present.*
P: *Well, I'd like to go to the movies, it's been a long time since I went to the movies. I'd ask my family to come along, and then we'd go out afterwards to have something to eat.*
T: *Good! Look, you've just identified two activities that can help you not to drink and that also involve your family. Shall we draw up a plan to prevent risks and also make sure that you achieve your goal?*
P. *Hmm.*
T. *Tell me, what's the risk that they might ask you to drink in order to celebrate your birthday?*
P: *No, no, they know I am in therapy, no, they won't drink, they're helping me.*

T: *Good! You've identified some activities, and you've said it's important to choose people whose company you enjoy and who are also ready to help you in your process of change. But tell me, what would happen if you didn't like the movie and you started to think that it would have been better to go somewhere and drink, and you have a great desire to drink, what could you say to yourself to achieve your goal of not drinking?*
P: *That not drinking is the best birthday present I can give myself, that I'm making my family happy, and that I'm getting closer to achieving my goals, like getting my job back.*
T: *You've said that the important thing is that you're clear about your ideas, and can prioritize what you yourself need and could more easily achieve if you reach your goal of stopping drinking.*

Relaxation techniques. Various methods help people learn to calm down and relax, which helps with the process of counter-conditioning. The client is trained in relaxation techniques and he becomes an expert. The therapist should have the client list the stimuli that trigger his substance use and put them in priority, from the trigger that produces the least anxiety to the one that produces the greatest craving. Associate the occurrence of each of the stimuli with the relaxation exercise, one at each session, starting with the one that produces the least anxiety. A stimulus on the list will be associated with relaxation at each session. The therapist will schedule the number of sessions needed until the stimulus no longer causes a craving to use and the client reports that the appearance of the stimulus produces relaxation.

Example of a conversation between the person (P) and the therapist (T):

T: *Now that we've learned the relaxation exercises—the one you've chosen is deep breathing--the stimulus that we are going to work on today is the typical time when you used to drink. We're going to learn to deal with moments and situations where we might feel very upset or worked up. Remember that we chose the stimulus on the list that produces the least amount of anxiety at this time. In other words, the one that in this situation causes you to have cravings, because it was where you used to drink. We've seen that in certain places, or at certain times or with certain people, our body reacts with a set of symptoms, such as increased palpitations, a change in breathing, or sweating, and some specific feelings. This has often led us simply to drink, to try to reduce the need or the craving, to get rid of the feeling of distress, or to feel the pleasant effects of the alcohol. Remember?*

P: Yes. *Before, I didn't understand, but now that you've taught me to identify it, I'm noting not only my craving for drinking, but now that I think about it some more, I also realize my anxiety,*

how I begin to sweat and the other things that happen to me. I didn't notice them before.
T: *That's right. So, what we're going to do is train your body to detect those moments, so that your body responds automatically in the opposite way. It's difficult to understand at first, but as we do the relaxation exercise that you've already learned, you will be facing up to moments of craving, and you'll also be educating your body to respond automatically to those moments of physical need. At first, the relaxation exercises need a lot of thought and concentration, but with daily practice, or even twice a day, the body learns to respond automatically, easily, to moments of anxiety and stress that occur when you go into the room where you normally drink, for example, or when you run into people with whom you generally used.*
T: *Really? I think that if I can calm down and don't feel so anxious, I'm going to be more confident about not drinking.*
T: *Right. Let's begin to use the relaxation exercise for a specific situation we talked about, that is, when you're home alone at lunchtime. We're going to work on changing your physical discomfort, the tachycardia and the sweating.*
P: *OK.*
T: *To start with, please make yourself comfortable. You can lie down or stay seated, whatever makes you relaxed. If you're sitting down, lean your head against the wall so that you feel comfortable. Your arms should be on your thighs, and not hanging down. Put your hands on your thighs with your palms upwards, and let your hands rest naturally, and don't tense your muscles.*

Once the person is sitting correctly and feeling comfortable, the therapist continues: "*Breathe in deeply and calmly, and imagine that there's a balloon in your chest that inflates every time you breathe in. As the air enters your body, feel how it reaches your stomach and the balloon is inflating, little by little, from your stomach up into your chest. Put your right hand on your stomach, and your left hand on your chest and breathe in deeply. Notice that the hand on your stomach moves first, and then your other hand moves upward. This means that your breathing is helping you to relax. If the hand on your chest moves first and then your stomach inflates, that means that your breathing is incorrect, and is not helping you to relax—it's only causing you to tense up. Do the breathing exercise with me, and see how the hand on your stomach moves, and then, very slowly, take air into your chest.*"

Having checked that the person is doing deep breathing correctly, the professional continues: *"Keep your eyes closed. It doesn't matter what you look like, the only important thing is how you feel. Let's begin by breathing in through the nose. Fill your body with air, and hold for 3, 2, 1, and then breathe out slowly, 3, 2, 1. Let the air go little by little through your mouth, feel how the air goes out taking all the tension with it. Breathe in again, hold 2, breathe out. Breathe in, keep it there, 3, 2, 1. Your feet are relaxed and are getting heavy. Breathe out and as the air*

leaves your lungs, your feet relax. Breathe in, hold 2. Your legs are resting on the floor, they are relaxed. Breathe in, hold 2, and breathe out. As the air leaves your lungs, it takes away all the tension, and your legs relax. Breathe in, hold, and you can feel your shoulders getting heavy, breathe out. As your shoulders relax, the air goes out of your body. Inhale, hold, exhale. As the air goes out, your arms are getting heavy, your hands are resting on your thighs, your arms are relaxed. Breathe out. Your hands are resting on your thighs, they are heavy, and your breathing is slow and relaxed. The noises you hear around you are part of your relaxation, and part of your exercise. Your hands are getting heavy, and you feel the palms of your hands are getting slightly warm. The warmth means that they are relaxed. Your hands are at rest, they're heavy. Your breathing is helping them relax. Breathe in, 2, breathe out. The air goes out, and takes all the tension with it, leaving your body totally relaxed. Breathe out, your forehead is relaxed. As the tension goes away, the expression lines on your forehead disappear. Your forehead is relaxed and feels heavy. Breathe in, hold 3, 2, breathe out, and as you breathe out, the air is taking all the tension with it, leaving your body totally relaxed. Your eyelids are heavy over your eyes. Your eyes are closed. This slow, deep, even breathing makes you relax. Breathe in, hold 3, 2, breathe out, and as you breathe out, all the tension goes with it, leaving your body totally relaxed. Relax your jaw and open your lips slightly, and rest your jaw muscles, turning all the tension into relaxation. Your slow breathing is helping your body to relax completely. Your body is heavy, it's at rest, and relaxed."

As the person relaxes through his deep breathing technique, the counselor introduces the first stimulus that triggers a craving for drink, saying: *"It's now noon, twelve o'clock. Breathe in, hold 2, exhale, and as you breathe out, all the tension leaves your body. It's lunchtime, you're at home. Breathe in, hold 3, 2, breathe out, and as you breathe out, the tension goes with it, your body is totally relaxed. It's noon, but your breathing helps you relax. Your body is heavy all over, it's relaxed."*

The therapist mentions the stimulus for this day's session (in this example, the time is noon). Repeat the relaxation words and the breathing in and out as often as is necessary until the client reports that the introduction of the stimulus (noon-time) causes him to relax. Use the exercise as many (daily) sessions as necessary until the introduction of this stimulus produces relaxation. Then go on to the next stimulus on the list the client has drawn up, and associate it with the relaxation exercises, until this new stimulus produces relaxation, and so forth through the list.

Assertiveness training. These are techniques for dealing with and rejecting offers to use drugs, providing healthy alternatives and favoring the counter-conditioning process of change.

Example of a conversation between the person (P) and the therapist (T):

T. *One technique for not accepting the invitation to drink is to be upfront and tell everyone you need to about your decision not to drink alcohol. You need to look the person in the eye, and your tone of voice needs to be firm and show that you are calm and sure of yourself.*
P: *This sounds difficult. How do I do it?"*
T. *You're right, it's not easy, but let's practice. I'll be you, and you'll be your friend—the one that's always insisting that you have a drink.*
P: *Fine, let's go!*
T: (taking the role of the person, begins the exercise) *Hi! Thanks for coming. I want your help, please. I've decided to stop drinking, for lots of reasons that are important to me, and although I'm not going to explain all of them right now, I did call you to ask you for help.*
P: (in the role of friend) *What's wrong? Are you ill?*
T: (as the person) *No, in fact I feel very good, and I'm really trying to salvage many things in my life. So, I've decided to stop drinking, and find some other way of enjoying myself, as well as salvaging things that I've lost in my life.*
The therapist pauses the exercise, and takes up his professional role again, and says:

T. *You need to stay serious and clearly and firmly state your intention to quit drinking. You could also add that his friendship and support are important to you.*
P: *No, he won't agree.*
T: *I understand. Tell me what you think he'll say, so that I can give you examples of the statements you might make to him.*
P: *Come on! What's happening to you?*
T: *I know that I've never talked to you like this, so you're surprised and perhaps upset about my decision. But the truth is, our friendship is very important to me, and so I decided to tell you what's happening with me, and to ask for your help. We used to do a lot of things together, before, without drinking like we do now, and I really think that we enjoyed ourselves a lot. I'd like you to help me so that we can to out again like we did before, going running, on a trip, go to see movies or play chess, just like before but without drinking. I know that it may not sound like much fun, but it would really help me.*
P. *I think that he would in fact help me. But, supposing he doesn't?*
T. *Well, you should definitely be the first to speak. How would you feel? What should you do about it?*
P. *I'd definitely feel very bad, and I'd have to decide between being friends with him, and my*

own wellbeing.
T. *Quite right! Feeling bad is something we will have to deal with as often as necessary, and give priority to what you really have, that is, your health and your family. But suppose he agrees, do you think that you can put into practice the kind of arguments we were modeling?*
P. *I was thinking about that. You say it very well, but how can I manage to do it?*

The therapist can respond with more role-playing, giving the person the opportunity to practice and use his skills.

Role playing. This is an opportunity to play out the role that the person wants to achieve to change his pattern of drug use. This is the clearest example of a counter-conditioning technique.

Example of a conversation between the person (P) and the therapist (T):

T. *Let's put what we've learned into practice. This is **your** chance to do it, and we'll see whether we can improve it. Are you ready?*
P. *Let's see how I do!*
T. *Don't worry, just think about your answer, and remember to be clear about telling your friend what you've decided. Don't give in to his jokes, don't get involved. Your message is about how your friend can help you in reaching your goal. Ready? Let's go.*
P. (as if he were talking to a friend.) *Hi! Thanks for coming. Listen, I don't know how to tell you this, but I've been going to the psychologist and I've decided to stop drinking.*
T. (as the friend). *Huh! So, you've gone completely mad and you're even going to the psychologist! I can give you therapy myself if you want!*
P. *I used to think the same thing, but it's not what you think it is. I don't know how to explain, but the thing is, I don't want to drink any more. I've had a very bad time recently, and without realizing it, nothing's working out for me. Thinking about it all, I understood that a lot of it has to do with alcohol. I know that I can decide what's most important for me, and you are one of the people I trust enough to tell and ask for help.*
T. *Good exercise, very good. You took the idea of saying what you've done, what's important to you, and why you need him. Well done, and most importantly, you didn't react to the comment your friend made. That was excellent! Let's go on, and you can explain to him how he can help you.*
T. (in the role of friend.) *Hmmm, but what about me? I don't want to stop drinking.*
P. (as if he were talking to a friend.) *Yes, I understand and I'm not asking you to stop drinking. But we've known each other for a long time, and there are things we used to do together before we started drinking so much, and that I'd like us to do again. Let's get into one of those football*

teams, you know, old guys like us, remembering the good old times, but let's try to do things together without having to have a drink. Your friendship is very important to me, but I don't want to drink any more.
T. *Well done, good work! Look how you said in your own words what we had practiced before. You said how important this friend is to you, you didn't pressure him, and you told him how he can help you. Very good work!*

Cognitive techniques. These techniques are very useful in triggering many processes of change, such as increased awareness, self-reevaluation, environmental reevaluation, self-liberation, counter-conditioning and contingency management.

Example of a conversation between the person (P) and the therapist (T):

T. *Each time you are at risk of drinking, you think that one glass doesn't mean anything, that is, you underestimate the importance of one glass. What could you do to deal with this thought yourself, in order not to drink?*
P. *Well, one glass* ***does*** *count, and often with one glass, I can't stop.*
T: *Excellent, you've identified not just the thinking that puts you at risk of drinking, but you've also found the best reply. We can't underestimate drinking, and from the start, we must be realistic and look at the role this situation has played in the consequences of drinking. Now think about it, and tell me, what is the likelihood that this thought will be enough to stop you drinking that glass?*
P. *Well, it's not enough. I need to plan something else to do immediately in that situation.*
T. *OK, very good. As well as thinking the way you've been thinking, let's find some alternatives that you can do when you are at a moment of risking relapse***.**

Environmental restructuring. The goal is to modify the environment or context so that the person can avoid situations that put him at risk of drinking or using drugs. These modifications can enhance the stimulus control process of change.

Example of a conversation between the person (P) and the health care provider (T):

T. *People often redesign situations, places, times in our environment in order to reduce the symptoms. You recently talked about the symptoms you have in that room in your house where you used to drink. You told me that you felt your heart racing, your breathing became faster, and your hands started sweating. Tell me, is there any change you could make to that room,*

that would signify a real change and lessen the appearance, intensity or frequency of those symptoms?
P. *Well, I've never moved the furniture around, but I think I could. I've also thought about cleaning and painting the place during my next vacation.*
T. *A good opportunity, excellent news! By changing the furniture around and changing the color of the walls, and perhaps even throwing some things out, we could be changing how the room looks, how it smells, and it may even seem that you have more space in the room. When do you think you might be able to make these changes? How long will it take you? How much money will you need?*

Role clarification. The person learns to identify his role in the different social structures of which he is a part. This technique helps in the process of change of environmental reevaluation.

Example of a conversation between the person (P) and the therapist (T):

T. *From what you're telling me, spending time on your house has helped you organize your time and free up some space between your domestic chores and going to pick up your girls from school, to have a drink in your dining room. At the same time, being a housewife and the wife of a man who is out working all day has made it easier for you to drink. And as a result, you were late in picking up your children, and your husband is very worried because he can't help you since he has to be at work all day. How could you prevent a relapse in this situation?*
P. *I have definitely decided to stop drinking. I don't want to do it any more, but that half hour between the time I've finished my housework and the time the kids get out of school is killing me. I don't know what to do.*
T. *What could you do during that half hour? Something that has to do with your role in the family?*
P. *Well, I thought I could ask my brother if he would let me take stuff to his shop during that half hour. That way, I could avoid that moment when I want to drink, and I could also earn some money for my house, and help my husband so that he can see that I am really interested in changing*.

Reinforcement. Reinforces effects that help change drug use behavior, and is used to intensify the effect of contingency management by associating the new context of alternative behaviors as part of the person's new lifestyle.

Example of a conversation between the person (P) and the therapist (T):

T. *What you've told me today is that for one week, you totally stopped drinking alcohol. You've had the job of picking up prescriptions and delivering them to a number of pharmacies. In other words, it was your decision to spend the money on prescriptions and on taking the bus to deliver them to the pharmacies, rather than spending it on alcohol. You've told me that after taking that decision, you found a job that you like. You've been able to identify your ability to make decisions and to prioritize what is most important to you in life. As a result, you got a job in a really short amount of time. I think that this is major progress. Did you realize that?*
P. *Not really, I mean, I knew I had to do it, but I just thought it was good luck.*
T. *Clearly, a bit of luck was needed, but the main decision to look for work was yours, and the small decisions, like filling each of the twenty prescriptions correctly, going to deliver them, and get ready for the interview involved a major effort. But you also got the job in a very short time. Congratulations!*

Social skills and improved communications skills. People with drug use problems may have difficulty with social interactions, particularly with communications. As their social skills improve, there is a change in their helping relationships, which helps them expand their support networks.

Example of a conversation between the person (P) and the therapist (T):

T. *You've told me about your difficulty in expressing what you feel and think to people who are important to you, and that this has been putting you in a situation where you are at risk of drinking. You've told me that when you drink alcohol, you feel that it's easier for you to talk to people. So, if you agree, we can learn, practice and see whether certain ways of communicating can help you maintain your goal of stopping drinking, and at the same time, be effective in telling other people what we think and feel. What do you think?*
P. *I suppose so.*
T. *One of the most important behaviors you can learn is to look the other person straight in the eye, and speak in simple sentences, in the first person, and offer help. For example, you look your husband in the eye and say: "I'd feel really good if we could get to that event on Saturday early, at around 7:00. I could wash up the dinner dishes while you get ready, so that we can arrive on time. What do you think?*
P. *Well, it sounds good, but supposing I can't make it sound natural like that?*
T. *Clearly, we need to practice, and see how you feel, until you can say the words we're learning.*

Motivational strategies for change

Miller[144] proposed a number of strategies for increasing the likelihood that people who use drugs can begin and continue the treatment process, or else commit to a strategy for change. *Motivational interviewing* has reduced drop-out from interventions, and has increased participation in treatment to initiate and maintain the change of behavior.[145]

The basic principles of motivational interviewing[146] are:

1. Express empathy by means of reflective listening;
2. Encourage discrepancy, so that the client can verbalize his reasons for concern over the change;
3. Work on resistance, without confrontation, and
4. Reaffirm the person's capacity to achieve change.

Show empathy. This means that the health care worker shows an understanding of the client's points of view, and makes statements showing agreement or comprehension.

Example: show empathy

Phrases that help with empathy towards people:

- *I understand, it must be very difficult, and you must feel very bad about what happened.*
- *I understand that the situation you're facing must be difficult. I imagine that it was very difficult for you to take that decision.*

Encourage discrepancy. Means helping the person realize the costs and benefits associated with change.

Example: encourage discrepancy

Questions that increase the discrepancy between what you gain and what you lose by using drugs:

- *What benefits and disadvantages do you see in your alcohol use?*
- *What are the benefits and disadvantages of drinking that you have right now?*
- *So, I understand that the disadvantage of drinking is that it is less likely that they will let you spend time with your son, even though drinking helps you enjoy the moment.*

[144] Miller, W. R. (1999). *Enhancing motivation for change in substance abuse treatment. Treatment Improvement Protocol (TIP) Series, No. 35.* Rockville, MD: Center for Substance Abuse Treatment.
[145] Miller, W. R., Yahne, C. E., & Tonigan, J. S. (2003). Motivational interviewing in drug abuse services: A randomized trial. *Journal of consulting and clinical psychology, 71* (4), 754.
[146] Miller, W., & Rollnick, S. (2012). *Motivational Interviewing: Preparing People for Change*. 3rd ed. New York, United States: Guilford Press.

Work on resistance. This means that the therapist should listen to the client and reaffirm what he has heard without trying to convince the person that there is a problem, or that there is a need for change. Try not to impose solutions, but rather guide the person towards finding his own alternatives.

Example: work on resistance

Questions:

- *How do you think you can deal with the pressures that your wife is putting on you at the moment?*
- *How likely is that that what you're proposing will change this situation?*

Reaffirm the person's capacity to achieve change. This means that the therapist will identify and give feedback on the person's strengths, to help increase his confidence in being able to achieve change.

Example: reaffirm the person's capacity to achieve change

Say things like:

- *I think that the idea you've suggest may work. It has a good chance of success, and will help you.*
- *I think that you've show you have the skills to cut down on your drinking.*

It is suggested that the health care staff use motivational behaviors to show the person that they are interested in his case, and that they believe that the intervention will be effective in helping him improve. These might include:

- look the person in the eye;
- use gestures, movements and postures to show you are paying attention (head movements, leaning forward in order to hear better);
- use phrases and tone of voice that show interest;
- emphasize the information you have heard;
- show interest in understanding very clearly, or ask questions if something is not clear to you;
- encourage participation and calm, and
- clearly state the guidelines for working together.

The specific components of motivational interviewing are:[147]

Provide feedback. People often don't know how to change, or are not able to do so because they don't have enough information about their situation. Health care workers should provide clear, correct information about drug use behavior and related issues. This skill is very useful at all stages of change, but is most often used during the initial phase.

Example: provide feedback

Statement:

- *From what you told us, the amount of alcohol that you're drinking or the amount of tobacco that you are smoking is putting you at risk of developing a number of illnesses.*

Provide direct advice about the need for change. Clear, precise advice will help promote change. It is suggested that this advice be timely, and clear and precise, and that it look at the benefits of change. Encourage the client to ask for advice.

Example: provide direct advice about the need for change

Statements and questions:

- *Would you like to know what worked for other people in your situation?*
- *The support of other people who are important to you can be very helpful. I understand that the person you told me about would be willing to listen to you and help you. From what you've told me, he could help you to control your drinking, and would recognize your efforts when he's with you.*

Try to remove barriers to change. This means identifying and removing the obstacles that may come up during the intervention. The health professional should guide the person to identify the circumstances that make change difficult or impossible, and then move towards a solution.

Example: Try to remove the barriers to change

Statements and questions:

- *You're telling me that now that you've got your family back, it's become difficult for you to come to treatment because there's no-one to look after the children. Is there anyone who could help you and look after them? What can you do to solve this situation so that you can come to the rest of your treatment?*

[147] Miller, W., & Rollnick, S. (2012). *Motivational Interviewing: Preparing People for Change*. New York, United States: Guilford Press.

Suggest or provide alternatives for achieving change. The health care professional should encourage the person to come up with his own solutions, and to choose his own alternatives.

Example: suggest or provide alternatives for achieving change

Statements and questions:

- *If this plan that you're talking about doesn't work, what alternatives do you have?*

Make drug or alcohol use less attractive. This requires identifying the incentives that keep the person using drugs or drinking, in an effort to minimize them and increase the motivation for change. The health care professional will guide the person to examine the advantages and disadvantages of continuing to use, and of changing behavior.

Example: make alcohol or drug use less attractive

Encourage thoughts like:

- *You've told me that you have fun when you drink or use drugs. However, you also say that when you're with friends and you use or drink, you've had problems with your partner, you've spent too much money, and you've been involved in accidents. And I understand you to say that these are your most powerful reasons for changing your behavior.*

Develop a set of specific goals for change. The therapist will guide the client towards setting a clear goal, which should be a contrast to his current situation, and should be realistic and achievable.

Example: develop a set of specific goals for change

Encourage thoughts like:

- *Now that you've described the way you smoke, and said that you've decided to stop completely and find alternatives, it's essential that we decide how long you can maintain your non-smoking until our next appointment. I think that looking at the periods you've stayed abstinent, we should schedule our next session for four days from now. Do you agree?*

In each of these strategies, the desired result is to enhance the person's commitment to an intervention and readiness for change.[148]

The types of motivational techniques that health care professionals can use on a regular basis include:

1. Asking open questions;

2. Repeating the information that the person has provided, so as to elicit more information about those aspects of his life (as when we see ourselves in the mirror, repeat or rephrase what the person has said, focus your attention on him and give him the opportunity to say it differently);

3. Expressing what the person has said in your own words (paraphrase), so that he can make sure that he has included all the information necessary, and

4. Understanding the person's feelings, so that he will feel confident about speaking frankly.

An important point is that motivational interviewing does not, in and of itself, guarantee a reduction in or cessation of substance use. Rather, it is a style of interaction that helps the person's motivation to commit to specific strategies that will lead him to change and to maintain that change.

[148] DiClemente, C. (2006). *Addiction and Change. How addictions develop and addicted people recover*. New York: Guilford Press.

Screening and Brief Intervention

When the person enters the health care system, it is not clear to the health care staff whether he uses drugs, or has some associated problems, or the level of risk he faces. Detecting people that might benefit from an intervention of some type is done by means of a process of screening. Screening should be done as soon as possible to ensure proper management, and a better prognosis and therapeutic outcome.[149]

Screening is a tool for identifying a person's vulnerability to initiating substance use, associated risks, and potential cases of abuse or dependence. It provides pointers for determining the severity of the situation, and for indicating the need for intervention alternatives. Screening procedures can be carried out by means of questionnaires, interviews, or self-evaluation instruments that are brief, accessible, and low cost. They can quickly and reliably gather the information needed on a person's risk profile in order to determine the most appropriate intervention.[150] Screening questionnaires and brief interventions are low cost and effective in reducing drug use before the person becomes dependent or his drug use worsens.[151,152] As will be seen below, depending on the instrument or questionnaire use—such as the ASSIST--screening can help classify people who use drugs into different levels of risk (low, moderate, severe). Many interventions are available to help people who have drug use problems, depending on the findings from the questionnaires.

In their day-to-day contact with people coming into the health care service, staff may have questions about the screening instruments or questionnaires, such as: What is it we want to assess? Is the questionnaire fit for purpose? What was it designed for? How useful is this questionnaire compared to others, in terms of cost and time savings? Are the scores consistent? Is it easy to administer? Does it take cultural and gender factors into consideration? Has it been used successfully in the population we deal with?

The instruments or questionnaires to be used should be chosen carefully, bearing in mind the following:

[149] Fabregat, E. & Palomares, M. (2009). Cribado de problemas psicosociales en Atención Primaria. *Pediatría Atención Primaria*, *11* (43), 425 – 437.
[150] McNeely, J., Strauss, S. M., Rotrosen, J., Ramautar, A., & Gourevitch, M. N. (2016). Validation of an audio computer-assisted self-interview (ACASI) version of the alcohol, smoking and substance involvement screening test (ASSIST) in primary care patients. *Addiction*, *111* (2), 233-244. doi:10.1111/add.13165
[151] Bernstein, E., Bernstein, J., Tassiopoulos, K., Heeren, T., Levenson, S., & Hingson, R. (2005). Brief intervention at a clinic visit reduced cocaine and heroin use. *Drug Alcohol Depend, 77*, 49 – 59.
[152] Baker, A., Lee, N. K, Claire, M., Lewin, T. J., Grant, T., & Pohlman, S. (2005). Brief cognitive behavioural interventions for regular amphetamine users: A step in the right direction. *Addiction, 100*, 367 – 378.

Validity. Use instruments that have been adapted and validated for the population to which they will be applied. Validation can be seen the development of a solid argument for validity for the proposed uses of the instrument scores and its relevance for the use indicated. Defined in this way, validity is not inherent in the instrument, but rather something that is related to the assessment goal.[153] In this case, the goals include an assessment of the risk that the person will use drugs, and its impact on health and wellbeing.

The **reliability** of the questionnaires should also be considered. Reliability refers to the instrument's consistency in measurement, or seen another way, the degree of error that may be present in a measurement. A reliable test yields results that are consistent over time. In theory, a truly reliable instrument, such as a thermometer, always measures things in the same way. However, an assessment of the risk of using drugs is never error-free, since an individual does not necessarily always respond in the same way. External conditions may also have an influence on how errors occur.

In addition to these technical considerations, there are some practical matters that should be taken into account when choosing an instrument, such as cost, the time it takes to administer, and the training that the health care staff will need in order to apply and interpret it. These considerations may, in some cases, make it not feasible to use a particular instrument in a given setting, even though it may be very appropriate in terms of content, and may be of excellent technical quality.

[153] Brennan, R. (2006). *Educational Measurement*. Westport: Praeger Publishers.

Screening in Primary Healthcare Settings

Primary health care (PHC) is defined as essential health care that should be made universally available to the general population at an affordable cost as a function of their needs. Primary care is the nucleus of a country's health care system, and is part of the community's overall socioeconomic development.[154]

According to the Pan American Health Organization,[155] primary health care systems should involve a number of elements that may apply to all countries, as described below.

Universal access and coverage. Removing geographical, financial, sociocultural, organizational, gender and structural barriers to participation in the health care system and/or utilization of services according to the needs of the individual, the family and the community.

Comprehensive and integrated care. The range of services available should be sufficient to respond to the health needs of the population, including provision of promotional, preventive, early diagnostic, treatment, rehabilitative, and palliative care services. The comprehensive approach is a function of all health systems, and includes universal, selective and indicated prevention. In order to provide integrated PHC, all levels of care in the health system must be coordinated.

Promotion and prevention. Health care intervention at the earliest possible moment in the health-disease process, and/or with regard to risk, health conditions and sequelae.

Appropriate care. The use of measures, technologies, and resources that are qualitatively and quantitatively sufficient to ensure achievement of the proposed health objectives.

Family and community-based. A primary health care-based system is not focused exclusively on the individual. Rather, the public health perspective and community information are used to assess risks, identify problems, and prioritize interventions. The family and community are considered to be the primary focus of planning and intervention.

[154] World Health Organization (2017). *Primary health care.* Accessed at: www.who.int/primary-health/en/.
[155] Pan American Health Organization (2009). *Renewing Primary Health care in the Americas. Strategies for the Development of Primary Health Care Teams.* Accessed at http://www1.paho.org/hq/dmdocuments/2010/PHC-Strategies-Development-PHC-Teams.pdf.

Active participation mechanisms. PHC should be an integral part of national and local socioeconomic development strategies. Joint social participation is required in order to ensure transparency and accountability at all levels.

Legal and institutional framework. Related to the knowledge of health policies, plans, and programs. In addition, current standards and legal regulations associated with the technical and professional performance and work of the health care team must be understood.

Optimal organization and management. The structures and functions of a PHC-based health care system require optimal organization and management. This includes a legal, political, and institutional framework that identifies and empowers actions, actors, and procedures, as well as legal and financial systems that enable the team to perform its specific functions in the decision-making process.

Pro-equity policies and programs. Promotion of knowledge about pro-equity policies and programs to help reduce the negative effects of social inequities with regard to health, correct the primary factors that cause inequities, and ensure that all people are treated with dignity and respect in the provision of health services.

First contact. Intrinsic to the organization of health services into levels of care. The goal is to have a point of entry whenever the patient has a health problem, and that such point of entry should be useful and accessible. PHC is the gateway to the health system and social services where health needs are addressed.

Appropriate human resources. This element includes service providers, who should have an appropriate combination of skills and knowledge. Ensuring the availability of human resources requires strategic planning, investment in training, employment and incentives, as well as further development and strengthening of the current knowledge and skills of health workers.

Adequate and sustainable resources. Resources must be appropriate to health needs, and should be defined through a community-based health situation analysis. They include the resources and budget required to provide high-quality comprehensive care.

Intersectoral actions. Are required to address the health determinants of the population and create synergistic relations with stakeholders and sectors. This requires close ties between the public, private and non-governmental areas, both within and outside the health services, as required in order to have an impact on health and its determinants.

Specifically, according to the model of Mrazek y Haggerty,[156] primary care services in the field of the addictions involve universal, selective and indicated prevention programs, the main goal of which is to reduce the prevalence of psychoactive substance use, delay the age of first use, prevent progression from experimental use to an abuse or dependence disorder, and prevent impacts on physical health, family or social health.

Most people who use alcohol, tobacco and/or other drugs go to a primary health care facility as the result of some problem related to their substance use. However, they rarely go to seek formal treatment, and for that reason, primary care is the main link in the chain of timely identification of the need for care and the services required.

It has been suggested that care for the addictions at the primary care level may involve the following activities, as detailed below in the section on brief intervention.[157]

1. *Use of screening instruments* to detect and identify the level of the problem related to substance use;
2. *Use of brief counseling methods*, to give feedback to the person using drugs on the results of the assessment, and encourage and guide him to changing his substance use, and
3. *Referral of people* with drug use problems to centers or services that specialize in the prevention and treatment of the addictions.

Primary health care professionals get to know their patients at different stages throughout their lives. This is called continuity of care over time.[158] Ideally, it uses a comprehensive bio–psychosocial approach (comprehensive, integrated care) in the different phases of health-disease (health promotion, prevention, diagnosis, treatment and rehabilitation), and in coordination with other levels of care (specialized centers, hospitals, etc.).

Research has shown that even though some health care professionals say that identifying drug use problems (specifically alcohol) is something they do all the time, [159,160,161,162,163] in reality,

[156] Mrazek, P. J. y Haggerty, R. J. (1994). Reducing risks for mental disorders: Frontiers for preventive intervention research. Accessed at https://www.nap.edu/read/2139/chapter/1
[157] García, Q. L., Oviedo, G. M., & Castrejón, V. J. (2012). Consideraciones sobre la atención de las adicciones en México desde el primer nivel de atención. En Secretaría de Salud. *Actualidades en adicciones. Prevención y Tratamiento de las Adicciones en los Servicios de Salud* (pp. 15 – 48). Mexico City: Secretariat of Health.
[158] SEMFYC. (2007). *Actuar es posible. El papel de la Atención Primaria ante los problemas de salud relacionados con el consumo de drogas*. Barcelona, Spain: Sociedad Española de Medicina de Familia y Comunitaria.
[159] Kaner, E., Heather, N., McAvoy, B., Lock, C., & Gilvarry, E. (1999). Intervention for excessive alcohol consumption in primary health care: attitudes and practices of English general practitioners. *Alcohol and alcoholism*, *34*, 559 – 566.
[160] McAvoy, B., Kaner, E., Lock, C., Heather, N., & Gilvarry, E. (1999). Our Healthier Nation: are general practitioners willing and able to deliver? A survey of attitudes to and involvement in health promotion and lifestyle advice giving. *The British Journal of General Practice*, *49*, 187 – 90.

the figures on the identification of this type of problem are low,[164,165,166,167,168] and patients say that they are rarely asked about their substance use.[169]

A number of difficulties with conducting a screening may arise in a primary health care setting, including the short time available for medical consultations, lack of formal training in mental health, lack of training in the use of questionnaires or instruments, and insufficient coordination with specialized services. All of these circumstances may give rise to poor care for mental health and drug use disorders.

However, according to some theoretical models,[170,171] primary health care personnel have a primary role to play in detecting cases, which means that they can make a definitive diagnosis and begin treatment in timely fashion.

Ideally, screening in the health care system should be a brief process that identifies those individuals with possible substance use disorders, provides an opportunity to begin a conversation about drug use, and helps refer the person to assessment and specialized treatment, if necessary.

Health care staff may screen individuals whose substance use puts them at higher risk of harm compared to the rest of the community. Therefore, health care workers, including community

[161] Haley, N., Maheux, B., Rivard, M., & Gervais, A. (2000). Lifestyle health risk assessment. Do recently trained family physicians do it better? *Canadian family physician*, *46*, 1609 – 1616.
[162] McAvoy, B., Donovan, R., Jalleh, G., Saunders, J., Wutzke, S., Lee, N., Kaner, E., Heather, N., McCormick, R., Barfod, S., & Gache, P. (a nombre del grupo de estudios de intervenciones breves de la OMS). (2001). General practitioners, prevention and alcohol - A powerful cocktail? Facilitators and inhibitors of practising preventive medicine in general and early intervention for alcohol in particular: a twelve-nation key informant and general practitioner study. *Drugs: Education, Prevention and Policy*, *8*, 103 – 117.
[163] Lopez-de-Munain, J., Torcal, J., Lopez, V., & Garay, J. (2001). Prevention in routine general practice: activity patterns and potential promoting factors. *Preventive medicine*, *32*, 13 – 22.
[164] Brotons, C., Iglesias, M., Martin-Zurro, A., Martin-Rabadan, M., & Gene, J. (1996). Evaluation of preventive and health promotion activities in 166 primary care practices in Spain. The Coordinating Group for Prevention and Health Promotion in Primary Care in Spain. *Family practice*, *13*, 144 – 151.
[165] Spandorfer, J., Israel, Y., & Turner, B. (1999). Primary care physicians' views on screening and management of alcohol abuse: inconsistencies with national guidelines. *Journal of Family Practice*, 48, 899 – 902.
[166] Heather, N. (1996). The public health and brief interventions for excessive alcohol consumption: the British experience. *Addictive behaviours*, *21*, 857 – 868.
[167] Gomel, M., Wutzke, S., Hardcastle, D., Lapsley, H., & Reznik, R. (1998). Cost-effectiveness of strategies to market and train primary health care physicians in brief intervention techniques for hazardous alcohol use. *Social science & medicine*, *47*, 203 – 211.
[168] Rumpf, H-J., Bohlmann, J., Hill, A., Hapke, U., & John, U. (2001). Physicians' low detection rates of alcohol dependence or abuse: A matter of methodological shortcomings? *General Hospital Psychiatry*, *23,* 133 – 137.
[169] Aalto, M., Pekuri, P., & Seppa, K. (2001). Primary health care nurses' and physicians' attitudes, knowledge and beliefs regarding brief intervention for heavy drinkers. *Addiction*; *96*, 305 – 311.
[170] Bower, P. & Gilbody, S. (2005). Managing common mental health disorders in primary care: conceptual models and evidence base. *BMJ*, *330*, 839 – 842.
[171] Gask, L., Sibbald, B., & Creed, F. (1997). Evaluating models of working at the interface between mental health services and primary care. *British Journal of Psychiatry*, *170*, 6 – 11.

health workers, mental health and nursing staff, social workers, general medicine, psychology, psychiatry, obstetrics, midwives, advisors, prison service personnel, and people working in the prevention of the use of alcohol and other drugs should be trained to use and interpret different screening tools or questionnaires.

Many people have health problems that are related to drug use and that may worsen with use. Use of screening instruments or questionnaires is designed to detect problems and risk factors at an early stage. Screening may be an important step in providing effective treatment for drug use disorders, for the following reasons:

- In many cases, the health care staff are the first point of contact with the system.
- The sooner screening is done, the greater the likelihood of better outcomes.
- Health care personnel deal with the physical problems related to drug use, and are therefore well placed to determine when referral to treatment or to specialized care is required.

Screening is useful for determining the possible presence of a particular problem, but it does not give an in-depth description of the characteristics, origins and possible consequences of the drug use problem on the different aspects of a person's life.

The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST)

Drug use is one of the top twenty risk factors for death or disability, and therefore a procedure is needed for health care personnel to most easily identify people with high-risk drug use or dependency. The ASSIST helps in the assessment of people at low or moderate risk. The burden on the health care system of risky but not dependent use may be greater than the burden from dependent use.[172,173,174]. Better results will be achieved by screening and early intervention than by subsequent treatment. Use of the ASSIST is low cost.

The ASSIST was developed by WHO for use in a primary care setting by health care professionals who are treating people who use drugs. It consists of eight questions and can be completed in fifteen minutes. The outcome gives a risk score for any drug, and depending on the level of risk, the most appropriate level of intervention is chosen, whether simply information, brief intervention, referral for assessment, or specialized treatment.

The questionnaire has been validated in different populations, including in Latin America[175], and contains instructions about how to apply it, and decide which questions to omit and which questions require the therapist to investigate more deeply. However, although it is flexible, all relevant questions should be asked, and all responses noted. Questions one and two are filters, to determine which substances should be inquired about.

The first question refers to lifetime substance use, that is, substances that the person has ever used, even if only once. It is a non-intrusive way of beginning to talk about substance use, and enables the health care provider to find out more about the client's history of substance use.

Question two refers to substance use in the past three months, and should be asked only for each of the substances reported in the first question. It is also a filter question, that is, it will determine what happens in the questions three, four and five about specific drugs. If the response to all items in Q2 is "Never", that means that the person has not used any substances in the past three months, and you should skip to question six.

[172] WHO. (2011). *The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST).* Washington, D.C.: Pan American Health Organization.
[173] Institute of Medicine. (1990). Broadening the Base of Treatment for Alcohol Problems. National Academic Press: Washington, D.C.
[174] Skinner, H. A. (1987). Early detection of alcohol & drug problems - why? *Australian Drug & Alcohol Review*, *6,* 293 – 301.
[175] WHO. (2011). *The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST).* Washington, D.C.: Pan American Health Organization..

Question three asks about high-risk substance use or dependence. When a person begins to use a substance more often, or has had previous problems with a substance, he will have a strong craving or urge to use.

Question four is designed to find out whether substance use is causing the person problems, and how often those problems have occurred during the past three months. It is likely that many people are not aware of problems related to substance use, in particular, health problems, and it will be up to the health care worker to help the client to make that link. It is a good idea to give people examples of what is meant by health, social, legal and financial problems.

Question five is asked only for the substances the person has used in the past three months as indicated in question two. Question five is designed to find out whether the client has problems meeting his normal obligations because of his substance use, which may lead to repercussions or consequences, due to intoxication, recovering from drug use, or spending all of his time trying to find the substance.

Question six is designed to find out whether anyone else has ever expressed concern about the client's substance use. The question is asked about the substances reported in question one about lifetime use ("ever used") and should not be limited to use over the past three months.

Question seven indicates dependence or highly risky substance use, and is designed to find out about the loss of control over substance use throughout the person's life. Dependence is a chronic, relapsing disorder, and many people have to try several times to cut back or stop their use. Question seven asks about serious efforts to reduce or stop substance use, rather than looking merely at passing thoughts or half-hearted efforts to cut back.

Question eight is designed to indicate dependence or high-risk use, by asking about lifetime injecting drug use. It is most likely that people who reach the stage of injecting will become dependent, depending on the frequency of use. Injecting drug use is associated with harms such as overdose and the risk of psychosis. Blood-borne infections and diseases are also risks associated with injecting drug use.

All of the answers to questions two to seven (Q2-7) are scored. At the end of the interview, the scores for Q2-7 are added up for each specific substance to obtain an ASSIST risk score for each substance. This score is referred to in technical and research reports as the specific substance involvement score. The results of questions one and eight are not included. In the case of tobacco, question five has no scores assigned and therefore is not taken into account.

The questionnaire assigns a risk score to each substance, so that a conversation or brief intervention can begin about the person's substance use. The score obtained for each substance falls into the category of *low, moderate or high risk*, which will determine the most appropriate treatment for each level (*no intervention, brief intervention, or referral to a specialized service for assessment and treatment.*)

Feedback on the results is essential to maintaining commitment to the program. This is important in that it provides information and enables the person to become aware of the type of intervention that may be the most successful.

Suggestions are made in the section on Brief Intervention (BI) about dealing with and following up on people who are in contact with primary care services.

Brief counseling

Brief counseling is a type of intervention that is carried out in a single session, with strategies that will make for behavioral change, including providing information on the short and long term effects of substance use, examining risk and protective factors, training the client to use cognitive and behavioral strategies to change his substance use behavior, and strategies to enhance his readiness for change.[176,177,178,179]

The use of screening questionnaires followed by brief counseling on substance use in a primary care setting is one of the most effective and beneficial prevention services.[180,181,182]
Specifically, the main component of brief counseling is motivational interviewing, which is useful in helping clients identify their problems and resolve their ambivalence about changing their substance use. One of the strategies of MI is active listening, providing the client with feedback about his substance use, and helping him set clear and realistic goals.[183]
A single session of brief counseling is helpful in motivating people who use drugs to being a more intensive treatment program, if necessary. It also prevents drop-out during the intervention, and can be helpful where resources, services and specialized professionals are in short supply.[184,185]

It has also been used in the general population, adolescents in school, and young university students, where it has demonstrated its effectiveness in reducing substance use.[186]

[176] Martínez, K. I., Pedroza, F. J., Vacío, M. A., Jiménez, A. L., & Salazar, M. L. (2008). Consejo breve para adolescentes escolares que abusan del alcohol. *Revista Mexicana de Análisis de la Conducta*, *34* (2), 247 – 264.
[177] Martínez K. I., Pedroza, F. J., Salazar, M. L., & Vacío, M., A. (2010). Evaluación experimental de dos intervenciones, ensayo breve para la reducción del consumo de alcohol de adolescentes. *Revista Mexicana de Análisis de la Conducta*, *36* (3), 35-53.
[178] Miller, W. & Rollnick, S. (2002). *Motivational Interviewing: Preparing People for Change*. 2nd ed. New York, United States: Guilford Press.
[179] Salazar, M. L., Pérez, J. L., Ávila, O. P., & Vacío, M., A., (2012). Consejo breve a universitarios que consumen alcohol en exceso: resultados iniciales. *Psicología y Salud, 22* (2), 247-256.
[180] McNeely, J., Strauss, S. M., Rotrosen, J., Ramautar, A., & Gourevitch, M. N. (2016). Validation of an audio computer-assisted self-interview (ACASI) version of the alcohol, smoking and substance involvement screening test (ASSIST) in primary care patients. *Addiction, 111* (2), 233-244. doi:10.1111/add.13165.
[181] Moyer, V. A. (2013). Screening and behavioral counseling interventions in primary care to reduce alcohol misuse: U.S. preventive services task force recommendation statement. *Annals of Internal Medicine, 159* (3), 210-218. doi:10.7326/0003-4819-159-3-201308060-00652.
[182] Solberg, L. I., Maciosek, M. V., & Edwards, N. M. (2008). Primary care intervention to reduce alcohol misuse ranking its health impact and cost effectiveness. *American Journal of Preventive Medicine, 34* (2), 143-152. doi:10.1016/j.amepre.2007.09.035.
[183] Martínez, K. I., Pedroza, F. J., Vacío, M. A., Jiménez, A. L., & Salazar, M. L. (2008). Consejo breve para adolescentes escolares que abusan del alcohol. *Revista Mexicana de Análisis de la Conducta*, *34* (2), 247 – 264.
[184] Miller, W. R. (1999). *Enhancing motivation for change in substance abuse treatment. Treatment Improvement Protocol (TIP) Series, No. 35.* Rockville, MD: Center for Substance Abuse Treatment.
[185] Salazar, M. L., Pérez, J. L., Ávila, O. P., & Vacío, M., A., (2012). Consejo breve a universitarios que consumen alcohol en exceso: resultados iniciales. *Psicología y Salud, 22* (2), 247-256.
[186] Salazar, M. L., Pérez, J. L., Ávila, O. P., & Vacío, M., A., (2012). Consejo breve a universitarios que consumen alcohol en exceso: resultados iniciales. *Psicología y Salud, 22* (2), 247-256.

A counselor may structure a session using the examples given below. The first step is to identify the level of risk of the person using drugs.

Example of a conversation between the person (P) and the therapist (T):

T. *You've said that you usually drink alcohol at least three times a week, and that you drink eight or ten glasses at each sitting. You have troubles at home with your wife over your drinking. She's asked you to seek professional help in cutting back on your drinking, and she's made it a condition of seeing your three and five-year old children that you stay sober when you're with them. I also understand that at work, you've been reported twice because you'd had a lot to drink over the weekend, which meant that you went to work with a hangover, feeling bad, and were unable to concentrate on your job. Is that correct?*
P. *Yes, I think you've summarized things pretty well.*
T. *So, what might be the advantages of continuing to drink?*
P. *None.*
T. *I understand that you want to stop drinking altogether, and in order to begin, we must understand and explore the advantages that drinking has brought to your life. All the choices we make in life respond to the benefits we obtain from each decision we take. What do you think in your case are the advantages or benefits of drinking alcohol?*
P. *Well, looking at it like that, it's true. I drink to feel good, and because I'm entitled to relax and enjoy myself. But it's true that recently, I've been going overboard and I've been drinking at times when I shouldn't have because I had to go to work the next day, or even in the middle of the week. But I really think that I can control my drinking.*
T. *OK, I understand that drinking alcohol makes you feel good, it lets you relax and enjoy yourself. Now let's think about the disadvantages of continuing to drink.*
P. *Definitely, my health has suffered, I can get to the point of totally losing control, my relationship with my wife has gotten worse, it may be that I won't see my kids again, they've docked my work hours and I've lost other perks like overtime.*
T. (noting that there are more disadvantages than benefits, repeats the information.) *I understand, being **at risk of losing your health** can be very stressful, and feeling that you're **losing control over your life** can't be easy. I also imagine that the relationship with your wife and children is very worrying, and that your **problems on the job** are hurting your income and may destabilize your life. Now let's think, what would be the disadvantages of changing and cutting down or stopping drinking?*
P. *Well, the only disadvantage would be that I wouldn't have the thing that brings me most pleasure, the only thing that makes me feel good.*
T. *Well then, we'll have to find you other ways of enjoying yourself. There are ways of having*

fun that are just as effective but that keep you away from daily stress and give you all the benefits you would have if you cut back or stopped drinking. What would be the advantages of cutting back or stopping your use of alcohol?

P. *I could be closer to my children without drinking, giving them the opportunity to grow up alongside me, improve my relationship with my wife, and not put my marriage at risk, feel that I'm taking back control. I could do better at work, and of course, if they give me back my overtime, I could bring more money home.*

T. *Very good. So, I understand that it's very important for you to improve your relationship with your children, and particularly to give them the opportunity to live with you in as positive a way as possible. I understand that it's very important to you to improve your relationship with your wife, take back control over your decisions, and improve your work life and your finances. I would simply suggest taking one of the advantages and interpreting it rather as a "win." In other words, we're used to looking at advantages as a reduction of risk, but you were right to talk about it correctly in terms of a real "win" for yourself. There's only one argument you could improve. I mean, instead of saying that the advantage lies in not putting your marriage at risk, how could you put it in a positive way, as a benefit?*

P. *Hmm… Would it be better to say that the advantage would be that my marriage will settle down and stabilize?*

T. *Yes indeed! We now have seven important benefits.*

It is very important for the therapist to emphasize there are always more advantages to changing drug use and more disadvantages to using, and many fewer advantages of using and fewer disadvantages of changing drug use. The order of the conversation is as follows: 1) advantages of using, 2) disadvantages of using, 3) disadvantages of changing substance use behavior, and 4) advantages of changing substance use.

Having determined the person's level of change (in this case, contemplation), the therapist encourages the person to set his own goal*:*

Example of a conversation between the person (P) and the therapist (T):

T. *Now we need to define what it is that you would like to achieve as a result of this analysis. Even though drinking seems to be your only source of fun, I'm seeing that for many reasons, you're ready to change your drinking, because that would mean that you'd be able to give your children the opportunity to live with you in a positive way, improve your relationship with your wife, make your marriage more stable, take back control over your decisions and over your work life and your finances. But I need to know whether I understood you correctly. What would you like to do now?*

P. *I think that I'm ready to change my drinking, but what would that mean?*

T. *In the case of your drinking, we could choose one of two goals: either to cut back on your drinking, or to stop entirely. In your case, cutting back means taking four drinks at most at any one sitting, and not more than twice a week. Remember that a standard unit means a drink of between eight and twelve ounces, which is similar, for example, to a shot of liquor (a small, standard-sized glass), a glass of beer of 12 oz (350 ml) or one glass of wine. Of course, this is more than just a number: in reality, it means the amount of alcohol that your body can process without reaching the stage of being drunk. With this maximum amount of alcohol, we would expect an impact on the goal you have set yourself. This way, you will decide whether this change is enough to bring you the advantages of changing your way of drinking. Some people, when they've tried cutting down, decide to stop drinking all together, because it's the only way of achieving their goal of change. What do you think?*

P. *I'm ready to cut down my drinking to the limits you've proposed, and to think that this is the most I can drink. In other words, I don't need to drink this much every week; I could try to cut back even more.*

T. *OK. We can try. I have some advice that could help you achieve and maintain your goal—and we would have to monitor that over the period of time, in more or less one month. Can I share this advice with you?*

P. *Of course, it would be very useful.*

T. *Good. First, it's very important that you look at the moment when it's really likely that you will have a drink. Avoid drinking in risky situations that you haven't planned in advance. If you're going to drink, try always to eat something first, so that the alcohol will not affect you so quickly. It's very important to check that you're not exceeding the size of a standard glass. In other words, don't fill your glass right to the top. It would help a lot if you drink only one standard glass an hour, and then wait for 20 minutes before you have the next one. If you go to a party and stay for about five hours—which is more than enough for any party--it would help a lot if you could drink water or soda between drinks, and do other things, like dancing. What do you think?*

P. *This seems like very good advice, and I'll put it into practice.*

T. *Perfect. So now let's look at the situation where you might be at risk of binge drinking that you spoke about and that, as I understand it, could lead you to abandon your goal: the time when you clock off work on Fridays. You said that that's when you go to parties, and even though your wife is there with you, there is the risk that your friends will pressure you to have a drink, and since you're feeling relaxed, because you don't have to go to work on Saturday, it's easy for you to give in, and lose count of how much you're drinking. Is that right?*

P. *Yes, that's what happens most often, but I think that your advice could work very well.*

T. *Yes, and it's also important for you to see which piece of advice turns out to be effective for you in achieving your goal. However, I think that we can still look at planning other things to do.*

Tell me, just how much does your thought that you're entitled to have fun because it's Friday contribute to your drinking too much?

P. *Definitely, in the past, it was like I was giving myself permission to drink until I lost it. But now I'm seeing that I can enjoy myself in other ways, particularly if my wife understands and accepts that I'll be putting a limit on my drinking.*

T. *Excellent. You've said that in order for you to achieve your goal, one of the most important steps is to share your decision with your wife, and tell her how much her support would help you. But it's also very important for you to consider how likely it is that she will support you. Have you tried in the past to control your drinking? Were you able to? Could this mean that your wife will resist and not agree to support you?*

P. *I've never tried before. I think that if I had tried before, I think that if I raise it when I get home, or if you help me to talk to her, she will understand and help me. She has understood and accepted that I don't drink too much, but she is worried that I'll lose control. She's said to me that it's not that she wants me not to drink, but that I should cut down on my drinking. I think she would help me, and would be ready to do what you're suggesting.*

T. *Good! You've said that this alternative could be a chance for success, and of course, I'll help you. I can help you and we can try out or model how you can discuss your goal with your wife.*

The therapist will model behaviors in an effort to prepare the person to set his goal.

Now, let's talk about how we can respond if your friends pressure you to drink? For example, if they realize that you're drinking water or soda between drinks, what can you do if they put pressure on you?

P. *Good question! Let me think. I think I would feel under a lot of pressure, and I wouldn't like that to happen. What can I do?*

T. *Yes, it's a difficult situation, but the first thing is to stay calm and particularly make sure that your choice is not driven by your feelings or emotions. There are a number of alternatives: for example, we could say, without having to explain further, that you don't want to drink and change the subject and talk about other things. If the person pressures you, you yourself can give alternatives, in other words, you could insist that you don't want an alcoholic drink and prefer water because you're thirsty. Would that be enough, do you think?*

P. *I think that would be enough. You're right, I don't have to give explanations to anyone.*

T. *But not just that. It could be very helpful for you to remember the things that are motivating you to change, as you described to me earlier. What sort of thinking could be useful to you, to not give in to the pressure?*

P. *That the relationship with my children and my self-control are more important than anything anyone could say to me.*

T. *Very good. You have a clear vision of what you want. It can work for you when you're faced with pressures to drink. Excellent. Well, we've set the action plans you need to cope with this*

risky situation, but tell me, is there something that could prevent these plans from being successful?
P. *I don't think so.*
T. *I also think we're ready to put into practice your goal of cutting down on your drinking. We'll check in a month's time, at a follow-up session. And of course, I'm available to answer any doubts you may have or if you need additional help.*

Referral and Counter-referral

Referral and counter-referral are a system of coordination and liaison between different units within the health care system. They are administrative procedures that link all levels of care, and are designed to facilitate the referral of patients from a lower level unit to a more complex unit, so that the person can receive more timely and comprehensive care based on his needs.[187]

Integration and coordination among units is needed, and the staff involved must understand and carry out their functions responsibly and efficiently. Some guidelines on these procedures should be borne in mind in this process. The clinical characteristics and level of complexity of each particular case need to be taken into account, along with the capacity of the unit to deal with the problem, the health care staff available, the appropriate inputs in the receiving unit, and the area where the person to be treated lives, among other things.

Health care staff should remember that people should receive respectful, dignified and timely treatment. The referral process must always be documented, and the information added to the clinical file, which will also serve as the administrative record. The health care staff should check to see whether the patient has been admitted to the facility that is most appropriate to the type and complexity of his disorder, and whether the receiving unit has the capacity to provide appropriate care.

A basic assessment or evaluation must be done to determine the person's needs, depending on his clinical condition at the time of seeking treatment, and his pattern of use (type of substance, dosage, and routes of administration, frequency and progression of his drug use, and associated consequences and repercussions). Detailed information should be given to the person involved and to his family about why he cannot receive care in the first facility and why it is important that he be referred to another, more appropriate health care unit. The importance of the counter-referral procedure should also be explained, as should the follow-up

[187] Ministerio de Salud Pública y Asistencia Social (2017). *Modelo de Atención Integral en Salud.* Accessed at http://www.paho.org/gut/index.php?option=com_docman&view=download&category_slug=publications&alias=378-modelo-de-atencion-mpas&Itemid=518

and monitoring procedure that will be essential to maintaining the results obtained in his initial treatment.

Example of a conversation between the person (P) and the therapist (T):

The health care staff should check that a person who is injecting heroin receives prompt and timely care with the necessary medical supervision.

T: *Mr. R: I've looked at the data from your initial assessment. You told us that you use alcohol, tobacco and heroin. Here in this counseling center, we deal with substance use problems like these. However, you are injecting heroin, and as you know, it's a very harmful drug and has a high potential for addiction. Like all substances, heroin is characterized by the compulsive use of the substance, and by neurochemical and molecular changes in the brain that are evidenced in a high degree of tolerance and physical dependence. I see that you are suffering from bad pains in your muscles and bones, that you can't sleep, that you have diarrhea and are vomiting because you do not have heroin in your body. Although withdrawal from heroin is not necessarily fatal, it does cause a very significant feeling of discomfort that can be dealt with most effectively by comprehensive medical care. As you know, withdrawal symptoms generally appear 48 to 72 hours after your last dose of heroin, and can last for several days. This is why I'm suggesting to you that we can send you to a place where they can give you comprehensive medical care. That way, your body can detox more safely, and then you can get psychological help that is more likely to be successful. Through psychological treatment, we could schedule your period of abstinence and how to maintain it, and particularly rebuild your life and set your goals, preferably without substance use, and the possibility of pleasurable activities that satisfy you and let you recover and bring back parts of your life that were changed by your substance use. What do you think?*

P: *I've tried to stop injecting, but I have to because if I don't, I feel really bad. With this treatment, could I stop injecting? Is it really that easy?*

T: *I understand that generally, the pain and distress that you feel when you don't use heroin is one of the situations that leads you to us, and not to stop, even though you need to stop. Rather than being easy, the treatment is effective, it's been proven and has been shown to help users to remain drug-free, and with less distress. If you agree, I'd like to suggest that together, we schedule your admission to the program, and then you will come back to me once we've been able to detoxify your body. When you come back, we'll have the chance to plan your treatment goal and develop your treatment plan. It's very important that you tell me that you've started medical treatment. Do you agree?*

P: *Totally.*

T: *This is a letter of referral to medical treatment. I've written down all the information about the facility, and the information they will need for their files, and a copy for you to keep.*

Brief intervention

Interpretation of the results of the screening instruments enables the health care staff to identify those persons who may require help for their drug use. Based on the level of risk found in each case, the health care staff will use their clinical judgment to personalize the interventions that can be used to improve the health and wellbeing of people using drugs. The World Health Organization (WHO)[188] recommends the use of brief interventions to prevent health problems and reduce the harms they cause. In these interventions, the health care professional will design a particular approach to each problem by identifying the situation to be resolved, setting goals, designing interventions for achieving those goals, examining the answers to correct the approach, and lastly, assessing the effectiveness of the outcome of the intervention.[189]

Specifically, brief intervention is pragmatic and is centered on an analysis of the ideas (constructs) and repetitive behaviors surrounding the disorder. Its principal goals are therefore to modify beliefs or constructs related to the problem and to modify repeated behavior related to the problem. Brief interventions have the following elements in common:[190]

- They are used over a limited time period (usually not more than 10 sessions)
- They include an overall assessment of the person, and brief counseling or advice
- Therapist support continues during a follow-up period
- The main objective is to ensure that people who are not necessarily seeking treatment should change their problem behavior

The different methods of brief intervention share two principal characteristics: *setting* and *structure*. In terms of *setting*, there are two main groups:[191] 1) interventions based on a specific service, and 2) community-based interventions, which are usually performed opportunistically when clients who come in for a consultation for a reason other than alcohol, tobacco or drug use are identified. There are also brief interventions that last for longer periods of time, and include additional activities that can help the client achieve his goals. Brief intervention or treatment (4-24 sessions) also looks at activities or programs that can be carried out based on the severity of the substance use disorder. Brief interventions may help people become aware of the connection between their use of alcohol, tobacco and other drugs, and different health problems; identify problem or risky substance use; reduce their substance use, and be encouraged to enter treatment, if necessary.[192,193]

[188] World Health Organization, (2004). Accessed at http://www.who.int/topics/en/
[189] Cade, B. & Hudson, W. (1995). Guía breve de terapia breve. Barcelona-Buenos Aires-Mexico: Ediciones PAIDOS
[190] Rodríguez-Martos, A. (2002). Efectividad de las técnicas de consejo breve. *Adicciones, 14* S1, 337 – 351.
[191] Heather N. (1995). B*rief Intervention Strategies*. In: R. K., Hester & W. R., Miller (eds.): *Handbook of Alcoholism Treatment Approaches. Effective Alternatives* (pp. 105–122). Boston, London: Allyn & Bacon.
[192] Treatnet. (2008). *Screening, assessment and treatment planning.* http://www.unodc.org/ddt-training/treatment/a.html
[193] Babor, T. F. & Higgins-Biddle, J. C (2001). *Brief Intervention for Hazardous and Harmful Drinking: A Manual for use in Primary Care.* Geneva: World Health Organization (WHO/MSD/MSB/01.6b).

ASSIST-linked brief intervention

For people in contact with the health care service to whom the ASSIST questionnaire has been administered, the health care staff may use a brief intervention methodology of one session that takes between 15 and 30 minutes, and that is targeted mainly, although not exclusively, to people who are at the stages of change of pre-contemplation and contemplation. This intervention is based on the technique known as FRAMES, and also on motivational interviewing. The acronym FRAMES stands for the key elements that make up the interventions: ***F**eedback*, ***R**esponsibility*, ***A**dvice*, ***M**enu of options*, ***E**mpathy*, and ***S**elf-efficacy*.[194,195,196]

The ASSIST-linked brief intervention was designed especially for people whose score on the test falls into the *moderate range of risk* of drug use, in other words, people who have not developed a dependence but who use drugs in a risky or harmful way, and who may therefore have health or other problems (social, legal, work-related, financial, and so forth.) The ASSIST-linked brief intervention consists of ten steps, which are examined in detail below.

Step 1. Ask the person whether he is interested in seeing his questionnaire scores

A good way of beginning a brief intervention session is to ask the person whether he or she would be interested in seeing the scores. This question will help the health care worker to begin the brief intervention. Formulated in this way, the person will have options about what will happen later, and it helps reduce resistance. If the person replies that yes, he would like to see his score, the counselor can provide feedback and relevant personalized information, and discuss the risks associated with substance use, as well as the best way of reducing those risks. On the whole, most clients are interested in seeing and understand their scores.

Example

You could ask: *Are you interested in seeing your scores from the questionnaire you just answered?*

The scores for each substance obtained with the ASSIST should be recorded on the feedback report card, and should indicate the level of risk for all substances (*low, moderate or high*).

[194] Bien, T. H., Miller, W. R., & Tonigan, S. (1993). Brief intervention for alcohol problems: A review. *Addiction, 88,* 315 – 336.
[195] Miller, W. & Sánchez, V. (1993). Motivating young adults for treatment and lifestyle change. In: G., Howard, (ed.) *Issues in alcohol use and misuse by young adults.* Notre Dame, IN: University of Notre Dame Press.
[196] Miller, W., Zweben, A., Di Clemente, C., & Rychtarik, R. (1992). *Motivational enhancement therapy manual: A clinical resource guide for therapists treating individuals with alcohol abuse and dependence.* (Project MATCH Monograph Series Vol 2). Rockville, Maryland: National Institute on Alcohol Abuse and Alcoholism.

The feedback report card is used to provide feedback during the interaction with the client, and is given to him at the end of the session so that he can take it home as a reminder of the conversation.

Step 2. Give personalized feedback on the scores, using the feedback report card

Use the feedback report card as something tangible with which to guide the conversation during the intervention. Hold the card so that both the person and you can see it easily. This is one of the key components of the intervention. The main goal is to talk with the person using drugs about issues that seem relevant to him personally. It will be very helpful here to analyze the results of the ASSIST screening, as well as the level of risk associated with the score obtained. It is essential here to use the ASSIST feedback report card. Read it, review it and discuss it with the person using drugs. The different sections of the card give information about the harms and problems associated with the use of tobacco, alcohol, cannabis, cocaine, stimulants, inhalants, sedatives, hallucinogens, and opioids. Pay special attention to those issues about which the person expresses concern. Feedback is given in two ways:

1. Talk about the scores and the level of risk associated with each substance (low, moderate or high) as shown on the first page of the feedback report card. An explanation of the associated risk can be given, reading the definitions that are found on the feedback report card.

Example

The therapist may say: *These are all the substances I asked you about, and here are your scores for each of them. As you can see, your score for tobacco was 16, which puts you at moderate risk. Your score for alcohol was 15, which also puts you at moderate risk, and your score for marijuana was 18, which is at the same level of moderate risk. You are at low risk for all the other substances. Moderate risk means that you are at risk of having health and other problems because of your current substance use habit, not just now, but in the future as well if you continue to use in the same way.*

2. Point out and discuss the risks associated with each drug used, emphasizing the one with the highest score. The feedback report card includes a set of nine segments on different drugs: tobacco, alcohol, cannabis, cocaine, amphetamine-type stimulants, inhalants, tranquilizers, hallucinogens, and opiates. The person should be informed about the harms shown on the car, with further explanation if necessary.

Example

You could say: *Since your score for marijuana puts you at the level of moderate risk, the problems related to your current use of marijuana may include attention and motivation problems, worrying, panic or depression, difficulty in resolving problems or in remembering things, high blood pressure, asthma, bronchitis, and at the most serious end of things, psychosis, heart disease, breathing disorders or cancer.*

Step 3. Giving advice about how to reduce risk associated with substance use

Giving advice to people who use drugs means creating a link between reducing drug use and reducing harms. What all effective brief interventions have in common is that they provide clear, objective and unbiased advice about how to reduce the harms associated with drug use. Clients may be unaware of the fact that substance use is causing them problems, and therefore giving them clear advice that cutting down or stopping their drug use will reduce the risk of future problems will make them aware of the risks, and motivate them to change their behavior.

The key to giving effective advice is to ensure that it is as individualized as possible and that it involves feelings. The information on the ASSIST feedback report card can be helpful here.

Examples

The therapist may say: *The best way of cutting down your **risk of depression** is for you to **cut down or completely cut out your use of alcohol**.*

You could also make statements such as: *The best way of reducing your **risk of cancer** is to **reduce or eliminate your tobacco use.** Or, the best way of reducing your **risk of family problems** is for you to **cut back on or eliminate the use of alcohol and other drugs.***

Language is very important at this step of the FRAMES intervention. Comments such as *I think that you should stop your substance use* or *I am concerned about your substance use* are **NOT** clear or objective advice. Giving advice in an objective way gives the client correct information that will help him take his own decision in a neutral but supportive setting. The advice will be more useful and the person will follow it more easily if the health care staff encourage him to take the initiative in asking for advice. The main way of encouraging the person to ask for advice from the therapist is to give examples of other people who have managed to change their substance use, and to encourage the person to find out how other people did it.

Example

The therapist might say: *Some people have managed to change their marijuana use. Would you like to know how they did it?*

By helping the person understand the mechanisms of change, the therapist can begin to provide individualized advice that will be helpful for each client.

Step 4. Allowing the person using drugs to take responsibility for his decisions

This is also a key component of the intervention. Helping the person take control over and responsibility for his decisions increases his motivation for change and reduces resistance.[197] Bear in mind that the person who uses drugs is responsible for his own decisions, and that this should be reiterated to clients during the brief intervention, particularly after feedback (step 2) and advice (step 3) have been given. Here, in step 4, use words like:

Example

Therapist: *What you do with this information about your drug use is up to you, and only you. I'm letting you know the kinds of harms associated with your current pattern of use, but only you can think about what you need to do to improve your current situation.*

This encourages people to take responsibility, and also reinforces the relationship between drug use and associated harms. If you use words that are too prescriptive, such as *I think you should…*, or *Your substance use worries me,* you may set up resistance to change and make the person defensive or try to justify his drug use.

Step 5. Ask the person whether he is concerned about his scores

The goal is for the person to reflect on the way he uses drugs. Open-ended questions are useful because they allow the person to talk about any concerns he may have about drug use. Open-ended questions are very effective. Bear in mind that this may be the first time the person using drugs has spoken of his concerns. The place where the intervention takes place, and the surroundings and atmosphere can be very helpful, particularly since research has shown that a welcoming atmosphere favors change in a person's beliefs and behaviors.[198,199]

Example

In step 5, the therapist may ask: *How concerned are you about your score for alcohol/tobacco/cannabis/etc.…? Why is that?*

[197] Bien, T. H., Miller, W. R., & Tonigan, S. (1993). Brief intervention for alcohol problems: A review. *Addiction, 88,* 315 – 336.
[198] Miller, W. (1983). Motivational interviewing with problem drinkers. *Behavioural Psychotherapy*, *11*, 141 – 172.
[199] Miller, W, & Rollnick (2002). Motivational Interviewing. New York and London: Guilford Press.

Step 6. Weighing up the 'benefits' of using the substance

Here, it is recommended that the therapist discuss the things that the person using drugs sees as *benefits*, as well as about the ***disadvantages*** of using drugs. The goal is to contrast the two. Bear in mind that this may be the first time the person has compared the *advantages or benefits and the disadvantages* of using drugs.

Example

In step six, health care staff may ask: *What are the **advantages** of your use of alcohol/tobacco/cannabis/etc.…?*

Step 7. Contrast the advantages and disadvantages of using drugs or alcohol

The therapist can help the person to compare the *benefits and disadvantages* of drug use. *It is essential to point out that substance use has its good side, which explains why the person continues to use, even though he wants to stop. It is therefore better to identify the benefits in order to change them rather than ignoring them.*

Once the person has talked about the things that he identifies as being the *advantages* of his drug use, ask him directly about the *disadvantages* that may happen as the result of his use. It is very important to ask about the *positive aspects/advantages* of drug use, as well as the *negative aspects/disadvantages*. In this way, the therapist can demonstrate that he is aware of the person's reasons for taking drugs.

Example

Ask questions such as: *What are some of the **disadvantages** for you of using alcohol/tobacco/cannabis/etc.…?*

It is often necessary to help people to identify the *disadvantages* involved in drug use. If the person has difficulty with this, you can use the responses that he gave to the questions in the ASSIST questionnaire. Pay particular attention to the responses to question 4, or you can also use open-ended questions that invite the person to talk about some of the areas that may be adversely affected by his drug use.

Step 8. Summarize and reflect on the client's statements about his substance use with emphasis on the *disadvantages*

A simple but effective way of acknowledging the person's experiences and preparing him for continuing to move on is to *summarize and reflect on* what he said about the *benefits,* and about the *disadvantages* of drug use. If a person feels that he has been *listened to,* he is more likely to receive, consider and accept the information and advice given by the therapist. Summarizing and reflecting also allows the health worker to actively highlight a person's cognitive conflicts and to emphasize the *disadvantages* of his substance use.

Example

You could say: *So, what you told me was that drinking relaxes you, and that the first couple of drinks make you feel good, make you feel more talkative. But you also said that it's very difficult for you to stop drinking once you've started, that you hate that, and that you often get into arguments when you drink, and you say and do things that you regret the next day, like when you ended up in hospital last week because you were injured in a fight.*

Step 9. Asking the client how concerned he is about the disadvantages of drug use

As in step five, here we also ask questions about the person's concern over his score in the ASSIST test. While it may seem repetitive, in fact it serves to strengthen the person's thinking about change, and provides an opportunity for the intervention to go further, if time and circumstances are right. Ask directly about the concerns of the person using drugs.

Example

You could ask: *Are you concerned about the disadvantages of using drugs? Why are you concerned?*

This is an ideal moment for offering different types of help and additional services, if they are available in your health care center, or if they can be offered by other facilities or doctors in the system.

Step 10. Giving clients take-home materials to bolster the brief intervention

The person receiving the brief intervention should be given a copy of his feedback report card and other written information to take home when the session is over. Always providing that the person reads it, the written information may strengthen and consolidate the effects of the brief intervention. It can also serve as a secondary outreach if read by friends and family, who may also be using alcohol, tobacco and/or other drugs.

At the end of the session, the person receiving the ASSIST-linked brief intervention should receive:

- The feedback report card with his personal information, initialed by him for purposes of confidentiality.
- Ideally, general information pamphlets about the substances being used
- The manual *Self-help strategies for reducing or eliminating substance use: A handbook*
- The card on risks of injecting (if relevant). Remember that injecting drug users require a more extensive intervention.

Recommendations to health care staff on using a brief intervention

When implementing the ASSIST-linked brief intervention, the health care personnel should:

- Be objective
- Be a conduit for the delivery of information pertinent to the person using drugs
- Be empathetic and non-judgmental
- Respect the decisions of the person using drugs and the choices he makes during the course of the brief intervention
- Show the client that you are listening and are not dismissive of his responses
- Not argue with the client
- Use respectful language towards the client, and treat him as an equal
- Ask open-ended questions to direct the conversation towards self-discovery and ultimately towards change

Remember that brief interventions are often not the only treatment that dependent persons or people at high risk for substance use should receive. However, this brief intervention may be used to encourage people with this kind of problem to agree to be referred to assessment and treatment.

Brief interventions are designed to provide care for people with problem or risky drug use, and to motivate people with severe problems to accept more intensive treatment. The principal components of a brief intervention in drug treatment are: 1) **Functional analysis of the behavior,** to assess the determinants; 2) **Stimulus control,** in which internal and external triggers for drug use can be identified with a view to modifying them and developing alternative behaviors; 3) **Management of craving**, to generate strategies for control; 4) **Problem-solving**, related to the goal of changing drug use, and 5) **Planning of activities**, where the repertoire of alternative behaviors, other than those associated with drug use, can be expanded.

Examples of other Brief Intervention Methodologies

Generally speaking, several sessions of brief intervention should be considered. The first one can be for intake, with the goal to find out at which stage of change the person finds himself, and determine whether he is a candidate for brief intervention. Since this is the first session, the counselor should use motivational interviewing, and maintain a positive, cordial interaction with the person. Information is collected on the history of substance use (when and how he began to use, substance(s), whether he has observed an increase in the quantity and frequency of his use, and the principal consequences.)

It is essential to obtain information on the history of use, pattern of use, principal risk situations, and self-efficacy. These data can be collected by a variety of techniques, such as reports from the person himself, his family, friends and/or co-workers, as well as official records, or by means of instruments for gathering information on his substance use. At this stage, developing a baseline will enable the therapist to assess the frequency and amount of use during the months prior to the intervention. One way of collecting information from the person himself is to ask: “Have you noticed whether some days you use more than others? Do you remember any day when you used more or less than other days? Do you remember any particular day or period of time when you didn’t use? Do you know how much you generally use? Do you always use the same amount?” The Alcohol Use Inventory (AUI) and the Drug Use Screening Inventory (DUSI-R) identify eight categories associated with relapse. And the Situational Confidence Questionnaire (SCQ) is an instrument parallel to the AUI and the DUSI that assesses how confident a client is that he will be able to deal with high-risk situations.

In the treatment sessions, the person sets goals, and examines the advantages and disadvantages of continuing to use and to make a change. The goal of the intervention is established (cutting down/abstinence); situations where the person is at risk of using are assessed on the basis of a functional analysis of his behavior; action plans are drawn up to develop alternatives to substance use that will help him achieve his goal; the goals for evaluating treatment are set, and long-term goals are established.

Follow-up sessions maintain systematic, structured contact with the person at designated intervals once the treatment has been completed. It is recommended that these follow-up sessions be conducted in person, although they could be done by telephone. It is recommended that they be conducted at one month, and 3, 6 and 12 months following the interventions.

Brief intervention programs are available that are specific to a particular substance. These programs consist of around six sessions. Initially, the therapist will assess the person’s drug use behavior and general functioning; conduct skills training and practice, and then develop a

weekly plan to maintain the target behavior, followed by three follow-ups at one, three, and six months following completion of the intervention.

Brief intervention can help people become aware of the connection between their use of alcohol, tobacco or other drugs, and different health problems; identify problem use or risky use of substances; reduce substance use, and are encouraged to seek treatment if necessary.

Examples

The therapist will ask specific questions that will enable him to **analyze** the function of the client's drug use behavior in the context in which it occurs.

Example of a conversation between the person (P) and the therapist (T):

T. *What we're going to do today is something very important that will help us achieve our treatment goal, which is to stop using cocaine. The exercise consists of understanding and explaining the moment when you use cocaine. By the end of our session, you'll be able not simply to understand, but also to explain to me the conditions under which you last used cocaine. You will be able to understand the events that triggered your urge to use at that particular moment. You will understand how the amount of cocaine you used, the way you used it, and the circumstances in which you used it explain what happened. And you will understand how your cocaine use has immediate and long-term consequences, which we call functional consequences. In other words, that because of our substance use, we have had significant losses, but we've also had benefits—and those benefits explain why we've repeated our cocaine use so often and for so long, in spite of the damage it has caused. Do you understand what I'm saying?*

P. *Well, I do cocaine because at the beginning, it simply made me feel good and there weren't any consequences; but yes, little by little, I began to have problems, and my wife started to realize. I knew but I didn't really try to stop. Until I really tried, I hadn't realized that I couldn't stop on my own.*

T. *I understand, and you had in fact shared with me these consequences and reasons for using in general. But what we're going to do now is examine one single situation, not your overall drug use. I mean, let's go back to the last time you used, and look at the situation when you used that last time, and then you'll learn to explain your cocaine use so as to prevent it happening again in a situation like that one. Ready?*

Example of a conversation between the person (P) and the therapist (T):

P. *OK.*
T. *Fine. Let's begin by looking at the day you used when you were at home, that afternoon when your wife went to visit her grandmother and took the children with her. Do you remember what day that was, what time it was, and where you were in the house just before you started to think about using?*
P. *Yes, it was Saturday, and I was sitting on my front porch. It was five o'clock in the afternoon. I stayed at home that day because I'd had a fight with my wife and I didn't want to go with her to grandmother's house. I preferred to stay home. She left about 2 p.m.*

The therapist will summarize what the client has said, and repeat the information:
T. *So, I understand that just before you used, you were sitting on your front porch, and it was five o'clock. Were you alone? How were you feeling? What were you thinking about?*
P. *Yes, I was on my own. Some of my neighbors walked by and said hello, but I didn't in fact talk to anyone. By two o'clock, I was still angry, but I calmed down bit by bit, and by five o'clock, I felt calm. I knew that I could catch up with them at Grandma's house, but I was also thinking that I could take advantage of the fact that no-one was home, that it had been a long time since I'd had any free time, and that I'd hidden a bit of cocaine in one of my shoes in the closet. I thought that with this one hit, I could say goodbye to using, and then I wouldn't buy any more. I also thought about my family, that they wouldn't come back until later, because we always spend hours with my in-laws.*

The therapist may continue to repeat and underline the information provided by the client:
T. So, if I understood you correctly, you felt calm three hours after the argument with your wife. You were on your own, sitting on your front porch outside your house, and thought about a few things that I'll try to summarize: you remembered that you had one dose of cocaine left, you decided to use the free time you had, and you knew that your family would arrive later, which would give you enough time to say goodbye to using, and that you wouldn't buy any more—is that correct? So, did you go inside the house? Tell me what you did then, and whether you were still angry or not. Can you describe your mood? Did you feel any particular physical symptom that you felt before you used?
P. *Yes, I went into the house, directly to the bedroom, and without thinking about it, I looked in my shoes, found the paper with the cocaine, and went into the dining room.*

The therapist interrupts here, and again asks:
T. *How would you describe your feelings at that point? Did you notice any changes in your body? Specific symptoms, for example, changes in your heartbeat or breathing, were you*

sweating, was your nose dry?

P. *Yes, like I was happy and anxious to snort that one last line. I don't remember, but I think that my heart was beating faster and that I started to breathe faster. I remember that I began to hear rumbling in my stomach, which was strange. I don't remember whether I was sweating or had any other symptoms.*

The therapist repeats the information, and explains:

T. *Thank you very much. You've given me information about all the situations that we call "triggers" for substance use. Three of them were external. The first was that you were sitting on your front porch, in the fresh air, once you had calmed down after the argument with your wife; 2) you were alone, apparently with some free time to enjoy yourself and enjoy using cocaine, and 3) it was Saturday at five o'clock in the afternoon. You've also told me about three "triggers" that we call internal, and that also represent a risk of using and relapsing: 1) being calm but a bit anxious to enjoy that moment of calm you had for yourself; 2) thinking you could take advantage of the moment and that your family wouldn't be back yet and that you wanted to say a final goodbye to using; and 3) a series of physical responses such an increase in your heart rate and breathing, and you felt your stomach rumbling. These six groups of environmental and internal conditions precipitate and are triggers for craving. We are going to learn to deal with them in a different way, if a similar situation arises in the future. Is that OK?*

P. *I don't think it will happen again. My wife came home early, and since then, she hasn't given me the opportunity, no matter how much I promise her that it won't happen again.*

T. *I remember that you were very calm because she was by then in charge of your risk. However, think about it: even though it's very likely that your wife will keep the situation under control, the exercise shows us that these specific triggers or risky situations can occur under other circumstances, and what we can do is plan for you to be responsible personally for exercising control. But first, let's go on with our analysis. Go on telling me about how your cocaine use took place. How much did you use in total? How long did it take you? How would you describe it?*

P. *Well, I sat down in the dining room. It was just one line. I prepared it with my knife, and snorted it, just half to start with. I went to the sofa in the living room and switched on the television. I left the rest in the dining room. I found an action series on TV that I like a lot, and while I was watching, I thought I'd snort the rest, and not leave anything behind. I went back to the dining room.*

T. *How long was it between the first time you snorted and the second?*

P. *Not even five minutes. In fact, it was almost immediately.*

T. *And then?*

P. *So I finished the rest. I picked up the piece of paper and threw it into the toilet, and then*

went back to watching my TV program.
T. *How long was it before you began to feel the first effects? How long did you sit in front of the television waiting for the effect, with those symptoms we identified earlier?*
P. *Practically immediately. Two episodes of the show, the program lasts for an hour, so perhaps 5 minutes when I began to feel the effects.*
T. *So you snorted cocaine, and it was about five or ten minutes before you felt the effects. The time you took to inhale really required very little effort or difficulty. What were the immediate effects of using? Can you tell me specifically how you felt, physically? How would you describe how you felt? What were you thinking at that moment?"*

Example of a conversation between the person (P) and the therapist (T):

P. *Since it had been some time since I'd used, that day the effect was very strong. I felt as though I was getting hyped, and I began to feel very excited, sitting there watching the show, I was concentrating on my time alone, and I felt happy. But then my wife came in, and she realized immediately. She got angry and began to complain, and then I got angry again. It was very strange, at the same time I realized that I was getting more and more angry because I had used, but I couldn't calm down. I left the house and began to walk around the street. I felt upset, very wound up, and I waited until the effect wore off. I thought about having a drink to bring me down, but luckily, I just went on walking and waiting for the effect to pass.*
T. *So, you could feel that your heartbeat was raised, your breathing was rapid. You felt euphoric, and of course, you had some moments of happiness and you were focusing on the television program you were watching. These immediate consequences of using cocaine are what we call the benefits of using cocaine. It uses the same mechanism in our body as eating, but many times over. When we eat something, we feel a natural pleasure in nourishing our body, but cocaine powerfully over-stimulates the brain's reward circuit. The use of cocaine stimulates the same pleasure areas in the brain, but with a much greater stimulus than we receive from eating. Listen to the following analogy. Switching on a 100 watt bulb in a light fixture designed for 100 watts is similar to the production of dopamine in the brain when you eat something, but using cocaine would be like putting a 250 watt bulb in 100 watt fixture, which would burn out the light. Our brain takes a bit longer, but the effect is similar to the light bulb, and it can alter the functioning of the reward circuit. Well, let's go on. You were beginning to describe the medium-term effects of using cocaine, which generally have to do with different aspects of your day-to-day life. Tell me, in addition to your wife being angry and complaining, what else happened with the rest of your family, and the other parts of your life?*
P. *Well, when I got back home, I was now calmed down and my wife too. She asked me to get*

help. She tried very hard to make me understand that she was not willing to see our children learn to use like me. That if I wasn't going to get help, she wanted us to separate, and that even though she'd seen that I hadn't used, she wasn't willing to see me go back to using. My children were sort of upset, frightened. My oldest son wet his bed that night, I suppose because of the tension of the day. My wife took the little girl to sleep in our bedroom, so that we wouldn't go on arguing, and to make sure that I didn't try to sleep with her.

T. *The way you're telling me about what your wife said leads me to think that she was upset, and you also recognize that she tried hard to talk to you as calmly as possible. I understand that it must have been really difficult to deal with the situation with your wife and your oldest son, particularly the idea of a separation and ending your relationship. Although these are difficult things for anyone to cope with, these consequences sometimes become less important in our decision-making when we are faced with the possibility of using drugs. I mean, when you use, there are very powerful benefits that you feel immediately, such as the feeling of pleasure you get from using cocaine. The unpleasant consequences, which are difficult to deal with even though they are important, come later than the pleasant ones, which means that they lose their strength and power in our lives. Anyone would ask himself why I only think about the benefits and the pleasure of using if I actually lose so much by using cocaine? This is something that happens to everybody: the reward of the drug tends to be more powerful, not only because of the direct effect of releasing pleasurable substances in your brain, but also because the benefits of using, the pleasure, the satisfaction, the euphoria, the joy occur immediately, are highly reinforcing, and people see them as more valuable than the downside. Because it occurs later and sometimes take a while to impact our lives, the downside of using drugs is always seen as less valuable, although in fact, objectively, it is very important. Now, what other areas of your life were affected by your using this afternoon? Your work? Your social life? Your finances?*

P. *No, none.*

T. *In this exercise, we've had the opportunity to identify situations that triggered the moment of your cocaine use, and we've examined what happened afterwards. This explains why cocaine use repeats and repeats and remains part of your lifestyle. Specifically, before you used your cocaine, you had the possibility of having some free time, and of being alone after a stressful situation with your wife, and you had a dose available. All that automatically and involuntarily triggered a series of physical sensations such an increased heart rate, more rapid breathing, and rumbling in your stomach, and thoughts of enjoying a moment of pleasure and happiness. All of these situations before you used cocaine were high risk for you to decide to use or not to use the drug, even though you had earlier decided not to. Using cocaine in these circumstances required relatively little effort,and it didn't take much time at all. Your cocaine use has had the function, for you, of producing a series of immediately pleasurable benefits and consequences such as an increase in your heart rate and breathing, euphoria, happiness*

and pleasure. There are unpleasant events in your life that have not had an impact on reducing your drug use because they have not yet had an actual impact on your life.

The therapist will talk about ways of controlling the stimuli that automatically trigger the decision to choose to use cocaine:

Example of a conversation between the person (P) and the therapist (T):

T. *Let's deal with the situations you felt before using cocaine. We saw that they automatically triggered internal triggers and the opportunity to use. Let's design some plans of action to change those triggers and reduce the risk. Let's see: What would be your first action to change the external triggers? What do you think you could do at times when you calm down after an argument, or when you feel calm and feel the need to enjoy yourself or just relax?*
P. *Well, I could definitely plan my fun activities in advance, and try to make sure that they don't include using cocaine.*
T. *You're saying that you must plan in advance activities that are pleasant and fun and that do not involve cocaine. I think it might also be useful to think about activities that are not necessarily planned in advance, but that you could do on the spur of the moment whenever you realize that you have the chance to enjoy yourself but haven't planned anything. Let's see, what kind of things could you do when you feel the need to enjoy yourself, whether you've planned it in advance or not?*
P. *I could join the gym around the corner, which is not too expensive, and which is open from six in the morning until 11 at night, every day of the week. It also occurs to me that I could go with my family to the park, or watch a movie with them at home.*
T. *Good. What you are doing is proposing an activity where you are planning ahead and anticipate the possibility of success, by looking at the gym's opening hours and thinking about more than one option. I think that this is an alternative that might be successful. The other two options are possible, of course. They are fun things to do that will improve your interactions with your family, but would not necessarily work as the kind of enjoyment you used to get from cocaine. In other words, I suggest that we look at the two activities with the family as ways of improving your relationship, but let's come up with something that would meet your need to enjoy yourself, to have fun yourself, as an individual. What do you think?*
P. *That sounds fine. Well, it occurs to me that I could enjoy going out on a run, or go out with my wife while my mother-in-law looks after the children.*
T. *Yes, going out for a run is something you do yourself, as an individual, and it takes you into the fresh air. Running, like going to the gym, produces adrenaline as a result of the exercise you're getting, which can then cause pleasurable sensations. Both of these things are possible without planning in advance. I think that going out with your wife is a pleasurable activity*

that may be successful. Although it requires planning and will improve your interaction with her, it means bringing her into your plan to control risky situations, and as I understand it, that is entirely viable. Let's think now about your plans when cocaine is available. What do you think?

P. *Well, clearly, I must not have cocaine available. Not buy it. Not have it near me. I think that I must commit to this.*

T. *Very good! The most effective way of reducing risk is, of course, not to have cocaine available. But as you said, your commitment involves thinking about actions to respond to social pressure from people who might offer you cocaine. So, let's put into practice the refusal skills you learned. So, in order to check that you have no cocaine in the house, what do you propose?*

P. *I don't have any at home, but I could go through all the things in my house, and ask my wife to help me, and if we find any traces of cocaine, we'll throw them into the toilet. I'm sure she would love that. In terms of refusing cocaine, I've had to do it a couple of times—just like you taught me—and I was surprised how well it worked me. I had thought it would be harder or that they would insist, but no, it wasn't.*

T. *Good. I see that you not only involved your wife in your action plan but also in the things where you are in control, and you've used your skills. I think it's important to stress what you said, that is, when you are firm about refusing to obtain or use cocaine, it's very likely that it will be effective, and also that you will feel really satisfied because you are capable of recognizing your own efforts and your ability to control your life. But I wonder: How do you feel about your wife enjoying going through the house with you and throwing the cocaine into the toilet if you find any?*

P. *Oh, don't worry. The truth is I know that I'm going enjoy it, and rather than get irritated, I'm glad to be able to give her the opportunity to do it and help me do it.*

T. *It's good that we looked at this because if the situation was uncomfortable for you, that would perhaps endanger your plan. But I observe that you've seen that it can be a viable plan, and that it also pleases you to give your wife this satisfaction. So, we've controlled the risky situations that we call external triggers. In other words, you've re-designed and changed the settings that put you at risk. In short, you are going to arrange going to the gym and going out for a run as an effective way of enjoying yourself when you have time. You also thought about organizing an outing with your wife, which would be another important way of feeling happy and enjoying yourself. And lastly, you will ask your wife to help you to check out the house to make sure that there is no cocaine available, and you will continue to use your refusal skills to reject cocaine use whenever they offer it to you, or you are away from home and at risk. Let's continue to firm up the plans, and set a timetable for the four activities: going to the gym, going out for a run, going out with your wife, and checking the house.*

In order to plan strategies for dealing with cravings, the health care provider will engage in a conversation like the following:

Example of a conversation between the person (P) and the therapist (T):

T. *Shall we now find ways of dealing with those internal triggers that generally occur as an automatic, involuntary response to risky situations or external triggers? When you're on your own, when you want to have fun and relax, you've noticed that your heartbeat accelerates, your breathing gets more rapid, and your stomach rumbles, putting you at risk of deciding to use cocaine. You also start to think that you have an opportunity, that you're alone, that you deserve to enjoy yourself, that you need some time for yourself. Then you find that you feel euphoric. Of course, it's not the same as when you use, but it's as if your body understands that you're going to enjoy a moment of pleasure. All of these physical and emotional reactions and thoughts are automatic, involuntary responses to the place, to the fact that no-one else is there, and the time of day when you have the chance to use. What we're going to do now is make a list of similar situations, and I'm going to ask you to put them in order, starting with the one that raises your heartbeat and breathing the most, and causes you the greatest need to use cocaine, down to the one that produces these reactions the least. You can score your level of need or craving from zero to ten for each situation, which will allow us to put them in order of importance. What are these situations?*

P. *Well, it was the one we talked about, that is, when I'm alone because my wife has gone out with the children, usually on the weekend. I think it's also happened often when I get off work, because sometimes I get out at 5 p.m. Now that I'm telling you that, I realize that that is the danger hour.*

T. *So, the time, the Saturday, and you're alone—these are three important things that need to be changed. Would thinking about any particular place in your house be useful?*

P. *Yes, but it's not that important.*

T. *From zero to 10, rank the four events you've chosen. Remember, zero means absolutely no craving to use, and ten means a strong craving. What score do you give to the time: five o'clock in the afternoon, the fact that it's Saturday, the fact that you're alone and in your dining room?*

P. *Saturday, I'd give a 10. I'd give 8 to the time of day. Being alone, 10, and the place, three.*

T. *So compare them. What produces the greater urge to use? Being alone? Or the fact that it's Saturday?*

P. *Definitely being alone.*

T. *So the ordering of the situations that we're going to work on, from the one that causes less craving to the one that produces the most craving, is: 1) your kitchen; 2) that it's five o'clock in the afternoon; 3) that it's Saturday; and lastly, 4) that you're alone. Let's use this order of*

things in our relaxation exercises. You and I have practiced relaxation through deep breathing, muscle contraction and relaxation, and soothing images and body posture. You've said that the relaxation exercise that works best for you is the tightening and relaxing particular muscles. That is what we are going to use so that each situation becomes less and less of a risk of relapse. We have to learn to deal with them and feel less and less anxiety, but most of all, ensure that if we are in that situation, our body relaxes automatically. Any questions?

P. *Is this really possible? Because I've been strong-willed, but sometimes I feel that I can't stand it any more.*

T. *Yes. What you are feeling is a set of responses in your body that appear automatically and without any decision on your part. This is the result of all of the occasions when you use cocaine in the past in that same setting. In other words, the kitchen, the time, the day, and being alone—these are things that have acquired the power to produce in your body an effect similar to that of cocaine. We call it craving or need to use. But what is happening is that your body is preparing itself to receive the cocaine and avoid an overdose. The reward circuit in your brain activates itself automatically in such a setting, and responds in such a way as to prepare your body to receive the drug. Your heartbeat goes up, your breathing gets faster, and so you feel "up" and you crave the drug. Your thoughts are only on using cocaine. Now, even though these responses are automatic, we can re-train our body to have different or contrary responses instead. In other words, we can practice relaxation and at the same time your thought processes to think about the kitchen, the time, the day, and being alone, while you relax. We'll combine this thought with your exercises in that setting throughout the week. And now you will relax in the same places where you used to use cocaine, and with practice, those places will produce a relaxation response rather than a craving to use. Do you understand?*

P. *Yes, I think so.*

T. *Today we're going to do the first exercise, with the risk situation that causes you the least anxiety. We'll practice it here, using your thought processes, and during the week, you'll do it at home. When we manage to produce the same relaxation response in that particular setting, we'll go on to the next level in the exercise, which is the time of day, and after that, the fact that it's Saturday, and finally, being alone. You will practice today's exercise at home also. Today's exercise, as always, will mean sitting comfortably in the chair, making sure that your head is resting against the wall, that your legs are resting and that your arms are resting on your thighs. Your hands are cradled with the palms upwards, as they naturally do when you're not tensing your muscles. That's right. Remember that you can do this exercise lying down, but right now, we're doing it sitting up because at the end of the day, we hope to be able to relax even when we're moving about, and without the need to wear comfortable clothing or sit or lie in any particular position. Remember to do deep breathing from time to*

time to help relax you as much as possible. We will not open our eyes at all; we don't worry what we look like. All we're interested in is how we feel. Ready?

Example of a conversation between the person (P) and the therapist (T):

P. *OK, I'm ready.*

The therapist begins the first session by associating the stimulus at the bottom of the client's list of cravings to use with relaxation.

PS. *Let's close our eyes and begin. Breathe in, hold, two, three, and breathe out slowly. Start by making a fist, squeezing the muscles in your hands, and feel the tension. Slowly open your hands, release the tension, and notice the relaxation. Breathe in, hold two, three, breathe out, and as you breathe out, notice how all your tension is flowing away. Your hands are relaxed, just lying on your thighs. Breathe in, hold two, three, breathe out. Now tighten the muscles in your hands, bending your elbow, and bring your hands up to your shoulders. Your arm muscles are getting tense. Now slowly bring your hands down, and feel the muscles relaxing. Feel the tension, release, and then feel the relaxation. Your arms are getting heavy, they relax, and my slow, even breathing helps them relax. Shrug your shoulders, bring them up to your ears, feel the tension, and little by little, slowly bring your shoulders down, and feel the tension change into relaxation. Breathe in, hold two, three, breathe out, and all your tension is leaving your body. Your shoulders are heavy and then they relax. Frown hard, and then relax the muscles in your forehead, and see the tension turn into relaxation. You can feel the lines on your forehead disappearing, and your forehead is relaxed. Your deep, even breathing helps you relax. As you let the air out, all your tension flows out with it. Now close your eyes, squeeze them together. You can feel tension in your eyelids, perhaps they tremble a bit. Slowly let your eyelids relax, little by little, heavy over your eyes. Your slow, easy, deep breathing helps them relax. Now clench your jaw and press your lips together, hard. Your jaw tenses up, and then relax it. The tension becomes relaxation. Open your lips slightly, your jaw is relaxed, and your deep breathing helps you relax. Now tense your legs, point your toes up, notice the leg muscles tense up and become hard. Now let your legs relax, slowly bring them down to rest on the floor. Your legs are heavy, they're relaxed. Breathe in, hold two, three, breathe out, and as the air goes out, it takes all your tension with it. Now tense your entire body, squeeze your fists, bring your hands up to your shoulders, shrug your shoulders up towards your ears, frown, squeeze your eyes and your lips, bring your feet off the floor and point your toes upward. Your body is tense. Now let your all of your body relax, little by little. Let your shoulders down, bring your arms down, let your hands rest on your thighs, and bring*

your feet down slowly to rest on the floor. Your lips are open and your jaw relaxes. All of my body is heavy, it's relaxed. My deep breathing is helping. Now that your entire body is heavy, think that you're in your kitchen. You're there, you can see it, you can feel that you're there. Breathe in, hold two, three, breathe out, and as the air goes out of your body, it's taking away all the tension. I'm in the kitchen, I relax, I calm down, I breathe in, hold two, three, breathe out, and as the air goes out of my body, I relax. You can see all the things in the kitchen. Breathe in, hold two, three, breathe out, and as the air goes out of your body, you relax and rest. You feel as though you were in the kitchen, you see the table, the chairs, the oven. Breathe in, hold two, three, breathe out. I am totally relaxed. You can hear all the normal noises in the kitchen, breathe in, hold two, three, breathe out. You feel that you are in the kitchen, sitting at the table. Breathe in, hold two, three, breathe out. The air leaving my body makes me relax. Breathe in, hold two, three, and breathe out. My body is relaxed, totally relaxed.

The therapist pauses for ten seconds, and then says:

T. *Now, whenever you want to, and only when you are ready, open your eyes slowly. Now, on the one to ten scale, where zero is totally relaxed and 10 is completely tense and anxious, how do you feel at this moment?*

P. *Zero.*

T. *Good. you will do this same relaxation exercise in your kitchen every night this week. You'll put a chair in the kitchen in the evening, and after the children have gone up to bed, you'll do the exercise. I've made this tape for you so that it will be easier to do. At the end of each exercise, you'll write down the number that corresponds to your level of relaxation, so let me give you this little booklet where you should write down a number every day this week, until our next session. Any questions?*

When modelling a problem-solving strategy, the therapist may use questions and statements like the following:

Example of a conversation between the person (P) and the therapist (T):

T. *I'm going to show you how we can solve the problem you raised, as we saw earlier. The exercise will use the following: identifying the problem, describing the problem, and what it means, finding and analyzing solutions, and choosing and consolidating decisions and agreements. You'll play the role of your wife, and I'll play you. Ready?*

P. *Yes, let's go.*

(Modelling the problem-solving strategy, the therapist takes the role of the person, and

vice versa)

T. *It's great that we're able to take a moment to sit and talk. I really want to tell you how important it is for us resume our life as a couple again. I know that we do lots of things as a family, and it's very important to go on doing family things, but I also think that I've neglected to plan to do things with you as my wife. It's been a long time since we planned to do things together, but I think it would help me a lot with my treatment and encourage me to continue not to use. What do you think?*

P. *It's your fault. I'm always telling you that you don't treat me like you did before, that I don't mean anything to you any more.*

T. *In the past, I didn't think that was true, but now I really believe that I would like for both of us to find a way out of this. In my sessions, I identified a situation where I might be at risk of relapse. I had to do things differently from our normal routine. I realized that I can rely on your help so that I can do things that are fun and pleasant, rather than using drugs. I really would like your support. And in fact, you did help me the last time I relapsed. I did notice that you were thinking very carefully about how to talk about what you were thinking and feeling, and most of all, to talk about the things that worry you the most. I really liked that, and you helped me understand that I do need to change, and I realized how important you are to me. I'd very much like us to continue to talk like that. What do you think?*

P. *Yes, I was very careful and thought a lot about how to say things to you. Yes, I think you're right, we don't want to get angry and fight, but rather to change. But how? And supposing you don't change, and going on doing the same thing? I just don't know.*

T. *Well, right now, I'm trying to talk to you and to practice what I learned in my treatment. I know that it's difficult to change, but I* ***am*** *trying. Part of what I learned was how to say to you that for us to have a life together, we have to talk and say what we feel, and most of all, find things to do together. I think you're worried also, and that you would like us to agree so that we can have a better, more active life together. I think that we could make a plan to do something fun together, every week, and even if we do spend a bit of money on ourselves, there are things we could do that aren't too expensive. Perhaps every Saturday afternoon, we could ask my sister to take care of the kids while you and I go for a walk around the park, or go to the movies. Would you like that?*

P. *You seem different. And if I can help you, then let's go ahead. But listen, your sister won't want to take care of them every Saturday. We could take turns with my sister as well, or with my mother. They both really like taking care of the children.*

T. *You're right, of course. If we only ask one person for help, we risk having them say that they won't do it. If everyone helps us once a month, at the outside, it's more likely to work. I also think that if we talk to them separately, and perhaps make their favorite food on Sundays to say thank you, they might be more motivated to help us.*

P. *I don't think they need that, but it's a good idea. I think that what they will like the most is*

to help us get our relationship back together. But we're missing one person. How about that niece of yours, the one who looked after your cousins when they were small. Do you remember?

T. *That's true, good idea! She could be the fourth person. Suppose we talk to them this weekend, so that we can start to plan things to do next weekend. We've already got two things we could do--go to the park, or go to the movies. Have you got any more ideas?"*

P. *A museum, maybe, or the botanical gardens—there are lots of places.*

T. *Very good! That turned out to be very useful, because you showed me the possible obstacles to resolving the problem, and your wife's mood at the beginning, which was not to participate. So now we're going to switch roles, and try it out so that you will be able to do it at home.*

The therapist will help the person plan activities that do not include drug use, and will help him identify events that can help him maintain his behavior over time as part of a pleasurable, healthy lifestyle:

Example of a conversation between the person (P) and the therapist (T):

T. *We've chosen some things to do other than using drugs. They will help you achieve pleasurable results, things that make you feel happy and good, even though they may not have the same benefits as using cocaine. But you will see that it's possible that they are not as satisfying as using cocaine, particularly now that you've stopped using. In other words, it's normal that for a while, going to the gym, going for a run, or going out with your wife turn out to be not as pleasurable as you think, because it takes time for your limbic system to recover. This period of recovery of the reward system in the brain forces us to concentrate on the external and internal triggers that lead to going to the gym, exercising, going running, or going out with your wife. In this situation, where you find it difficult to get motivated by things other than using cocaine, we have to face up to the immediate consequences, which may be disagreeable in the short term, and then concentrate on the pleasurable consequences in the medium term. Do you understand?*

P. *I understand that I have damaged my brain, that I am not going to enjoy these activities.*

T. *No, it's not for ever. The changes in your reward system can be reversed. We know that the changes in the brain can be reversed, and that, once substance use stops, the brain begins to rebuild its connections immediately. So, at the beginning, the degree of pleasure and satisfaction will be different, but it will be possible. What may happen is that you won't find things as pleasurable as you did before, when you were using cocaine, and that you will tend to compare the outcome of these activities with the results you got from your cocaine use. That is why it will be essential for you to concentrate on prizing the outcomes of the activities*

in your daily life that are different from using cocaine, or choose a broader set of activities if necessary. Let's begin with the gym. You can go there without plannin gin advance. What time would you go to the gym every day? Where is it? Do you have to travel far to get there?

P. *The best thing would be to go every evening at seven o'clock, and on Saturdays, at five o'clock. The gym is only a couple of blocks away from my house, so I'll walk.*

T. *Very good, you've said that you must be consistent. Being consistent will help your reward system recover more rapidly. You've also remembered that it would be important to go to the gym at the time of day that is most risky for you. And then you've seen that the fact that the gym is close to your house is a good way of ensuring that your alternative to drug use will be successful. So, tell me: what do you need to do and feel to ensure that you will actually go to the gym? I mean, what should you think about? What kind of feelings should you be having? What kind of physical sensations could you have and that would be triggers, at the time you go to the gym?*

P. *Well, I should think that I'm going to enjoy a good length of time enjoying myself. That even though it's tiring, working out feels really good, it helps me get rid of tension, and I feel that I really want to go to the gym. So, I'll pay attention to my heart rate and breathing and see what happens then.*

T. *Good. Make a note of those thoughts and go back over them. The fact is that you may perhaps think that you don't want to go out, that you prefer to stay at home, and just go the next day. People often feel like this just before they go to the gym, but if you really pay attention and try to remember what we talked about, it's more likely that you'll go to the gym and do your workout without any problem. You've also said that you should think about the positive benefits of exercising, and that you will pay attention to how your body feels before you go to the gym. Tell me, how long will you work out? What type of exercise will you do? What's a good amount of time for you to feel comfortable with the workout?*

P. *I'd really like to spend a full hour there, on the bike and on the rowing machine. I know that at the beginning, I'll need an instructor to watch me, and that I'll only manage a few minutes, but I'll increase the time bit by bit. That's why I want to go every day.*

T. *Good, that's the way to do advance planning! I'm certain that if you do this every day, you will get much fitter. So how will you feel physically at the end of your workout? What feelings might you have?*

P. *I'm sure I'll feel very tired, but I'll also be happy and satisfied that I was able to choose to work out rather than use cocaine.*

T. *Again, I applaud your ability to plan ahead and think about what you should be feeling and thinking. It's very important that you don't forget this when you go home from the gym. It very likely that as well as feeling tired, you may think it's not worth it, that your workout activity is not as pleasurable as using cocaine, and that you don't feel as content or as satisfied as you thought you would. You may even forget the importance of your decision to*

work out rather than use cocaine. It will be essential that you make use of all the thoughts and feelings you described and try to think that way when you leave the gym. This will help you at that time, and keep you going through the medium term. The consequences in the medium-term are pleasurable, although they take some time, and even though at times we underestimate them, it is important to bear them in mind. Tell me, what are the pleasurable consequences that you've been feeling in your family life because you've been consistent about working out at the gym? And as you said, how will you feel after several days sticking with your gym routine?

P. *It's good to know that at the beginning, I may feel the way you're describing. But it's even better to know that if I concentrate, and think about what's really happening to my life as a result of working out, I can feel better. I'm sure that getting fit will make me feel much better, and will also make my wife feel happier, and she may even find me more attractive when I'm fit.*

T. *Good thought! You've identified the advantages and benefits of working out. But tell me, will exercising every day be pleasurable enough for you to stick with your choice to get fit and work out?*

P. *Yes, I think so.*

PS. *That's very important. If exercising is pleasurable and brings you some benefits, then it will become a way of life that truly does replace your cocaine use.*

The therapist will do the same exercise with each of the alternative activities that will go to making up the person's new lifestyle.

Treatment

Our knowledge of the drug phenomenon has advanced significantly over time. Thanks to scientific research, we now have objective information about the details of the mechanisms by which drugs produce their effects; the factors that influence a person to experiment with drugs; the extent and characteristics of drug use and the people who use drugs, as well as the adverse consequences that may occur, and the effectiveness of treatment for drug use disorders, among many other aspects. All of this information has led to the concept of addiction (now known as substance use disorders) being regarded as a disease,[200] which is gradually replacing outdated ideas of vice and moral and spiritual weakness.[201] From this perspective, it becomes clear that drug use problems can be treated, and we now have evidence that shows that treatment can be successful.

Providing treatment for people with drug use disorders has significant social benefits that go beyond their health conditions. The cost-effectiveness of some treatment interventions has been documented. For example, in the United Kingdom, the National Treatment Outcome Research Study (NTORS) reports that for every extra pound Sterling spent on drug misuse treatment, there was a return of over three pounds in cost savings in the public sector.[202,203] Relapse rates among drug-dependent people are comparable to relapse rates for other diseases such as asthma, diabetes and hypertension.[204]

A good relationship between the people receiving care (clients, patients) and health care professionals is associated with better treatment outcomes and better adherence to treatment.[205]

According to the WHO, "*treatment is a process that begins when psychoactive substance users come into contact with a health provider or other community service, and may continue through a succession of specific interventions until the highest attainable level of health and well-being is reached.*"

[200] OAS/CICAD. (2010). Hemispheric Drug Strategy. Organization of American States: Washington, D.C.
[201] Sánchez-Mejorada, J. (2007). Concepto del alcoholismo como enfermedad: historia y actualización. *Rev Med UV*, *7* (1), 27–38.
[202] *The National Treatment Outcome Research Study (NTORS): 4-5 year follow-up results (2003),* accessed at: https://onlinelibrary.wiley.com/doi/abs/10.1046/j.1360-0443.2003.00296.x
[203] Godfrey, C., Stewart, D., & Gossop, M. (2004) Economic analysis of costs and consequences of the treatment of drug misuse: 2-year outcome data from the National Treatment Outcome Research Study (NTORS). *Addiction, 99*, 697-707.
[204] McLellan, A. T., Lewis, D. C., O'Brien, C. P., & Kleber, H. D. (2000). Drug dependence, a chronic medical illness: implications for treatment, insurance, and outcomes evaluation. *JAMA, 284* (13), 1689 – 1695.
[205] Luborsky, L., et al. (1985). Therapist success and determinants. *Archives of General Psychiatry*, *42*, 602 – 611.

There is a need for services that address drug use disorders in a pragmatic, science-based and humanitarian way, replacing stigma and discrimination with knowledge, care, and opportunities for recovery opportunities and reintegration.

There is a treatment gap: 247 million people used drugs in the past year; 29 million have drug-related disorders, but only one in six receives treatment.

For more information about treatment of drug use disorders, please visit:

ISSUP networks: https://www.issup.net/networks

- **Treatment Practice: https://www.issup.net/network/13**
- **Treatment Research: https://www.issup.net/network/14**

Mental Health Gap Action Program (mhGAP)

The World Health Organization's Mental Health Gap Action Program (mhGAP) aims at scaling up and improving care for mental, neurological and substance use disorders, particularly in countries with limited resources. The program maintains that with proper care, psychosocial assistance and medication as needed, millions of people could be treated for depression, alcohol and drug use disorders, and epilepsy and other mental and neurological disorders and prevented from suicide. People diagnosed with these disorders can live normal lives, even where resources are scarce. As part of this program, the World Health Organization published the *mhGAP Intervention Guide for mental, neurological and substance use disorders in non-specialized health settings*[206].

The Guide sets out science-based interventions for treating the problem in primary health care centers. Given the focus of this Manual, we shall look more closely at the sections on alcohol and drug use disorders.

The mhGAP Intervention Guide

The mhGAP Intervention Guide is based on guidelines obtained through the mhGAP program on interventions for mental, neurological and substance use disorders. It was developed after an intensive review of the scientific evidence, and includes indications about evidence-based interventions for identifying and managing a number of priority conditions or disorders. The priority conditions include depression, psychosis, bipolar disorder, epilepsy, child and adolescent mental and behavioral disorders, dementia, alcohol use disorders, drug use disorders, self-harm/suicide, and other significant emotional symptoms. The mhGAP Intervention Guide was developed for use in a non-specialized health care setting, and is geared to health care providers working at first- and second-level health care facilities. To facilitate interventions, the IG is brief, describes in detail what should be done, but does not give detailed descriptions of how to do it. It is important for non-specialized personnel to receive training, and then supervised and supported in their use of the mhGAP-IG.

To read and download the mhGAP Intervention Guide - Version 2.0 for Mental, Neurological and Substance Use Disorders in Non-Specialized Health Settings, please visit the ISSUP knowledge share section: https://www.issup.net/knowledge-share/publications/2018-02/mhgap-intervention-guide-version-20-mental-neurological-and

[206] World Health Organization. (2016). *mhGAP Intervention Guide for mental, neurological and substance use disorders in non-specialized health settings*. Version 2.0.

Disorders due to Substance Use mhGAP-IG

Disorders due to substance use include both drug and alcohol use disorders and certain conditions including acute intoxication, overdose and withdrawal.

Acute intoxication is a transient condition following intake of a psychoactive substance resulting in disturbances of consciousness, cognition, perception, affect, or behavior.

Overdose is the use of any drug in such an amount that acute adverse physical or mental effects are produced.

Withdrawal is the experience of a set of unpleasant symptoms following the abrupt cessation or reduction in dose of a psychoactive substance; it has been consumed in high enough doses and for a long enough duration for the person to be physically or mentally dependent on it. Withdrawal symptoms are, essentially, opposite to those that are produced by the psychoactive substance itself.

Harmful use is a pattern of psychoactive substance use that damages health. This damage may be physical, e.g. liver disease, or mental, e.g. episodes of depressive disorder. It is often associated with social consequences, e.g. family or work problems.

Dependence is a cluster of physiological, behavioral, and cognitive phenomena in which the use of a psychoactive substance takes on a much higher priority for a given individual than other behaviors that once had greater value. It is characterized by a strong craving to use the substance and a loss of control over its use. It is often associated with high levels of substance use and the presence of a withdrawal state upon cessation.

Principles of Prescribing

Basic principles of prescribing[207]

1.1 The decision to prescribe a pharmacological treatment must take into consideration the potential risks and benefits to each individual patient. Health care providers should discuss with patients, family members and/or patients' care givers these potential risks and benefits.

1.2 Health care providers should consider that medicines play an important role in the doctor-patient relationship, and should make an effort to enlist, recruit and involve the patient in a collaboration related to the prescribed medication. The psychological implications of receiving a drug therapy should be discussed and taken into account.

1.3 In general, health care providers and patients should consider that most psychiatric disorders can effectively be tackled by means of pharmacological and non-pharmacological interventions. The decision to prescribe a psychotropic agent never implies that psychological and/or psychosocial interventions are not indicated. Evidence has consistently shown that combining medicines with psychosocial interventions tends to be associated with better outcome. Consequently, health care providers should not passively consider medications as their only therapeutic strategy, and patients should not be given a message suggesting that modifications of thought, mood and conduct can be achieved by pharmacological means only. Articulated, comprehensive and individualized treatment plans may represent the best therapeutic option.

1.4 In general, prescriptions should not be issued before a detailed clinical assessment is completed, and before having explored the psychological mechanisms underlying symptoms.

1.5 It should be clear to the patient that the treatment is for a pre-planned period of time. This period may be related to the pharmacological properties of the drugs employed and/or to the condition under treatment.

1.6 Titration of most pharmacological treatments for mental disorders should be done gradually, especially in the elderly and in patients with concomitant medical illnesses. The minimum effective dose should be prescribed, based on an assessment both of how much of it is required to affect the target symptoms and of the patient's social, psycho- logical and

[207] World Health Organization. (2009). Pharmacological treatment of mental disorders in primary health care. Washington, D.C.: Pan American Health Organization.

geographical situation, i.e., a patient from a rural area who must make an arduous journey to obtain treatment will require a larger supply than one with easier access to a pharmacy.

1.7 The dosages listed in this publication are mainly based on data available from western countries and health care providers prescribing psychotropic medicines for their patients in other parts of the world should be aware of inter-individual as well as ethnic differences in drug metabolism. Health care providers should always consult the national or local prescribing information or instructional material. The term “milligrams” has been abbreviated in mg throughout the text.

1.8 Patients should be informed of possible side-effects, and should also be informed about possible measures to manage them, i.e., reduction in the dose, reassurance that some of these side-effects are temporary.

1.9 Health care providers should be aware of all the substances, both medical and non-medical, being taken by the patient and the possible interactions. For example, alcohol and benzodiazepines should not be taken concurrently.

1.10 Health care providers should be aware that some pharmacological treatments for mental disorders are under international control. The use of medicines under international control is regulated by the Convention on Psychotropic Substances, 1971 (United Nations). In addition to international control, the use of some medicines may be under national control. Health care providers must be aware that international, national, regional and local drug regulations have to be strictly followed.

1.11 Health care providers should regularly monitor drug use, and should specifically ask how much of the medicine has been taken. It is commonplace that patient adherence to treatment varies.

1.12 In the choice of a specific medicine, health care providers should consider the avail- ability and continuity of supply. In situations where continuity of supply of a medicine is likely to be interrupted, its use should be avoided.

1.13 Health care providers should be aware that a history of previous suicidal thoughts or attempts are important indications of possible suicidal behavior. Such patients should be specifically asked about suicide and, if it is a possibility, health care providers must limit the amount of medicines prescribed and should also construct a regimen in which there is frequent clinical monitoring and also monitoring by family members and friends.

1.14 Health care providers should always take a history of substance abuse, including abuse of psychotropic medication. This information should be taken into consideration when considering the prescription of psychotropic medication.

1.15 Psychotropic drug discontinuation should be done gradually (25% of the dose per week).

1.16 In general, polypharmacy should be avoided. The term polypharmacy defines the concurrent use of two or more medicines belonging to the same pharmacological class (for example two or more antipsychotics or two or more antidepressants).

Guidelines for the identification and management of substance use and substance use disorders in pregnancy

Overarching principles

These overarching principles are proposed to provide guidance in the process of planning, implementing and evaluating the most suitable and relevant recommendations according to the national contexts and available resources.

I. **Prioritizing prevention.** *Preventing, reducing and ceasing the use of alcohol and drugs during pregnancy and in the postpartum period are essential components in optimizing the health and well-being of women and their children*.

This effort requires a multifaceted approach with multidisciplinary actions, including the right to accurate information about the risks of alcohol and drug use in pregnancy, a health-care system that implements prevention strategies and supports healthy choices about substance use among women of childbearing age, and health promotion efforts encouraging a healthy home and social environment, supporting pregnant women and their partners in making healthy choices about their substance use and protecting from pressures to drink alcohol or use drugs.

II. **Ensuring access to prevention and treatment services.** *All pregnant women and their families affected by substance use disorders should have access to affordable prevention and treatment services and interventions delivered with a special attention to confidentiality, national legislation and international human rights standards; women should not be excluded from accessing health care because of their substance use.*

Health-care services should be able to identify and manage substance use and substance use disorders in pregnancy. Substance use disorders should be identified by the health-care system at the earliest opportunity and quality, affordable and accessible treatment offered. Specialized services for women with substance use disorders should be recognized as an important component of the health system and need to be available proportional to the clinical need. Health-care services for women with substance use disorders should take into consideration the childcare needs of women when considering the accessibility of their services. Confidentiality, a fundamental right of every health-care user, is also affected by the organization of services.

III. **Respecting patient autonomy.** *The autonomy of pregnant and breastfeeding women should always be respected; women with substance use disorders need to be fully informed about the risks and benefits, for themselves and for their fetuses or infants, of available treatment options, when making decisions about their health care.*

Patient autonomy and patient-centred care are crucial components of health-care services for pregnant women. Treatment decisions should be based on accepted principles of medical care ethics, respecting a women's autonomy in decisions related to her care and the health of her fetus, and her right to privacy and confidentiality when discussing treatment options. It is essential to provide clear, accurate and consistent information to pregnant and breastfeeding women about the risks of alcohol and drug use, and all women with substance use disorders should have access to information about effective contraception.

IV. **Providing comprehensive care.** *Services for pregnant and breastfeeding women with substance use disorders should have a level of comprehensiveness that matches the complexity and multifaceted nature of substance use disorders and their antecedents.*

Comprehensive services for pregnant and breastfeeding women include a range of gender-sensitive prevention and treatment interventions that can respond to multiple needs, including childcare needs, comorbid mental and concurrent medical conditions, blood borne and other infectious diseases, poor diet and psychosocial problems such as relationships with a partner/other people living in the same household, homelessness, poverty and violence. Comprehensive services that offer a continuity of care are generally much easier for vulnerable groups to access.

V. **Safeguarding against discrimination and stigmatization.** *Prevention and treatment interventions should be provided to pregnant and breastfeeding women in ways that prevent stigmatization, discrimination, marginalization, and promote family, community and social support as well as social inclusion by fostering strong links with available childcare, employment, education, housing and other relevant services.*

Health-care providers should seek to establish a clinician-patient relationship without discrimination or stigmatization. All important information about the risks of substance use and the benefits of treatment should be communicated in a non-judgmental, respectful, non-stigmatizing and empathic manner, sensitive to age, culture and language differences. All important information has to be provided verbally, as well as in writing, at reading and comprehension levels that are congruent with the patient's level of literacy. Health-care providers should respond to disclosure of private and distressing information (e.g. gender-based violence or self-harm) with sensitivity.

Pharmacological agents to address drug use disorders

Pharmacological agents are one of several elements available to help people with drug use disorders. They can be prescribed only by some health care professionals, but should be used as part of a comprehensive multidisciplinary treatment plan, and not as the only intervention or service given to people with drug use problems.[208] A number of medications require careful handling, taking into account their potential benefits as well as possible side effects and interactions both with other medication and with alcohol, tobacco and other drugs.

Medicines are available today that may be of use in the management of alcohol, tobacco and drug use disorders. Depending on the circumstances in each country, some are available under different commercial brands and presentations. The information given here is simply for reference purposes. It is the responsibility of the health care staff to prescribe specific medication, and to keep themselves current on different medicines.

Acamprosate. This is a GABA analogue that has a modulating effect on the glutamate system by means of NMDA. It is associated with a reduction in symptoms of stopping or cutting down on alcohol, such as anxiety, agitation, and insomnia.[209] A number of studies have shown the effectiveness of acamprosate when compared to placebo. A meta-analysis of 20 clinical trials that include 4,087 patients reported higher rates of stopping alcohol use[210] in people treated with acamprosate at three, six and twelve months. The recommended dosage[211] is 1998 mg/day, three times a day, preferably before eating; stable plasma levels are achieved after seven days' use. The treatment normally lasts for more than one year. Its effectiveness increases when combined with naltrexone[212] or disulfiram.[213] Side effects such as diarrhea and vomiting have been reported in the initial days of treatment, and altered sexual desire. These effects tend to disappear during the course of the first two weeks.

[208] Power ,E., Nishimi, R., & Kizer, K. (2005). *Evidence-Based Treatment Practices for Substance Use Disorders. National Quality Forum*: Washington, DC

[209] Clinical Addiction Research and Education Unit Section of General Internal Medicine. (2006). Pharmacotherapy for Alcohol Dependence. Boston University Schools of Medicine and Public Health, available at: http://www.bu.edu/act/mdalcoholtraining/related_curricula.html, accessed April 22, 2016.

[210] Mann, K., Lehert, P., & Morgan, M. (2004). The efficacy of acamprosate in the maintenance of abstinence in alcohol-dependent individuals: results of a meta-analysis. *Alcohol Clin Exp Res*, *28* (1), 51 – 63.

[211] Arias, F. & Ochoa, E. (2010). Guía Farmacológica Específica en Adicciones. In: C. Pereiro (ed). *Manual de Adicciones para médicos especialistas en formación* (pp. 733 – 774). Madrid, Spain: SOCIDROGALCOHOL.

[212] Kiefer, F.& Wiedemann, K. (2004). Combined therapy: what does acamprosate and naltrexone combination tell us? *Alcohol*, *39* (6), 542 – 547.

[213] Besson, J., Aeby, F., Kasas, A., Lehert, P., & Potgieter, A. (1998). Combined efficacy of acamprosate and disulfiram in the treatment of alcoholism: a controlled study. *Alcohol Clin Exp Res*, *22* (3), 573 – 579.

Bupropion. To stop smoking, it is recommended that the treatment begin one or two weeks before the day chosen for stopping smoking, with an initial dose[214] of 150 mg/day for six days, followed by 300 mg/day (in two separate doses taken at an interval of eight hours to prevent excessive concentration of plasma). The treatment usually lasts for 7-12 weeks from the day chosen for stopping smoking. One of the reported benefits is that treatment with bupropion may help control possible weight gain due to quitting smoking.[215] Taking bupropion at night should be discouraged because it may cause sleep disorders. Caution should be exercised because of possible pharmacological interactions with other drugs that might lower the seizure threshold: antipsychotics, antidepressants, antimalaria drugs, tramadol, theophylline, systemic steroids, quinolones, and sedating antihistamines.

It has been demonstrated that bupropion is effective in reducing tobacco withdrawal symptoms.[216,217] A controlled trial found that treatment with bupropion helped reduce the symptoms of cannabis withdrawal in chronic users.[218]

Disulfiram. Is considered to be an *antidipsotropic* medication since it inhibits aldehyde deshydrogenase (ALDH) in the liver and inhibits the metabolism of ethanol. The dose usually recommended[219] is 250 mg/day, although some patients may require 400–500 mg/day.[220] The therapeutic effect begins 12 hours following administration, and lasts for up to three days after stopping drinking. The usual route of administration is oral. It is suggested that this treatment scheme be maintained for 6-12 months. Disulfiram has not been shown to produce higher rates of stopping drinking, but rather fewer days of drinking, depending on the adherence to treatment.[221]

Methadone. Potent opioid agonist with a half-life of 15-48 hours. It is well absorbed by mouth. Because of its pharmacological characteristics, it suppresses the opioid withdrawal syndrome for a long period of time. The dosage should be prescribed on an individual basis, bearing in mind that 1 mg of heroin is the equivalent of 1 mg of methadone. The prescription therefore normally ranges from 60-100 mg/day, with a recommended initial dose of 20-30 mg/day and

[214] Arias, F. & Ochoa, E. (2010). Guía Farmacológica Específica en Adicciones. In: C. Pereiro (ed.). *Manual de Adicciones para médicos especialistas en formación (*pp. 733 – 774). Madrid, Spain: SOCIDROGALCOHOL.
[215] For, A. F., et al. (2011). Tolerancia y perfil de efectos secundarios de bupropión. *Actas Esp Psiquiatr, 39* (Supl. 2), 20 – 26.
[216] Hurt, R. D., Sachs, D. P., Glover, E. D., et al. (1997). A comparison of sustained-release bupropion and placebo for smoking cessation. *N Engl J Med*, *337* (17), 1195 – 1202.
[217] Jorenby, D. (2002). Clinical efficacy of bupropion in the management of smoking cessation. *Drugs, 62* (2), 25 – 35.
[218] Penetar, D., Looby, A., Ryan, E., Maywalt, M., & Lukas, S. (2012). Bupropion Reduces Some of the Symptoms of Marihuana Withdrawal in Chronic Marihuana Users: A Pilot Study. *Substance Abuse: Research and Treatment*, *6*, 63 – 71.
[219] Rodríguez-Martos, A. (2006). Disulfiram y cianamida cálcica. In: *Tratado SET de Trastornos Adictivos. Sociedad Española de Toxicomanías, Colegio Iberoamericano de Trastornos Adictivos (*pp. 420 – 421). Madrid.
[220] Arias, F. & Ochoa, E. (2010). Guía Farmacológica Específica en Adicciones. In: C. Pereiro (ed.). *Manual de Adicciones para médicos especialistas en formación (*pp. 733 – 774). Madrid, Spain: SOCIDROGALCOHOL.
[221] Fuller, R. & Gordis, E. (2004). Does disulfiram have a role in alcoholism treatment today? *Addiction*, 99, 21 – 24.

then adjustments should be made to the dosage.[222] A dose that initially may appear to be ineffective may, if not properly monitored and controlled, become toxic because of accumulation in body tissues.[223] Methadone treatment should be part of a comprehensive management program of psychosocial support for people who use drugs. Should not be used to reinforce or punish patients' behaviors.[224] It is very important to provide full information on the benefits and possible risks for people in treatment, particularly with regard to intoxication in cases of poly-use of Central Nervous System depressants.

Nalmefene. Opioid antagonist with a chemical structure and activity similar to that of naltrexone. It has only recently become available, and is still being investigated. It has demonstrated effectiveness and safety. The recommended dose is 20-80 mg per day for the treatment of alcohol use disorders.

Naloxone. Opioid antagonist that binds to the mu (μ), delta (δ) and kappa (κ) receptors, and its action is therefore fairly rapid when injected into a muscle, or given intravenously or subcutaneously (approximately 2-3 minutes). It is not administered by mouth, due to the hepatic first pass metabolism. It is given principally to reverse respiratory depression due to opioid overdose; generally speaking, 1 mg of naloxone blocks the effect of 25 mg of heroin, although only for a short time. For other compounds such as methadone, buprenorphine or pentazocine, larger doses are required. The recommended dosage is 0.4-2 mg intravenously in adults and 0.01 mg/kg by weight in children.[225] A failure to respond after being given naloxone is considered to be a diagnosis that excludes opioid intoxication.

Naltrexone. Antagonist, with a long half-life, which displaces opioids from receptors to which they have bound. Should be given with caution, since this can precipitate severe, acute withdrawal symptoms if administered in persons who have not completely cleared opioids from their system; it should also be considered that patients who have received this treatment will have reduced tolerance to opioids, and hence subsequent exposure to previously tolerated or even smaller amounts of opioids may result in overdose.[226] The recommended dosage is 50 mg/day by mouth. It should be given alongside measures to improve adherence to treatment, as part of a comprehensive treatment program. Liver function should be monitored, particularly

[222] Fernández, J. (2006). Metadona; Programas de Mantenimiento con Metadona (PMM). In: *Tratado SET de Trastornos Adictivos. Sociedad Española de Toxicomanías, Colegio Iberoamericano de Trastornos Adictivos* (pp. 424 – 425). Madrid.
[223] SAMHSA. (2016). Medication-Assisted Treatment of Opioid Use Disorder; Pocket Guide. Substance Abuse and Mental Health Services Administration: Rockville. Available at: http://store.samhsa.gov/product/SMA16-4892PG?print=true
[224] Fernández, J., Gutiérrez, E., & Bobes, J. (2003). Tratamientos de mantenimiento con metadona. In: *Manual de evaluación y tratamiento de drogodependencias*. Barcelona.
[225] Moro, M. & Leza, J. (2003). Opiáceos (I). Farmacología. Intoxicación aguda. In: P. Lorenzo, J. M., Ladero, J. C., & Leza, I., Lizasoain. *Drogodependencias (*pp. 83 – 101). Madrid, Spain: Editorial Médica Panamericana.
[226] SAMHSA. (2016). Medication-Assisted Treatment of Opioid Use Disorder; Pocket Guide. Substance Abuse and Mental Health Services Administration: Rockville. Available at: http://store.samhsa.gov/product/SMA16-4892PG?print=true

when baseline hepatopathy is present. However, it is generally fairly safe, and no significant adverse hepatic effects have been reported with normal doses.[227]

Nicotine. It has been reported that in people who smoke, the plasma concentrations of nicotine range from 10 to 40 ng/mL, and that prescribed nicotine products, that reach levels of between 5 and 15 ng/mL, symptoms of nicotine withdrawal can be avoided or prevented.[228,229] Given the various types of nicotine replacement products available, there is general agreement on the following prescribing guidelines or recommendations:[230,231]

Recommended guidelines for prescribing nicotine replacement therapy (NRT)				
Determinations		Therapeutic options		
Cigarettes smoked per day	Score on Fagerström scale	Chewing gum (lozenge)	24 hour patch	16 hour patch
10-19	≤3	2 mg; 8-10 pieces/day for 8-10 weeks	21 mg for 4 weeks 14 mg for 4 weeks	15 mg for 4 weeks 10 mg for 2-4 weeks
20 – 30	4 - 6	4 mg every 90 minutes for 12 weeks	21 mg for 6 weeks 14 mg for 4 weeks 7 mg for 2 weeks	15 + 10 mg for 6 weeks 15 mg for 4 weeks 10 mg for 2 weeks
More than 30	≥ 7	4 mg every 60 minutes for 1-2 weeks	21 mg for 6 weeks 14 mg for 4 weeks 7 mg for 2 weeks	15 + 10 mg for 6 weeks 15 mg for 4 weeks 10 mg for 2 weeks

These guidelines should be taken simply as recommendations, since an individual assessment should always be done. The pharmacological treatment should also be supplemented with

[227] Arias, F. & Ochoa, E. (2010). Guía Farmacológica Específica en Adicciones. In: C. Pereiro (ed.). *Manual de Adicciones para médicos especialistas en formación (*pp. 733 – 774). Madrid: SOCIDROGALCOHOL.
[228] Hughes, J., Stephen, A., & Miller, M. S. (1984). Nicotine gum to help stop smoking. *JAMA*, *252*, 2855 – 2858.
[229] Jarvis, M. (1992). The treatment of tobacco dependence. In: Proceedings of the Smoking Cessation Consensus Meeting. Smoking Cessation. *Scientific Meeting*, 6-7.
[230] Jiménez, R. C. A., Solano R. S., González D. J. M., Ruiz, P. M. I., Flórez, M. S., Ramos, P. A., et al. (1999). Normativa para el tratamiento del tabaquismo. *Arch Bronconeumol, 35*, 499 – 506.
[231] Jiménez, R. C. A., Ayesta, J., Planchuelo, M. A., Abéngozar, R., Torrecilla, M., Quintas, A. M., et al. (2001). Recomendaciones de la Sociedad Española de Especialistas en Tabaquismo para el tratamiento farmacológico del tabaquismo. *Prev Tab*, *3*, 78 – 85.

comprehensive psychosocial interventions. A comprehensive assessment should be made, particularly of people in special situations, such as pregnant or breastfeeding women, people with heart disease, and so forth.

Topiramate. The use of this anticonvulsant to treat drug use disorders has been the subject of considerable study. Caution should be exercised when using topiramate due to the risk of adverse cognitive effects. It acts as an antagonist of the AMPA kainate receptor and agonist of the $GABA_A$ receptor. Its effectiveness with alcohol and cocaine dependence, impulse control, and borderline personality disorder has been documented. The recommended dosage[232] is to begin with 25 mg/day, gradually increasing by 25 mg per week until a maintenance dose of 300 mg/day is reached. The effectiveness of topiramate as an adjuvant treatment has been documented, compared to placebo, in reducing the number of days of alcohol use.[233] A meta-analysis[234] found that the best results were achieved for stopping drinking or reduction in heavy drinking.

Varenicline. Selective partial agonist of the nicotinic receptors de las neurons of the ventral tegmental area (VTA).[235] This means that like nicotine, it has the capacity to stimulate the receptor but without producing the same effects. It has been reported that, compared to placebo, use of varenicline triples the possibility of success at one year of follow-up, and is more effective than bupropion in helping stop tobacco use.[236] To use it,[237] a date should be chosen when the person will stop smoking, and one week earlier, begin with 0.5 mg/day for the first three days, and then 0.5 mg twice a day for the following four days. At the beginning of the second week (when smoking stops) the dose is increased to 1 mg in the morning and 1 mg in the evening. For those who experience problems with the higher dose, a lower dose may be used during the effort to stop smoking. Should continue to be given for 12 weeks, and in some cases, a reinforcement therapy may be used for 12 weeks more. Better results are obtained if the person who is stopping smoking has the support of family and friends. Should be used with caution in patients with a history of mood disorders, suicide attempts and other psychiatric disorders.

[232] Arias, F. & Ochoa, E. (2010). Guía Farmacológica Específica en Adicciones. In: C. Pereiro (ed.). *Manual de Adicciones para médicos especialistas en formación (*pp. 733 – 774). Madrid: SOCIDROGALCOHOL.
[233] Johnson, B.A., Ait-Daoud, N., Bowden, C. L., DiClemente, C. C., Roache, J. D., Lawson, K., Javors, M. A., & Ma, J. Z. (2003). Oral topiramate for treatment of alcohol dependence: a randomised controlled trial. *Lancet, 361*, 1677 – 1685.
[234] Blodgett, J., Maisel, N., & Finney, J. (2014). A meta-analysis of topiramate's effects for individuals with alcohol use disorders. *Alcohol Clin Exp Res*; *38* (6), 1481 – 1488.
[235] Díaz-Maroto, J. L. & Jiménez, C. (2008). Tratamiento farmacológico del tabaquismo. *Inf Ter Sist Nac Salud*, *32*, 71 – 82.
[236] Cahill, K., Stead, L. F., & Lancaster, T. (2007). Nicotine receptor partial agonist for smoking cessation. *Cochrane database of systematics reviews*. Issue 1 Art No CD006103.
[237] American Cancer Society. *Deciding to Quit Smoking and Making a Plan*. Available at: www.cancer.org/healthy/stay-away-from-tobacco/guide-quitting-smoking/deciding-to-quit-smoking-and-making-a-plan

Advanced Psychosocial Interventions[238]

Psychoeducation

- Disorders due to substance use can often be effectively treated, and people can and do get better.
- Discussing substance use can bring about feelings of embarrassment or shame for many people. Always use a non-judgmental approach when speaking with people about substance use. When people feel judged, they may be less open to speaking with you. Try not to express surprise at any responses given.
- Communicate confidently that it is possible to stop or reduce hazardous or harmful alcohol use and encourage the person to come back if he or she wants to discuss the issue further.
- A person is more likely to succeed in reducing or stopping substance use if the decision is their own.

Motivational Interviewing (Brief Intervention)

Brief interventions using motivational interviewing is an approach to discussing substance use in a non-judgmental way. It encourages a person to reflect on their own substance use choices. It can be used as part of a very brief encounter for addressing risks or harmful substance use. It can also be used as part of a longer discussion that takes place over several sessions that address dependent patterns of substance use; this is referred to as Motivational Enhancement Therapy.

Throughout the discussion it is important to include all parts of the process: expressing empathy and building an atmosphere of trust, while also pointing out contradictions in their narrative, and challenging false beliefs. Avoid arguing with the person. They should feel that the practitioner is there to support them and not to criticize them. If the person is unable to commit to ending their harmful pattern of substance use at this time, discuss why this is the case, rather than forcing the person to say what they think is expected.

Techniques for more in depth discussions:

1. Provide personalized **feedback** to the person about the risks associated with their pattern of substance use, whether or not they have a pattern of HARMFUL USE or DEPENDENCE, and the specific harms they may be experiencing or causing to others.

[238] World Health Organization. (2016). *mhGAP intervention guide for mental, neurological and substance use disorders in non-specialized health settings: mental health Gap Action Programme (mhGAP)–version 2.0*. World Health Organization.

2. Encourage the person to **take responsibility** for their substance use choices, and the choice of whether or not to seek assistance for their substance use. Do this by asking them how concerned THEY are about their substance use.
3. Ask the person the **reasons for their substance use**, including as a response to other issues such as mental health problems or specific stressors, and the perceived benefits they have from substance use, even if only in the short term.
4. Ask about their perception of both the positive and negative **consequences of their substance use** and, if necessary, challenge any overstatement of the benefits and understatement of the risks/harms.
5. Ask about the person's **personal goals**, and whether or not their substance use is helping them or preventing them from reaching these goals.
6. Have a **discussion** with the person based on the statements about their substance use, its causes, consequences and their personal goals, allowing exploration of apparent inconsistencies between the consequences of substance use and the person's stated goals.
7. **Discuss options** for change based on the choice of realistic goals and try to find a mutually agreed course of action.
8. **Support the person to enact these changes** by communicating your confidence in them to make positive changes in their life, by provide information on the next steps as needed (further review, detoxification, psycho-social support), and by providing the person with take-home materials if available.

Examples of questions to ask. Non-judgmentally elicit from the person their own thoughts about their substance use by asking the following questions:
Reasons for their substance use. (Ask: "Have you ever thought about why you use [substance]?")
What they perceive as the benefits from their use. (Ask: "What does [substance] do for you? Does it cause you any problems?")
What they perceive as the actual and potential harms from the substance use. (Ask: "Has [substance] use caused you any harm? Can you see it causing harm in the future?")
What is most important to the person. (Ask: "What is most important to you in your life?")

Strategies for Reducing and Stopping Use

Steps to reducing or stopping the use of all substances: If the person is interested in reducing their substance use, discuss the following steps with them.

- Identify triggers for use and ways to avoid them. For example: pubs where people are drinking or areas where the person used to obtain drugs, etc.

- Identify emotional cues for use and ways to cope with them (i.e. relationship problems, difficulties at work, etc.).
- Encourage the person not to keep substances at home.

Mutual Help Groups

Mutual help groups such as Alcoholics Anonymous, Narcotics Anonymous, or Smart Recovery can be helpful referrals for persons with disorders due to substance use. They provide information, structured activities, and peer support in a non-judgmental environment. Find out what mutual help groups are available locally.

Strategies for Preventing Harm from Drug Use and Treating Related Conditions

- Encourages the person to engage in less risky behavior.
  – Advise not to drive if intoxicated.
  – If the person uses opioids, provide intramuscular or intranasal naloxone for family members, which family members can keep and use if the person has overdosed while waiting for help to arrive or *en route* to hospital.

If the person injects drugs:

- Inform the person about the risks of intravenous drug use, which include: being at higher risk of infections such as HIV/AIDS, Hepatitis B and C, skin infections that can cause septicemia, endocarditis, spinal abscesses, meningitis, and even death.
- Considering that the person may not stop injecting drugs right away, provide information on less risky injection techniques. Emphasize the importance of using sterile needles and syringes each time they inject and to never share injecting equipment with others.
- Provide information on how to access needle and syringe exchange programs where they exist or other sources of sterile injection equipment.
- Encourage and offer, at minimum, annual testing for blood-borne viral illnesses, including HIV/AIDS and Hepatitis B and C.
  – Encourage Hepatitis B vaccination
  – Ensure condom availability
  – Ensure availability of treatment for people with HIV/AIDS and hepatitis

Treatment of co-morbidities:

- Have a low threshold for screening for TB in people who have disorders due to substance use.
- Consider investigations for and treatment of sexually transmitted diseases.

Carer support

Supporting family and carers:

- Discuss the impact of disorders due to substance use on other family members, including children, with the person's family and/or carers.
- Provide information and education about disorders due to substance use.
- Offer an assessment of their personal, social, and mental health needs. Offer treatment for any priority mental health disorders.
- Inform them about and help them access support groups for families and carers (if available) and other social resources.

CLINICAL TIP:

HIV/TB/HEPATITIS and SUBSTANCE USE

- People who inject drugs are at increased risk of HIV/AIDS and hepatitis, particularly if they do not use sterile injection equipment or have unsafe sex in exchange for drugs; once infected, they also have a worse prognosis. HIV/AIDS also increases the risk of TB infection, and active TB is a main cause of death in people living with HIV/AIDS. People who use alcohol and drugs heavily are also at increased risk for TB. Therefore, a common presentation is of a person who has a combination of drug use, particularly i.v. heroin use, and infection with TB, HIV/AIDS, and hepatitis at the same time.

- Services that treat people who use drugs and alcohol should regularly test all people who inject drugs for HIV/AIDS and hepatitis, and should have a high level of suspicion for TB in any person with a cough, fever, night sweats, or weight loss.

- Treatment of HIV/AIDS and TB requires taking daily medications, where every single day is important. Directly observing the treatment can improve treatment adherence. If the person is also opioid dependent, providing daily observed methadone or buprenorphine treatment at the same place and time will further facilitate treatment adherence.

- Hepatitis treatments occur daily or weekly. Patients with Hepatitis B or C should be advised to avoid alcohol completely.