REFERENCE HANDBOOK FOR SUBSTANCE ABUSE

THE EDUCATIONAL MATERIALS FOR SUBSTANCE ABUSE PREVENTION PROJECT

EDU MAP

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Introduction

When talking about substance use, it is usually referred to the consumption of substances like alcohol, drugs or other chemicals that can change the way we think and feel. Because they can alter thoughts and perceptions, these substances are described as “psychoactive” (Greń, Ostaszewski, and Wieczorek, 2022).

Abusing drugs in school is in general not a very common thing. Cases like these may be part of a wider pattern of behavioral problems, which should be therefore taken into account when trying to prevent drug abuse. Really finding out the cause for this behavior is a better way than just treating substance abuse in isolation.

Furthermore, puberty in general is a very difficult phase in the life of a human being. With it comes changes in body, mind and behavior. It is also usually during this period that most people have their first contact with alcohol, cigarettes and in generic drugs.

This Reference Handbook for Substance abuse offers schoolteachers, youth workers, social workers and other professionals, who work with students, a comprehensive, educational approach on the subject of substance use, abuse and dependence, emphasizing on prevention.

1 Chapter I: Dependence, abuse, and addiction

Different substances have their own effects and risks on the body and mind. Due to the potential for harm, the use of some legal substances, like alcohol and tobacco products, is restricted to adult use only. Illegal street drugs will always have additional risks because their contents cannot be fully known. There are different reasons as to why people use substances and the harms related to substance use can vary from low risk to negative impact on the user's life (Santangelo, Provenzano and Firenze, 2022).

The use of alcohol, tobacco, and other substances is one of the biggest problems of adolescence because this is the period when important physical, emotional, behavioral, and other changes take place, which determine one or another way of lifestyle (Stangor, Walinga, 2019). Teens are very sensitive to their environment; they can easily give in to peer pressure and stereotyping in the media. One of the main social tasks becomes the search for their identity. Without proper care or having a well-organized free time, teenagers can experience role confusion in which they are balancing, or even take on negative identity, or even give up on the process altogether (Stangor, Walinga, 2019).

There are many reasons that encourage adolescents to use substances: it can be psychological factors, such as low self-esteem, lack of communication and other social skills, loneliness, lack of coping skills, curiosity, boredom, the desire to experience a state of intoxication, and just wanting to fit in (Gonzales, 2022).

1.1 Why is this issue relevant?

Substance misuse among young people is becoming a dangerous social phenomenon: the supply and use of various types of psychoactive substances has become widespread.

Compared to adults, young people are more likely to experiment with various substances and to develop dependence. It has been proven that the human brain continues to develop until the early 20s, and the development of

reward/motivation and emotional circuits are the last ones to develop (Giedd, 2008). Some young people try substances out of curiosity, but some choose it as a means of calming down or protesting, without finding a suitable way out of a difficult situation. Therefore, in order to promote a healthy lifestyle, it's important to address young people's emotional and social needs.

Children and young people don't always have the necessary skills to control themselves while going through crises, so they look for spiritual closeness between close and beloved people. Without finding help and understanding, they try to save themselves with all kinds of stimulants – alcohol, and drugs.

Therefore, the help of others is important for such young people. Specially trained parents, educators, and psychologists can help such people a lot. It is important for parents and educators to raise a child in such a way that he resists various addictions. Thus, the goal of modern pedagogy is to develop the will of young people to be able to resist drugs and say "No". While providing substance abuse prevention to students, the key is to provide children with information and practical knowledge about the risk of using psychoactive substances, motivate them to change their habits and social circles, and encourage them to ask for support when needed.

1.2 Where does the tendency to bad habits come from?

A risky lifestyle is strongly associated with the expression of some personality traits. There are even certain personality types in which the dominant trait determines the lifestyle of the personality, but not only the extremes of personality types classified as mental disorders determine certain behaviors. It has been observed that some traits that are more dominant in each personality can define or predict the probability of his behavior. There are many such traits: impulsivity, aggressiveness, openness to new experiences, extroversion, restlessness, etc. Thus, the dominance of certain personality traits, as well as the way of spending free time, can lead to a greater tendency

of a teenager to get involved in the use of alcohol and other addictive substances.

One of the most widely discussed issues is the characteristics of the addicted personality of teenagers. It is tried to find out if there are such personality traits that influence the use of alcohol or other drugs. It is difficult to distinguish whether certain personality traits are the cause of the abuse or are the consequence of substance abuse. The following personality traits that affect the tendency to alcohol or other drugs are most often mentioned:

- Feelings of anxiety and insecurity related to identity search. Depression.
- Psychological immaturity and infantilism. Emotional dependence on other people.
- Desire to avoid or ignore problems, inability to solve them, use of unrealistic solutions.
- Rebelliousness and impulsiveness, the desire to stand out and deny established values. The desire for independence.
- Pursuit of pleasant experiences and full devotion to them.
- Constant feelings of inferiority and feelings of inadequacy. Low self-esteem.

First acquaintances with drugs are very diverse. Until the age of 11, alcohol and/or tobacco products are tried out of curiosity, from the age of 14 - 15, the motivation to use drugs can be for the sake of "company". As a result, there is a risk that the desire to try can turn into an addiction.

Drug abuse is accompanied by psychological dependence. It is smoking in certain situations. Like when meeting friends, after a meal, after experiencing stress, etc. The psychological emergence of drug use is caused by the positive social availability, fashion, and attractiveness of drugs, which complicates the very process of resisting drugs.

Research suggests that consumption of a single type of substance is rare, and many adolescents use multiple substances, referred to as polysubstance use

(Moss et al., 2014). Therefore, alcohol and tobacco use in adolescents can ease the process of trying illegal substances.

1.3 What threats and dangers lurk in the social relationships of teenagers?

Each period of a person's life has certain typical features that change and shape a person's personality. The process of maturation and development between childhood and youth is adolescence. During adolescence, relationships with adults, friends, and the environment are important. Adolescence is a crisis of identification with the group and separation. A teenager has to come to terms with the fact that he is becoming an adult and find his own lifestyle. He needs to adapt to changes in society and new views.

In adolescence, there is a lot of imitation, but the pursuit of originality and individuality is also clear. Teens are no longer content to shape their image by immediately perceived models, but look for local or distant heroes, and worship and imitate them. An ideal of such a person is created. Imitating some of the actions of adults, and inappropriate traditions, and in order to establish themselves, teenagers start smoking, drinking alcoholic beverages, or intoxicating themselves with various psychotropic substances, and recently it has become fashionable to try illegal narcotic substances. In adolescence, there is often a distancing from adults, and a weakening of interpersonal relationships, as a result of which adults' instructions are critically assessed, and an attempt is made to find oneself. This is the period when a teenager wants to be an adult. Often, during this period, it is believed that parents restrict freedom, and people start looking for their place in life.

A teenager who does not adapt to class or school looks for a way out of these conflicts and relaxation in informal communication with friends and often experiences their negative influence. A specific feature of teenagers is revealed - dependence on the group. Therefore, it is not surprising that at this age teenagers usually start smoking daily, use alcohol, inhalants, tranquilizers (especially girls) more often, and try illegal drugs. Teenagers of this age have

already a formed attitude towards drugs, although this attitude is not always correct. They can overrate their physical and emotional state, and other risks associated with substance abuse. Therefore, it is very important during this period to help the teenager understand that drug use and various experiments can cause many problems, which can have a huge impact on their future plans.

The formation of dependent relationships is highly dependent on the social relationships of a person. If a person does not have support, help, and understanding in the family when communicating with friends, and those around him, if this communication and relationship do not bring him pleasure - the probability of developing pathological dependent relationships with events or objects is high. A natural relationship is based on emotional connections, habituation is based on emotional isolation. A natural relationship is a give and take, and habituation is only a take. Addiction begins to control the entire inner world of a person more and more. A feeling of shame gradually develops, which reduces self-confidence, self-control, and self-respect. The dependent personality begins to create what the person initially avoided - pain. By creating pain, it also creates the need to relieve that pain, i. e. addiction. A dependent personality has its own feelings, mindset, and behavior. Feelings that cause discomfort are a signal to act.

1.4 What can and should the school do?

Prevention of drug use at school is the only effective method of primary prevention to form the necessary attitudes and develop healthy life skills that would help a teenager, and young people to make the right decision and realize that it is better not to start.

The main goals of preventive activities that protect the public from drug use and risky behavior:

- teach parents, young people, and teachers how to protect children, teenagers, and young people so that they do not start using narcotic and psychotropic substances;
- to help families and young people facing this problem.
- promote positive relationships in the family, community, and society.

It is appropriate to implement complex prevention programs for alcohol, smoking, and other drugs in schools. Greater attention should be paid to the following areas of activity: the formation of schoolchildren's negative attitude toward drug addiction, increasing the busyness of schoolchildren, and raising the qualifications of pedagogues.

At school, preventive education must include students of all classes and must be differentiated according to their age. Young people need to know:

- chemical composition of drugs.
- how alcohol and drugs affect the nervous system, internal organs, sexual function, etc.
- what are the effects of long-term drug use;
- meaning of physical and mental addiction to alcohol and drugs;
- how alcohol and drug use affect certain human behavior.

In order to protect teens from alcohol and other drug use, it is necessary to help them acquire knowledge and skills that would help them resist social pressure, which is why the development of social skills (self-awareness, ability to communicate) and the development of motivation is necessary.

In order to ensure the successful protection of teens from narcotic substances, it is necessary to provide adequate information about narcotic substances, taking into account the age of teens, the real situation, and, especially important, introducing teens to the consequences of using narcotic substances.

Behavioral models and emotional support from adults are very important for teenagers. It is important to strengthen the motivation that would strengthen the avoidance of using narcotic substances. The most important factor would

be to place the influence of adults on the influence of peers, to promote confidence and self-satisfaction.

When organizing preventive work at school, it is important to take into account the real situation both in the city and at the school itself. It is important that prevention programs cover all forms of intoxication, from smoking and alcohol to strong drugs. It is very relevant to form students' ability and preparation to resist social pressure to use narcotic substances. It is necessary that the preventive programs are long-term and involve the youth themselves because such programs are considered the most effective and the most justified.

It is likely that every teacher sooner or later will have to deal with students who use narcotic substances, so it is very important for the teacher to be able to identify such a student and be able to provide him with the necessary help. It is not easy for a teacher to recognize a student who uses narcotic substances, the teacher's guesses can be confirmed or denied by the student's certain behavior, that is, if the student's mood suddenly changes, he is apathetic, depressed, unusual irritation or aggression appears, interest in studies, sports, friends decrease. It is very important that the teacher knows who can provide qualified help and what actions should be taken if a student is suspected of using drugs.

Trying to achieve the effectiveness of substance abuse prevention in schools, cooperation between parents, teachers, police, social workers, psychologists, etc. is very important. Therefore, it is important to:

- develop a unified practice of cooperation among students' parents when solving various problems related to the use of psychoactive substances, targeted education of parents on preventive topics: relationships between parents and children, the role of parents in developing children's life skills, peculiarities of communication with teenagers, warning signs of teenage drug use and methods of help.
- purposefully organize the preparation of teachers for the implementation of anti-bullying activities at school: targeted

improvement of qualifications in order to acquire the necessary knowledge and skills to apply the curriculum for the prevention of the use of psychoactive substances, provision of methodological tools for working with students and their parents (guardians);

- carry out educational activities of community (police) officers in educational institutions about the legal responsibility of parents and young people when using drugs;

1.5 What can teachers do to prevent substance abuse?

Abusing drugs in school is in general not a very common thing. Cases like these may be part of a wider pattern of behavioral problems, which should be therefore taken into account when trying to prevent drug abuse. Really finding out the cause for this behavior is a better way than just treating substance abuse in isolation.

Furthermore, puberty in general is a very difficult phase in the life of a human being. With it comes changes in body, mind and behavior. It is also usually during this period that most people have their first contact with alcohol, cigarettes and in generic drugs.

Therefore, the EMCDAA describes the role of schools as followed:

> "In this context, schools and colleges are important settings for reaching the general population of young people. They may also provide opportunities for identifying and engaging with at-risk individuals, such as young people with vulnerable personality traits (such as poor impulse control), and school non-attenders, who are at increased risk of developing problematic forms of substance use. In schools, the main focus will be on preventing or delaying the

> initiation of substance use as well as developing young people's personal and social skills to support healthy socialisation and decision-making more generally. For older pupils and college students, controlled use and the de-escalation of consumption are important targets for interventions at a time when young people are gaining greater independence, are likely to be attending more parties and may perceive increased alcohol use to be the norm" (EMCDAA, 2022)

There are several drug prevention methods, especially when it comes to school-based intervention. It varies in European countries in several aspects, for example the supporting evidence. However, common ground can be found in the agreement that the provision of information-only interventions is ineffective in reducing drug use.

The preventative methods focus mostly on having an impact on the whole student population and staff. Those that are supported by current evidence as per the EMCDAA school and drugs report (2022) include:

1. universal prevention programmes that focus on developing social competencies, refusal skills and healthy decision-making abilities;
2. school policies around substance use;
3. interventions aimed at developing a protective and nurturing educational environment that is conducive to learning and establishes clear rules about substance use.

Of course, the involvement of parents or peer-to-peer conversations play also a very important role.

In the end, all these measures focus on preventing or delaying the initiation of substance use. In schools, the main focus will be on limiting or delaying substance use.

Another very interesting and important subject is the development of young people's personal and social skills, which aims at giving them the necessary

skills to protect themselves. This could result in a strengthened ability to make decisions, healthier socialization and be not as easily influenced by peer pressure as normally.

Once reaching the age of college students and older the main focus of interventions shifts to a more controlled use and the de-escalation of consumption. Especially since they are gaining greater independence, they are more likely to find themselves in more social gatherings and parties and may perceive increased alcohol use to be the norm.

In the end, a mixed methods approach would probably be the most efficient way to prevent and delay drug abuse in school. The ability to spot signs and symptoms early on is especially important for parents and teachers so that the right measures can be taken immediately.

1.6 References

- Giedd, J. N. (2008). The teen brain: insights from neuroimaging. Journal of adolescent health, 42(4), 335-343.
- Gonzales, M. (2022). Emotional Intelligence and Adolescent Mental Health. In Emotional Intelligence for Students, Parents, Teachers and School Leaders (pp. 295-322). Springer, Singapore.
- Greń, J., Ostaszewski, K., Wieczorek, L., (2022). "It'll Never Be Safe, But You Can Limit the Harms". Exploring Adolescents' Strategies to Reduce Harms Associated with Psychoactive Substance Use. Substance Use & Misuse, 57(3), 380-391.
- Methodological publication „TĖVAMS APIE NARKOTIKUS. Kaip apsaugoti vaikus?", A. G. Davidavičienė, ŠMM, 2001.
- Moss H.B., et al. (2014) Early adolescent patterns of alcohol, cigarettes, and marijuana polysubstance use and young adult substance use outcomes in a nationally representative sample. Drug Alcohol Depend.

- Santangelo, O. E., Provenzano, S., & Firenze, A. (2022). Risk Factors for Addictive Behaviors: A General Overview. International Journal of Environmental Research and Public Health, 19(11), 6583.
- Stangor, C., & Walinga, J. (2019). 14.3 Adolescence: Developing Independence and Identity. Introduction to Psychology.
- Visuomenės sveikata. Paauglių polinkis vartoti alkoholinius gėrimus ir šį poelgį skatinantys veiksniai. Medicina. Kaunas, 2005, 41(5).

2 Chapter II: Main reasons for teen substance abuse

2.1 Introduction

Adolescents, as one of the most vulnerable groups in society, can be exposed to illegal drugs on a daily basis and often succumb quickly.

In the process of socialization, adolescents acquire experiences, values and behavioral patterns from different environments, on the basis of which they also build their own behavioral patterns and beliefs. One of these environments is the community or wider society, which with its rules, norms, organization, and accessibility to psychoactive substances can influence the adolescent's attitude and drug use. Data on the availability and perceived risks associated with the use of cannabis show that, compared to other countries, an above-average percentage of young people in Slovenia consider cannabis to be easily or very easily accessible. Half of 15-year-olds and almost two-thirds of 17-year-olds think so. At the same time, Slovenian adolescents perceive regular use of cannabis as a risk in a smaller percentage than students in most other countries, and the percentage of adolescents who perceive ecstasy as very or fairly accessible is also high in Slovenia compared to other countries.

When we talk about drug abuse, the most pressing problem among 15- to 18-year-olds is the use of cannabis, which is the easiest to reach and affordable.

2.2 How do you recognize the signs of drug use in adolescent years?

In Slovenia, within the framework of the National Institute of Public Health, the Maribor Regional Unit operates the Addiction Prevention Center (CPO), a publicly verified social welfare program aimed at all those who have problems with experimentation and addiction to illegal drugs, and their relatives. Parents and young people can turn to each other for help and advice and information.

The NIJZ (National Institute of Public Health) survey "Health-related behaviors in the school period (HBSC 2018)" showed, for example, that 20.6 percent) of 15-year-olds in Slovenia had tried cannabis at least once in their lifetime, while in other countries it was at least once in their lifetime "only" 13 percent of young people of the same age used cannabis.

The fact that only 44 percent of Slovenian students considered regular use of cannabis to be very risky is also worrying, which is the lowest among all participating countries in the survey and well below the average of European countries, which was 59 percent.

Teenagers are vulnerable and easily succumb to pressure. Marijuana is the most frequently used, other illegal drugs such as cocaine, heroin, ecstasy are less common among them.

The figures therefore show that among Slovenian teenagers, drugs are present and accessible already at an early age, around the age of 15. Worrying information, because drug use can lead to addiction and serious problems. But how should parents recognize the signs that their child is consuming dangerous substances? "The signs that appear as a result of drug use are in many small changes in a teenager, such as sleepiness, being late for school, forgetting about obligations, lack of energy and motivation, conflict or conflict relationships with parents or teachers that did not exist before. Parents may find paper for rolling joints, unknown white or brownish powder, traces of aluminum foil and the like in the room and/or in the clothes.

Even more obvious signs and visible changes are when using alcohol, when a teacher can detect the smell of alcohol, disturbances in coordination and speech, headaches, fatigue, pale appearance with dark circles and red eyes, poor memory, and poor physical condition. Of course, the mentioned signs do not always indicate the use of drugs or alcohol, and more attention should be paid to monitoring changes. In adolescents, basic developmental tasks and the normal course of psychophysical development can be endangered due to addiction.

With the continuous use of the drug, there is a deviation from the previous way of life - many times the teenager's lifestyle changes, beliefs, giving up activities, changing society, closing in on oneself and so on, it is also accompanied by new ways of making money/drug trafficking, criminal acts - theft, scams, prostitution and the like.

When parents feel that the problems are bigger than they can handle, they should contact professional services for help. Experts who are qualified to provide information, advice, treatment and guidance will listen to you and help you. We encourage an open, honest conversation in the family, because in such a conversation, where teenagers feel they can trust, they will say more than their parents expect.

It recommends that parents who are faced with the problem of using illegal drugs contact professional counseling services as soon as possible, seek information and help from school counseling services, social work centers, medical centers, drug addiction treatment centers, and non-governmental organizations dealing with addiction. Along with the information, they will get support, a partner on the way to face the challenge, which often brings fear, a sense of personal threat and loss of control over the daily routine.

We can also do a lot by informing, familiarizing ourselves with the facts and consequences of occasional or regular drug and alcohol abuse. Here, teachers and parents have a great influence, especially with a clear and decisive message about not approving the use of drugs, but with an open, honest attitude, where we are always good listeners and "teachers" - that we have been well educated in this area. The risk of high peer pressure and here we need help in managing the pressure, an open conversation that there is no need to "prove" where the use of drugs, alcohol and cigarettes is involved, we should always encourage the development of a positive self-image, critical thinking and dialogue among young people.

2.3 Long-term consequences of drug abuse during the adolescent year

The authors conclude that screening adolescents for the presence and expression of symptoms of addiction syndrome can contribute to the identification of those individuals who are most at risk for its later development and improper use of prescribed drugs, long-term impact on cognitive functions, creativity, etc. Prescribing opioid painkillers and some sedatives and hypnotics, which belong to the active substances with a high risk of developing addiction, is dangerous for individuals who are at risk of developing an addiction syndrome or already have its symptoms. The authors therefore advocate careful checking of the patient's risk before prescribing drugs and consistent monitoring of their use.

At the same time, they also emphasize that when understanding their findings and planning further research of this type, it is necessary to take into account the broader context of changes in the frequency of prescription of opioid drugs and the resulting opioid crisis. As weaknesses, the summarized research highlights the insufficient representation of individual parts of society, which are most at risk for the development of addiction syndrome; on the one hand, due to the sampling in research, which did not include individuals who did not complete their education or who were educated in re-education institutions, and on the other hand, due to the fact that individuals with the most pronounced addiction syndrome more often withdrew from participation in the research. Based on the findings, the authors conclude that individuals who report severe or numerous symptoms of addiction syndrome as teenagers simply do not shake off these habits as they grow up, therefore they suggest additional education for high school students and young adults, which could contribute to a more appropriate use of drugs and avoiding drug use.

2.4 Preventing the use and abuse of drugs in adolescence - a model of measures

Fear, taboos, discomfort, jumping to conclusions and exaggerations. Feelings and behaviors that seem to still prevail when people get the word out about drugs, despite new knowledge and the constant lifting of the curtain.

Studies show that at the beginning of the school year, parents are most worried about whether their child will get into bad company, alcohol and drugs. This seems to be the biggest problem for almost half of parents with primary school children and a third of parents with secondary school children. Their fear is the result of real facts, which are discussed below.

The fear can be partially justified. The proportion of children who have tried any of the drugs is increasing, in addition, research points out that the age limit when an individual tries a drug for the first time is decreasing. Data from the ESPAD 2003 survey for the Slovenian area show that at the age of fifteen, more than 90 percent of children tried alcohol as a legal drug, and a good 28 percent of children tried any of the prohibited drugs. However, we believe that the fear is somewhat exaggerated, as the data also show that most young people who have tried, for example, alcohol or marijuana, did not later continue using them or did not start using other dangerous drugs. On the other hand, data from some research points out that the younger the individual who uses marijuana, the more likely he is to reach for other drugs later in life.

Parents do not know enough about different types of drugs, their effects and harmfulness. They know much less about it than their children.

The idea that young people try drugs for the first time because others, such as dealers or peers, persuade or force them to do so. But it is possible that simple curiosity leads them to this.

Research shows that peer pressure as a cause of drug use among young people is often overestimated. Young people often choose their own friends who use drugs, or attribute their drug-related behavior to others.

Marijuana use can also lead to addiction, although it could have benefits at responsible use for medical purposes. Above all, it is necessary to distinguish between children and adults. The former are still in a period of intense psychological and physical development, so the use of marijuana can have many negative consequences for them. Studies show that there is a connection between the use of marijuana in adolescence and the later development of mental health problems. Problems can also occur at the level of memory functions, as the use of marijuana can cause problems with short-term memory and concentration. Above all, as studies show, there is a connection between early use of marijuana and early exit from the educational system, poorer academic performance and unemployment. However, such severe consequences can only occur if the adolescent uses marijuana frequently. The use of marijuana by adults as responsible subjects and the use of marijuana for medical purposes are something completely different.

Children and adolescents also know many things about heroin that their parents either don't want or don't want to know. A popular novel, especially among high school students, called “Junkies“ by the writer William S. Burroughs, who himself spent a good part of his life as an addict, reveals that it takes a long time for a person to become addicted to drugs and then, if he decides so firmly, it also wears off when the dose is reduced. American and Scandinavian studies have also found similar findings.

The stereotypes we have taken for granted usually do not represent the whole truth. It is true that research shows that some heroin addicts can stop using the drug through sheer willpower. However, it should be known that part of the adult population is the one who can do this in changed social circumstances. Use, abuse, addiction and the ability to stop using drugs are related to the personality structure of the individual, the circumstances in which he used the drug, the reasons and the age when it first happened.

Some experts emphasize genetic dispositions, others the importance of parenting style in the family, others curiosity and peer pressure. It is difficult to give a short answer to the question of why someone decides to use drugs. As many people, almost as many different stories and reasons.

2.5 How can parents recognize that their minor is taking drugs?

In the manuals you most often encounter symptoms such as red or shiny eyes, lack of appetite or excessive appetite, rapid mood changes, skin problems, dilated or narrowed pupils , problems with memory or concentration, withdrawal into solitude or escalation of conflicts, lack of interest or excessive euphoria... There are a lot of these signs or symptoms, but the problem is that they can also originate from elsewhere. It can be the first symptoms of a virus or flu, hormonal changes or behavioral changes typical of adolescence. We must pay attention to changes in the child, especially if there are more signs, but we must not exaggerate. It is, of course, more problematic if, along with these signs, parents also notice the sudden appearance of money disappearing, if they find injection needles and droppers, tobacco rolling papers, beer bottles, various pills, tubes of glue in the child's room, and if the child often behaves strangely in the face of all of the above. For example, if he is not able to communicate, moves strangely and so on.

2.6 What would you do if you encountered the aforementioned in your own child?

If we noticed changes in a child or young person close to us, we first observed the child carefully and talked to him, socialized with him and tried to take action. Sometimes parents don't see certain signs or don't recognize problems. If parents talk openly with their child about various topics, sometimes they see no reason to ask him directly what these objects in his room mean. Of course, relationships in families are very different, and

individuals are different from each other. There is no general recipe, but we can emphasize that parents should try to panic as little as possible, study the facts and choose the right moment to talk. For example, if a child has just tried marijuana, there is no reason to make a tragedy out of it.

2.7 Drug testing of young people

The results of the research show that adolescents who experimented with drugs were much better socially adjusted than those who never tried anything. Can we conclude from this that it is completely normal for a young person to experiment with drugs?

The research demolishes the stereotype that only young people who are less well-adjusted, who are delinquent and who have problems integrating into society use drugs. Some authors talk about the normalization of drug use. They say that in the past, drug use was attributed to the socially underprivileged population, whereas today it is no longer the case, as drug use has moved into mainstream culture. So, into the average culture of all teenagers, among teenagers who function normally socially. I should also mention that in the Australian area, we find records in the handbooks for parents that experimenting with drugs is a normal phenomenon among young people, but of course it is not desirable. It is attributed to the fact that young people explore, enter into various risky and less risky relationships, try many things and then abandon them.

2.8 So, does it make sense to legalize marijuana?

The use of the drug would generally be discouraged mainly because of its negative impact, especially on young people, and is explained in detail in other chapters. However, there are exceptions to the use of marijuana in some countries.

The system of controlled sales is clearly working in the Netherlands. It is clear that this measure cannot prevent the unwanted use of marijuana among young people, but regardless of the fact that it is more accessible on the market, the proportion of users among young people is lower than in countries where the use of this drug is criminalized. Whether to use the Dutch model or not is a matter of debate in both politics and academia. Each side has its own arguments, but the fact is that in the Netherlands after 1976, when they allowed the controlled sale of marijuana, the number of users increased, but then fell again and stabilized. And much lower than today in the USA, where there are strict prohibition rules. There is example of use of psychedelics drugs for therapy: https://psychedelic.support/resources/how-psychedelics-can-help-with-addiction/

Marijuana does not kill the brain cells. However, the abuse of marijuana may be harmful for the brain cells. Marijuana as itself is neuroprotective, which means that it protects the brain from diseases that lead to illness (https://hms.harvard.edu/news-events/publications-archive/brain/cannabis-brain)

2.9 What are the possibilities?

In different eras, societies interpret the effects of drugs in different ways and therefore prohibit them in different ways. At the beginning of the last century, almost all drugs banned today could be bought in pharmacies, doctors prescribed them as medicines. The father of psychoanalysis Sigmund Freud was a regular cocaine user. It is interesting to note that before prohibition in the USA there were virtually no drug addicts, no drug-related crime, no deaths from overdoses, and that the drug was more or less consumed only by the middle class. Could it be said that it was prohibition that caused the rise of this problem, or is today's society just more sensitive to this kind of lifestyle than it used to be?

Undoubtedly, we are more sensitive on some level nowadays, but the data still shows that in the past there was no demand for treatment among users.

Which, of course, doesn't mean that there weren't people who needed treatment. Good social performance can be measured with different scales and with different results from the user's and society's perspective. The problem arises when the individual begins to neglect his obligations. But it is also true that once upon a time people lived differently and the demands on them were also different. The models of family socialization of the individual were also different, and the boundaries of what was allowed and what was not allowed were set more clearly.

2.10 References

- Špela Zupan, PROBLEMATIC TEENAGER, 2, 16/12/2021
- McCabe SE, Schulenberg JE, Schepis TS, McCabe VV, Veliz PT. Longitudinal Analysis of Substance Use Disorder Symptom Severity at Age 18 Years and Substance Use Disorder in Adulthood. JAMA Network Open. 2022;5(4):e225324. DOI: 10.1001/jamanetworkopen.2022.5324
- DROGE, Maja Čepin Čander, September 16, 2006
- Marie Hasty, RN, How Psychedelincs can help with Additcion, April 15, 2022 https://psychedelic.support/resources/how-psychedelics-can-help-with-addiction
- Debra Bradley Ruder. Cannabis and the Brain. Harvard Medical School. 2020. https://hms.harvard.edu/news-events/publications-archive/brain/cannabis-brain

3 Chapter III: Signs and symptoms of substance abuse

3.1 Introduction

In the following pages the topic of substance abuse and its signs and symptoms is investigated, therefore it is paramount to understand the current facts and figures.

The drug market is known for its continuous innovation, but especially in the last years, the development skyrocketed, which led to the high availability of an increasing number of different substances. These innovations can be found in areas of new trafficking routes, methods for concealment and new production processes. Additionally, the dismantlement of over 350 drug production facilities in the European Union in 2020 indicates that the European Union is now a significant producer of some drugs, satisfying not only the domestic market but the global one as well (EMCDAA, 2022, p. 10).

Last year over 22 million European adults consumed Cannabis, making it again the most commonly used substance. The second place is taken by Stimulants. As per EMCDDA "*It is estimated that in the last year 3.5 million adults consumed cocaine, 2.6 million MDMA and 2 million amphetamines. Around 1 million Europeans used heroin or another illicit opioid in the last year. Although the prevalence of use is lower for opioid use than for other drugs, opioids still account for the greatest share of harms attributed to illicit drug use. This is illustrated by the presence of opioids, often in combination with other substances, which was found in around three-quarters of fatal overdoses reported in the European Union for 2020*" (EMCDDA, 2022, p. 8).

These numbers dropped in the beginning period of the COVID-19 pandemic due to the social distancing, border control measures and in general the whole situation. It did not take long and one could observe that the European drug market came as fast back up as it came down. Partly this probably has also to do with social media applications and encrypted services getting more traction during this time, resulting also in its manifestation as a commonly used method to purchase drugs (EMCDDA, 2022, p. 10).

3.2 How did COVID impact drug use and abuse?

Experts found out that while the use of party drugs like MDMA and Ecstasy declined during the pandemic, Cannabis use increased. Since nightlife was non-existent it is no wonder that drugs like the two mentioned before were not as frequently used. So it is also no wonder that Cannabis, which is associated with usage in a rather more relaxing and private environment, was used more in the pandemic than before. The European Web Survey which ran between March and April 2021 in 30 countries (21 EU and 9 non-EU), was a survey which based its founding on a self-selected sample, who were found to have used at least one illegal drug over the previous year, found out several facts and figures:

"Cannabis was the drug used most, with 93% of survey respondents reporting to have used it in the previous 12 months and with little variation between countries. MDMA/ecstasy (35%), cocaine (35%) and amphetamine (28%) were the next most reported illicit substances, with the order of the three drugs varying by country. Around a third of respondents (32%) reported using more (herbal) cannabis and 42% using less MDMA/ecstasy. The survey revealed that one fifth (20%) of the sample reported using LSD in the last year, 16% using new psychoactive substances (NPS) and 13% using ketamine. Heroin use was reported by 3% of respondents. Although the sample reporting heroin use was small, over a quarter of these respondents (26%) reported using this drug more during the period studied" ("Latest European Web Survey on Drugs Finds

Cannabis and Ecstasy Use Most Impacted by COVID-19 | Www.Emcdda.Europa.Eu")

The survey reports, therefore, a clear link between isolation during the COVID-19 pandemic and the use of drugs, although not all illegal substances have witnessed a spike in their consumption. According to another survey "Comportamentos Aditivos em tempos de COVID: alterações no consumo de drogas ilícitas. Resultados do Inquérito Online Europeu sobre Drogas – Padrões de Consumo Portugal 2021" this can be traced back to the higher levels of stress that required a stronger coping mechanism. Interestingly enough, this affected mainly subjects already affected by substance abuse, leaving out users motivated by the social setting, as shown by the plunge in the use of social drugs. People suffering from addiction and therefore more psychologically, physically and socially vulnerable, registered a spike in their consumption, as shown by the type of drugs that soared during the COVID-19 pandemic, namely heroin and base/crack cocaine. Thus, addictions pre-existing to the pandemic worsened, whereas social-oriented consumption decreased.

3.3 What are the signs of drug use in young students?

Teenagers can often be oblivious to the consequences that drug use can do to their psyche, body and mental health in general, it is important to be able to spot signs and symptoms of drug use in order to be able to help them.

Turnbridge is an organization that runs leading mental health and substance abuse treatment programs and identifies the following physical and emotional symptoms as undeniable signs of teen drug use that parents and teachers should know about:

The information created by Turnbridge, which mostly include impressions and inferences within the family, are adapted to the school environment below.

3.3.1 What are the Emotional and Physical Signs of Teen Substance Use?

- Changes in physical appearance: People around the student may notice a lack of hygiene in the student or unusual changes in the student's style.
- Sudden changes occur in relationships or social environments: It may be noticed that the student's friend group has changed, and the student is reluctant to introduce these new friends to his/her close circle. Negative changes occur in relationships with classmates and teachers.
- Unexplained mood swings and behavioral changes occur: The student is observed to be emotionally unstable and may change from a happy attitude to a hostile one in a short time. He/she may display defensive, negative, paranoid, aggressive or anxious attitudes.
- Becomes highly sensitive and defensive to criticism: The student may overreact to criticism directed at him/her or to a serious attempt at speaking. It can turn into a rebellious mood.
- He/She is aloof and isolated: The student stops talking regularly about his/her private life, especially with his/her immediate surroundings, and may stop consulting his/her teacher for help with difficulties at school.
- Depression: The student may appear unhappy and rather unmotivated.
- Becomes secretive and deceptive: The teachers may feel that the student is hiding something from you and his/her surroundings because of his/her behavior. He/she can give long and indirect answers to your questions and make endless excuses. May avoid self-centred discussions.

- Lethargy and a state of extreme tiredness are observed: The student looks tired and you may notice that his/her sleeping habits have changed.
- Sudden weight loss or weight gain.

("25 Signs of Teen Drug Use | Turnbridge")

Some of the most obvious and most common signs and symptoms which can be used by teachers in order to identify teenagers who use drugs as per Mark Shandrow (2019):

- Bloodshot eyes, pinprick/dilated pupils,
- Frequent nosebleeds, sniffling, coughing, unending thirst
- Complaints of a severe headache, runny nose, sweating, nausea, vomiting, severe fatigue, sleeping through class
- Strange bruises or cuts, wearing long sleeves during the summer, flushed face
- Strange behavior like nervous tics, excessive picking of the face and arms

3.3.2 Which signs a teacher and school should watch out for to notice if there is a case of substance abuse?

- Loss of interest in school activities: The student may no longer want to hang out at school and spend time with class/school friends and participate in school activities. Moreover, the student no longer completes their homework or may have a poor attitude towards after-school activities (sports, clubs, etc.).
- Worsening grades – You may notice that student's grades have suddenly slipped or dropped dramatically
- Truancy – Student may missed classes, accrued random absences, or has been consistently late for school

- Constant borrowing or asking for money: The student may frequently ask friends for money. You may also notice that the student is carrying an excessive amount of cash with him/her.
- Non-compliance with school rules: The student may not comply with the school-wide rules and may create his/her own rules in the process. The student may disregard the rules of their teacher and receive constant punishment.
- Lying or avoiding telling the truth: The student may not give definite answers to the questions asked, and you may catch his/her lies.
- Lack of money or valuables: There may be a lack of money or belongings of other students in the immediate vicinity of the student throughout the school or classroom.
- You can discover unusual containers, packaging, bags or seeds in the classroom environment, as well as eye drops, rolling papers, lighters in the student's hand.
- Sleeping in class
- Student may not inform his parents about teacher meetings, conferences and openings at school.
- Students may experience reduced attention span or trouble focusing.

When all these articles are examined, it is possible to collect the changes in individuals/students using drugs under the following 4 headings:

1. Changes in interpersonal relationships
2. Overprotective of their personal space or things
3. Drastic mood swings
4. Schoolwork issues

3.4 References

- Comportamentos Aditivos em tempos de COVID: alterações no consumo de drogas ilícitas. Resultados do Inquérito Online Europeu sobre Drogas – Padrões de Consumo Portugal 2021 (2021),

Carapinha, Ludmila, Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências. https://www.emcdda.europa.eu/system/files/attachments/14346/EuropeanWebSurvey2021_PortugalAC.pdf

- European Monitoring Centre for Drugs and Drug Addiction (2022), European Drug Report 2022: Trends and Developments, Publications Office of the European Union, Luxembourg. https://www.emcdda.europa.eu/publications/edr/trends-developments/2022_en
- EMCDDA, (2022), Latest European Web Survey on Drugs Finds Cannabis and Ecstasy Use Most Impacted by COVID-19 | Www.Emcdda.Europa.Eu, [Accessed: 18.08.2022] https://www.emcdda.europa.eu/news/2022/1/latest-european-web-survey-drugs-finds-cannabis-and-ecstasy-use-most-impacted-covid-19_en
- Turnbridge (2016), 25 Signs of Teen Drug Use | Turnbridge, [Accessed: 17.08.2022] https://www.turnbridge.com/news-events/latest-articles/signs-of-teen-drug-use/#
- Schools and drugs: health and social responses, (2022), www.emcdda.europa.eu, EMCDDA home page | www.emcdda.europa.eu https://www.emcdda.europa.eu/publications/mini-guides/schools-and-drugs-health-and-social-responses_en
- Shandrow, Mark, (2019), How Teachers Can Determine If Their Students Are Drug Abusers – Asana Recovery [Accessed: 18.08.2022] https://asanarecovery.com/how-teachers-can-determine-if-their-students-are-drug-abusers/
- https://cursus.edu/en/24381/spotting-drug-and-alcohol-use-among-students-a-guide-for-teachers https://positivechoices.org.au/teachers/how-teachers-can-guide-students-against-drug-use

4 Chapter IV: Facts and statistics on substance abuse

4.1 Introduction

According to the Global Burden of Disease study (2019), over 16% of total deaths among Europeans aged 10-24 are attributable to the use of drugs, including alcohol. However, the repercussions of this unhealthy behavior may reflect in the long-term, increasing chronic disease risk and shortening life expectancy.

The prevalence of illicit drug use and acquisition continues to be high across European countries. It is estimated that approximately 83.4 million (29 %) European citizens aged 15–64 report that they had used an illicit substance, at least once within their lifetime, with a male to female ratio of 5:3.

Looking into more details of the used substances, drug statistics indicate that cannabis represents the most common illicit drug, with more than 22 million European adults reporting its use in the last year. Stimulants, namely cocaine and amphetamines, are ranked second in terms of illicit drug consumption in the European Union (EU) countries. Last year, for instance, as many as 3.5 million Europeans reported the consumption of cocaine. Interestingly, albeit the prevalence of opioid use is lowest, with nearly 1 million European users in 2021, they are responsible for most detrimental health consequences which are believed to be driven by substance abuse.

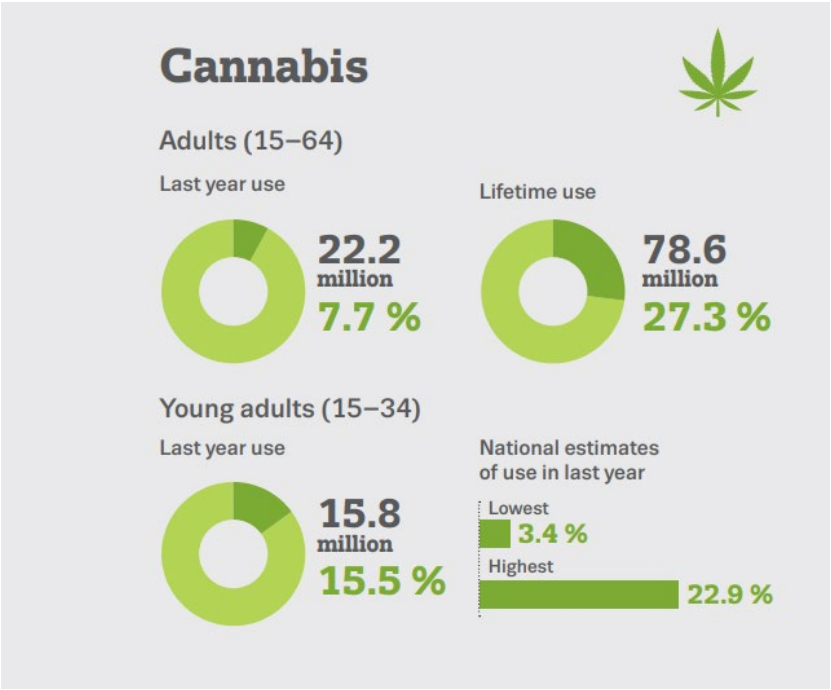
The restrictions which were imposed to control COVID-19 pandemic resulted in a small decline in illicit drug use across the EU, especially cocaine and MDMA consumption. This was particularly evident during the first months of the lockdown. Nevertheless, the effects of this pandemic on drug abuse were transient, as novel trends thrived in response to those measures. Nowadays, with restrictions being eased, patterns of drug use seem to bounce back, and the pre-pandemic tendencies are re-emerging.

While illicit opioids are not the most used drug category, the mortality burden attributed to substance abuse is dominated by opioid fatal overdoses. This seems to be mainly driven by the fact that most substance abusers often consume multiple drugs, which sometimes dangerously interact with each

other. In addition to mortality, substance abuse is responsible for a range of socioeconomic and public health issues, including unemployment, homelessness, mental health issues including self-harm, and criminality.

4.2 What is the situation of cannabis use in Europe?

With more than 22 million adults in Europe reporting usage of cannabis, this particular substance continues to be ranked number one in terms of illicit drug consumption. This popularity is well documented among Europeans aged 15 to 34. In 2021, around 15.8 million European individuals in this age group reported cannabis usage. This prevalence is higher for 15- to 24-year-olds, with 9 million past-year users (19.1 %). This consumption is by far dominated by men. While almost 48 million males report usage of this drug at some time in their lives, the corresponding number in women was approximately 31 million. At the national level, the percentage of EU citizens who experienced drug use vary largely between the EU countries, ranging from a minor 4.3% in Malta to 44.8 % in France.



Source: European Drug Report: Trends and Developments 2022

The wide gap in the prevalence of cannabis consumption among EU citizens can be explained, at least partially, by the imposed policies and regulations which differ between countries in Europe. While some countries, such as Sweden, intensify policies to prohibit illicit drug use in the context of "a drug-free society", other nations are easing some restrictions on the consumption of cannabis by making recreational consumption legal. This is particularly evident for Luxemburg and Malta. The latter authorized its citizens to grow up to four cannabis plants domestically.

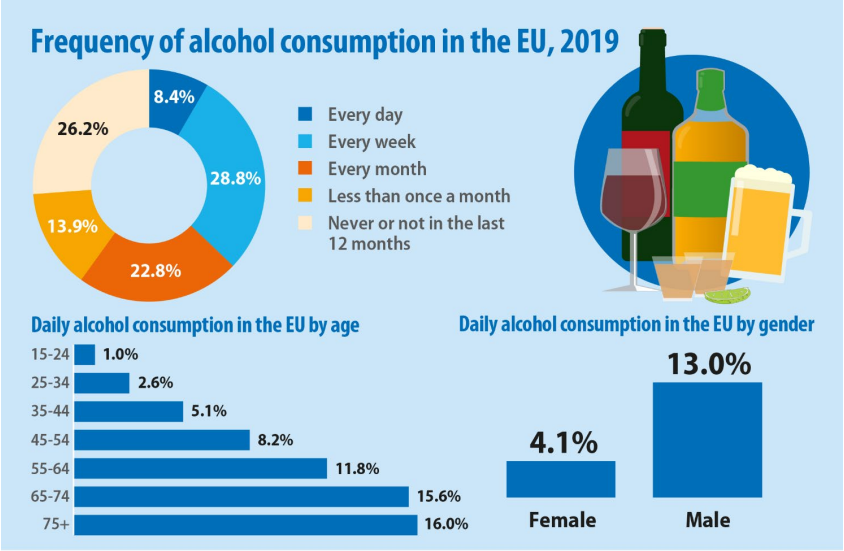
With the new developments in the legal aspects of illicit drug use across Europe, novel cannabis products appeared. In addition to the classic smoked form, these new cannabis products can serve as a component in food and

cosmetics. Regardless of the differences in cannabis forms, its effects are mainly attributed to Δ-9-t- tetrahydrocannabinol (THC), which is highly concentrated in flowers and cannabis resin. This psychoactive molecule binds to the Cannabinoid Receptor type 1 (CB1) in the central nervous system, allowing it to modulate appetite and pain perception, among other functions. In contrast to the trends in the past when herbal forms contained more THC, resin forms of cannabis nowadays are remarkably more potent (21 % versus 11%). Despite this increase in the concentration of THC, the costs of the two forms are almost equal.

Low THC-cannabis adulteration with synthetic cannabinoids is another aspect of illicit cannabis use which is growing in Europe. Given the fact that it is legal to sell these products, many of them are adulterated with synthetic cannabinoids. These substances are considered as a full, potent agonist on the CB1-receptor, making their psychological and behavioral effects more potent than those resulting from the partial THC agonist.

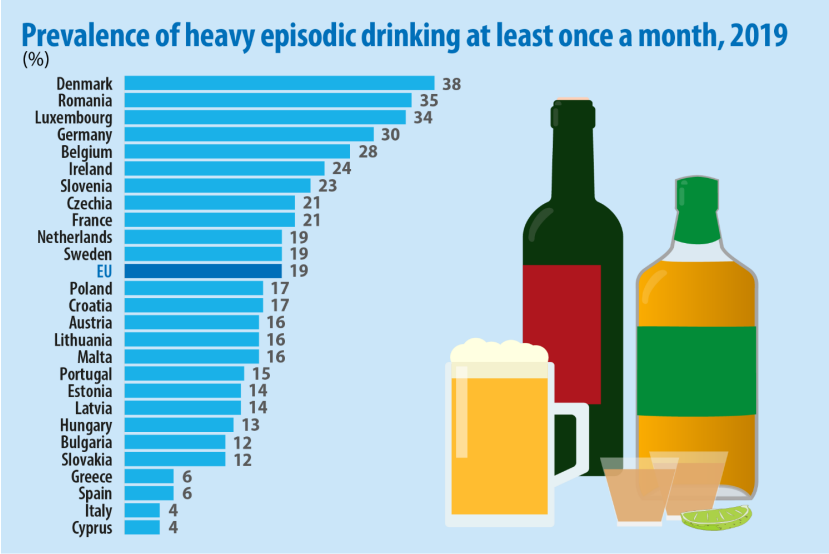
4.3 What about alcohol use and abuse in Europe?

It is estimated that, in 2019, three quarters of EU adults have consumed alcohol in the previous 12 months and nearly 9% consumed alcohol daily. This daily alcohol consumption was found to increase with age. People aged 15 to 24 had the lowest share of those who consumed alcohol the most frequently (i.e., every day). By sex, more men consumed alcohol on a daily basis than women (a male to female ratio of over 3:1).



Across EU countries, with over one in every five adults consuming alcohol every day, Portugal topped the of EU countries with the highest rates of daily alcohol consumption. Next on the list was its neighboring country, Spain, with a share of 13.0% reporting daily alcohol consumption, followed by Italy (12.1%). The lowest proportions of daily alcohol consumption were seen in Latvia and Lithuania with a share of around 1.0%.

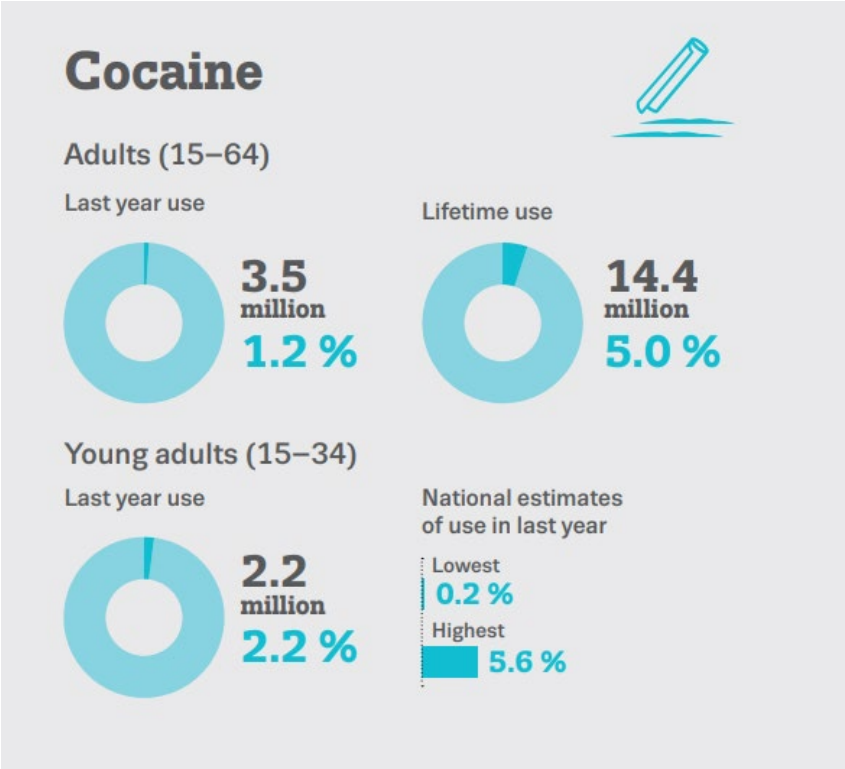
In terms of heavy episodic drinking, defined as an alcohol consumption exceeding 60 grams of pure ethanol on a single occasion, Denmark topped the EU countries with the highest share of adults reporting heavy drinking episodes at least once a month, with a proportion of 38% of the Danish adult population. The lowest rates of heavy alcohol drinking in the EU were observed in Cyprus and Italy, with a rate of 4%.



4.4 To what extent is cocaine used in Europe?

Cocaine is considered to be the second most commonly used illicit drug in Europe behind cannabis. It is estimated that cocaine was consumed by around 14 million EU citizens, at least once in their lives, with 3.5 million people aged 15-64 reporting recent cocaine usage (within the same year). Similar to cannabis consumption, young adults (14-35) represent the vast majority of cocaine users, with approximately 2.2 million users in the same year. The use of this substance is not homogenous across the EU. While the prevalence of its consumption continues to be high in south and west of Europe, the market seems to be moving east. The availability of this substance in Europe can also be demonstrated by seized amounts. In 2020, for example, around 213 tons of this illicit drug were seized in the EU, namely in Belgium (70 t), the Netherlands (49 t) and Spain (37 t). The vast majority of these seized

quantities was transported to Europe in maritime shipping containers, with Eastern Europe and Turkey being the main entry locations.

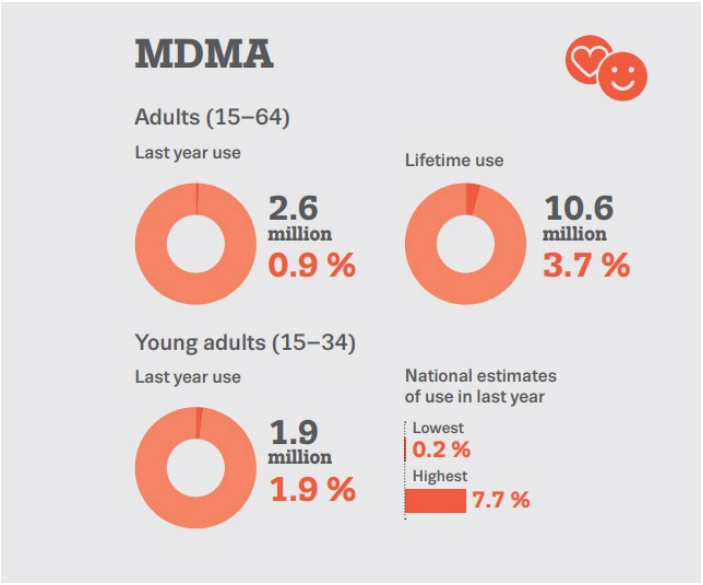


Source: European Drug Report: Trends and Developments 2022

Although cocaine markets experienced a small decline during the first months of COVID-19 pandemic, likely because of the closure of nightlife and entertainment facilities, its consumption was quickly back on the rise, returning to pre-pandemic trends. Importantly, the average purity has been growing over the past ten years, increasing drug potency and, consequently, toxicity and risk of overdose. This trend is developing without a concomitant surge in prices.

4.5 What is the prevalence of MDMA in Europe?

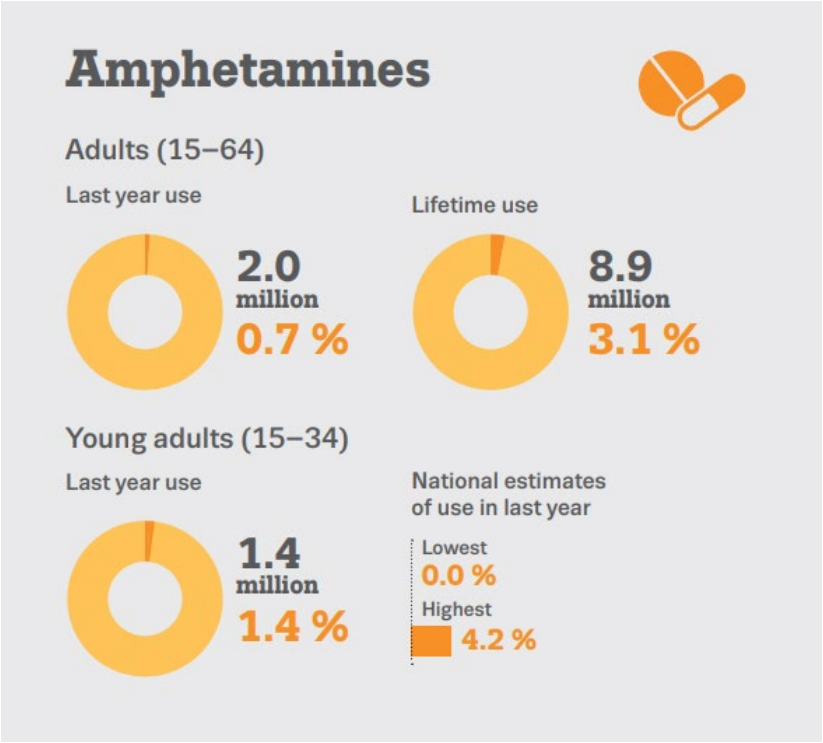
MDMA is the abbreviation of the scientific name 3,4-methylenedioxy-methamphetamine, a synthetic psychoactive stimulant. Psychoactive stimulants are drugs used to stimulate the release of hormones that activate the central nervous system. There are psychoactive stimulants used for health purposes in medicine and psychiatry, but they are often used recreatively for their euphoria effect. The major effects of MDMA are mainly mediated via the stimulation of the release of serotonin, noradrenaline, and dopamine. In terms of the prevalence of its use, the number of European adults aged 15-64 reporting current use (within the year) of MDMA was 2.6 million users in 2021. Three quarters of these users were young adults aged 15 to 34 years (1.9 million users). Lifetime use of MDMA was estimated at 3.7% (10.6 million users) of the adult EU population. The national estimates of use in 2021 ranged between 0.2% and 7.7%.



Source: European Drug Report: Trends and Developments 2022

4.6 What about amphetamines?

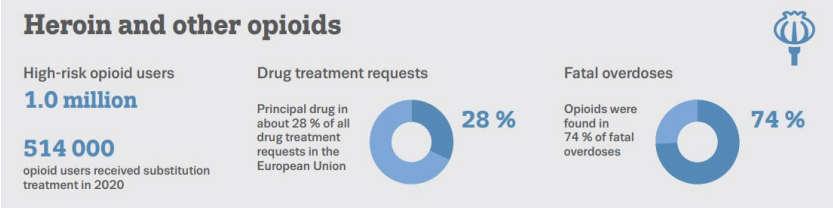
When compared to cannabis and cocaine, the use of amphetamines is slightly less common, with only 2 million adults aged 15-64 in the EU reporting its consumption in 2021. Not surprisingly, during the same year, adolescents and young adults aged under 34 accounted for 70% of amphetamine consumers (1.4 million users). Amphetamine consumption tended to be at its highest levels in Austria and Croatia. In 2020, almost 1.8% of the adult population in these two countries reported using amphetamine during the previous year.



Source: European Drug Report: Trends and Developments 2022

4.7 How bad is the situation of illicit opioid use in Europe?

Opioids are a class of drugs that include heroin as well as synthetic medication drugs such as fentanyl, oxycodone, codeine, and morphine. The overall illicit opioid consumption has been growing across the EU countries, though it remains much lower than the other illicit substances. In 2020, an average of 1 million EU individuals (0.34 % of the overall EU population) reported its consumption. Despite their limited use, illicit opioids are the drugs responsible for most of the fatalities attributed to substance abuse. For instance, opioids were found in nearly 75% of all fatal overdoses with known toxicology in Europe. Also, a quarter to a third of all drug treatment requests in the EU concerned opioid abuse.



Source: European Drug Report: Trends and Developments 2022

4.8 References

- European Commission – Eurostat Data Browser. Health Determinants, alcohol consumption 2020-2021. https://ec.europa.eu/eurostat/databrowser/explore/all/popul?lang=en&subtheme=hlth.hlth_det.hlth_alc&display=list&sort=category&extractionId=HLTH_EHIS_AL1E__custom_1178136
- European Monitoring Centre for Drugs and Drug Addiction. European Drug Report: Trends and Developments 2022. Accessed August 25, 2022.

https://www.emcdda.europa.eu/system/files/publications/14644/TDAT22001ENN.pdf

- European Monitoring Centre for Drugs and Drug Addiction. Statistical Bulletin 2022. emcdda.europa.eu. Accessed August 25, 2022. https://www.emcdda.europa.eu/data/stats2022_en
- GBD 2019 Risk Factors Collaborators. Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. The Lancet. 17 October 2020. doi:10.1016/S0140-6736(20)30752-2.

5 Chapter V: Identification of short-term and long-term effects of substance abuse

5.1 Introduction

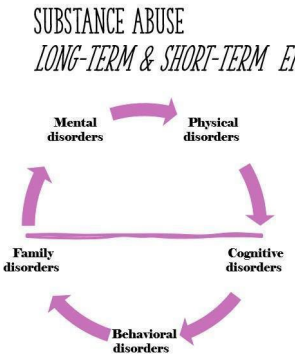
Substance abuse may provoke multiple repercussions, affecting the physical, mental, and behavioral wellbeing of users. The use of drugs, alcohol, or any other toxic substance for a prolonged period of time may transform a short-term effect into a long-term one, while the possibility of death is not excluded from the list of the effects that may occur. The continuous use of substances is responsible for causing crucial implications to the users that may not be rehabilitated again.

As far as the implications to the youth are concerned, the use of illicit substances is related to phenomena like tendency to dropping out, social exclusion, dissolution of the structure of the family, illegal activity and crime, as well as illiteracy. These factors contribute to the mental instability, which may be expressed in different ways, including suicide.

As far as the physical implications are concerned, there are numerous diseases and disorders that are caused by the addiction to substances, such as pulmonary hypertension, pulmonary edema, aspiration pneumonia, bacterial pneumonia, tuberculosis, Hepatitis B, C and D, acute and chronic kidney injury, interstitial nephritis, and glomerulonephritis. Disorder in organ functions, blood pressure and heart rate, as well as effects on the appearance of the body constitute some of the negative health effects of substance use.

Last but not least, there are several behavioral and cognitive effects that are caused by substance abuse, among them, assertive behavior, physical abuse, chronic anxiety, and decision-making disorders.

To sum up, both the short- and long-term effects that may be provoked because of substance abuse are perilous and dangerous to humans and may constitute a direct threat to life.



5.2 What are the general repercussions of substance abuse?

Substance abuse is a phenomenon related to an abundant number of implications in social and mental life of the human's organization. When it comes to substance dependence on youth, the fear of missing out from their social environment (FOMO) may pressure them to experimentally use drugs, or any other addictive substance. On top of that, the before-mentioned situation is able to cause numerous psychological, or mental health disorders that can lead to unprecedented and severe results for human existence.

According to the Diagnostic and Statistical Manual of Mental Disorders-dsm-5, *"Substance-use disorders are patterns of symptoms resulting from the use of a substance that you continue to take, despite experiencing problems as a result"*. The continuous use of illicit substances may provoke the phenomenon of addiction or dependence, which is the inability of controlling the use of substances, while tolerance is the phenomenon of using increasing numbers of drugs, or any other substance for experiencing the same effect.

Therefore, the dimensions of the implications that are caused by substance abuse may be social, physical, or psychological. This means that substance use may affect several spheres of the physical, the mental, or the cognitive part of a human's life.

5.3 What are the implications of use of illicit drugs on the youth?

As far as youth are concerned, the World Health Organization has expressed its increasing concerns. In a general perspective, substance abuse is related with a tendency to dropping out, as well as with low leveled results at school, or university. It is reported that adolescents who consume drugs, alcohol, or any other kind of substances are prone to be excluded from the social environment and disengaged from school or academic activities. According to the findings of the World Health Organization, 5% of deaths of people younger than 30 years are caused by alcohol abuse.

Furthermore, the use of illicit substances is related to the dissolution of the structure of the family, since it often constitutes an excessive burden on the parents of the abusers. Regarding the social dimension of this issue, the increased level of illicit substance consumption, in combination with impairments in the family's structure, can be related to the probability of developing illegal behavior.

The addiction to substances is a determinant factor that can facilitate illegal or criminal actions. On top of that, substance consumption is a significant reason for unemployment, as well as illiteracy. These factors can be correlated with suicide ideation, as the user supposes that the life has no importance. This mental instability can be related to development of unstable personal relationships, or unprotected sexual intercourses especially among adolescents. The use of substances, like drugs, can increase the possibility of developing dangerous sex behavior and subsequently serious sexually transmitted diseases.

5.4 What are the physical implications of substance abuse?

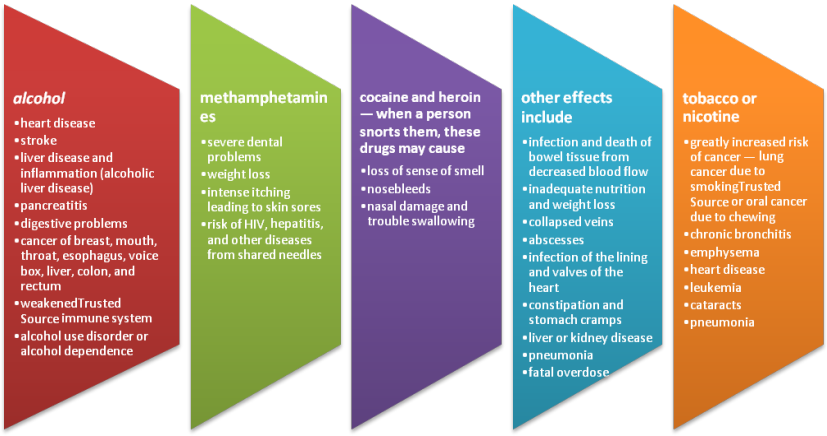
According to studies, substance abuse may affect the human's body in different ways. Some changes that may occur are the following;

When chronic abuse lasts for a prolonged period, the short-term physical effects will become long-term alterations of the human body and brain. It is possible for substance abuse to lead to crucial health implications, including death because of overdose.

5.4.1 Short-term physical effects

5.4.2 Long-term physical effects

Examples of commonly used drugs and potential long-term physical effects of Substance Use Disorder – SUD include:



Using substances for an extended time may have long-term health consequences. These lasting effects depend on multiple factors, including the substance, the amount, and how long a person has used it.

As far as the physical implications are concerned, substance abuse can provoke physical injuries, like cutting, bruising or even burns. For instance, substance abuse is associated with numerous physical symptoms and problems in the central nervous system, including agitation, tremors, confusion, or restlessness. Other diseases associated with substance abuse include hepatitis, HIV and AIDS-related infections, embolism, infractions and strokes, and other conditions of the cardiovascular system, the brain, and the liver. Furthermore, a user may be affected by pulmonary hypertension or edema, aspiration pneumonia, bacterial pneumonia, tuberculosis, Hepatitis B, C and D, acute and chronic kidney injury, interstitial nephritis, or glomerulonephritis. In general, the abuse of substances can deteriorate the wellbeing of the user by increasing the possibilities of provoking catastrophic

and long-term health-related issues, and even death. Mental health is also affected by the use of substances, as the user may have symptoms of depression, developmental lags, apathy, withdrawal, and other psychosocial dysfunctions.

Substance abuse may also favor self-afflicted physical injuries or physical symptoms with substance abuse which are regarded as part of withdrawal symptoms due to stimulation of the central nervous system. It has been noticed that heroin abuse is mainly related to the destruction of functional organs, like brain and liver, while heroin, cocaine and amphetamine drug addicts are more likely to have pulmonary hypertension and symptoms that affect the cardiovascular system.

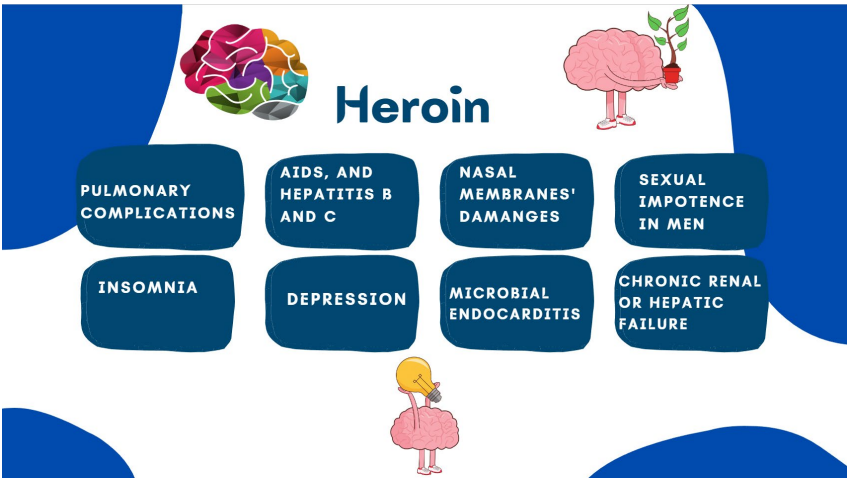
Smoking is supposed to be the most prevalent substance abuse disorder, as it can cause numerous disorders, even death. Smokers have 22% more possibilities to die from lung cancer than non-smokers. The long-term use of smoke can lead to several health diseases, like chest pain, labored breathing, wheezing, coughing, or respiratory issues, or induce cancer and death. The most possible types of cancer because of smoking are the following:

- Laryngeal cancer
- Mouth cancer
- Esophageal cancer
- Kidney cancer
- Pancreatic cancer
- Bladder cancer
- Stomach cancer

Smoking is also related to Buerger's Disease, which appears when the blood vessels are limited whenever the substance of nicotine gets into the bloodstream. It is worth mentioned that smoking during pregnancy may occur multiple repercussions, such as miscarriage, or early death of the fetus, or embryo. Last but not least, the use of tobacco may induce crucial cardiovascular diseases that are able to generate serious health parameters, without excluding death.

On the other hand, the long-terming abuse of heroin may cause the following symptoms:

- Pulmonary complications
- Aids and hepatitis B & C
- Nasal membranes' damages
- Sexual impotence in men
- Insomnia
- Depression
- Microbial endocarditis
- Chronic renal or hepatic failure



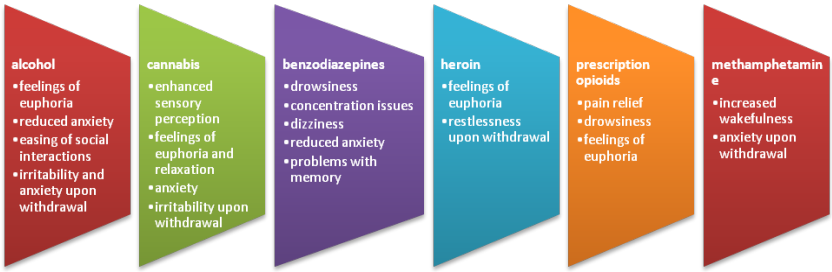
Cocaine is another substance that is able to generate the following effects on the human body:

- Chronic nasal catarrh, nasal bleeding, perforation of the nasal membranes
- Anorexia and significant weight loss
- Sleep disturbances
- Arrhythmias, hypertension, heart failure, cardiomyopathy, myocardial infarction

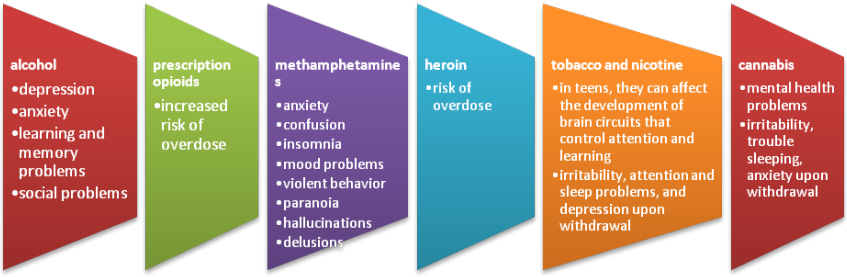
- Reduced ability to concentrate
- Reduction in sexual desire, impotence
- In case of pregnancy, miscarriage, bleeding, premature delivery and stillbirth,
- physical deformities
- Stress
- Panic attacks
- Depression and suicidal ideation
- Psychosis
- Social problems due to violent and aggressive behavior.

5.5 What are the cognitive and behavioral implications regarding the substance abuse?

5.5.1 Short-term mental effects



5.5.2 Long-term mental effects



Substance abuse may cause unpredictable repercussions that are able to provoke **behavior and mood changes**. As far as cognitive and behavioral issues are concerned, users may develop assertive behavior towards their social environment. Long-term substance abuse may provoke several implications that affect the endeavor of the user. For instance, someone who has substance dependence is likely to withdraw from society, as well as the social responsibilities. Substance abuse is related to the **disinhibition theory**, which influences the cortex of the brain. The disinhibition theory is generated from the use of alcohol and induces depressant effects on the reasoning and judgment decisions. Moreover, a dependent user may feel a loss of control, due to the amount they have taken, or an interruption of important and crucial activities. So, the phenomenon of dependence may cut the relations of the user with the social environment, as many users report a lack of love, friendship, hope, help, or that they are separated from their social environment. For these people, substance abuse is the source of their problems, but at the same time, they abuse substances as a mean to face these negative feelings. They feel that drinking, smoking, or using illicit drugs make them feel more cheerful or relaxed.

It has been indicated that *"drug abuse and addiction are best explained by drugs' reinforcing effects"*. Drug abuse has strong implications on the brain's dopamine system, as it controls emotional responses and contributes to the desire for abusing by providing an emotional "reward" for eternal use. Repeated use of drugs is going to create disruptions in the brain's frontal

cortex, which is responsible for the regulation of the cognitive activities, like decision making, response inhibition, planning, memory, etc. According to neuroscientists, drug abuse is not only a pharmacological disease, but also a behavioral one, as the cognitive operations that are in the frontal lobe influence the decision to abuse drugs. In 1992, neuroscientist Antoine Bechara, PhD in his speech in the framework of a scientific conference explained that impairment in the frontal cortex is related to the impairment to decision making abilities. Bechara estimated that patients with decision making impairments are not able to quit using drugs.

When it comes to the behavioral implications of the substance abuse, it is worth mentioning that substance abuse may have repercussions on the relations between family members. For instance, there are a considerable number of children experiencing some kind of physical or sexual abuse because of parental alcohol abuse. Physical abuse means all forms of maltreatment that may result into physical injuries like bruises, lacerations, fractures or burns. Addicted parents are unable to provide food, clothing, or even worse, a shelter to their kids, while physical abuse may be in form of sexual harassment. Drug abuse and alcoholism are responsible for causing psychiatric and psychological implications, like chronic anxiety disorders, especially phobias and neurosis like social phobia, panic disorder, agoraphobia, specific phobia, and generalized anxiety disorder.

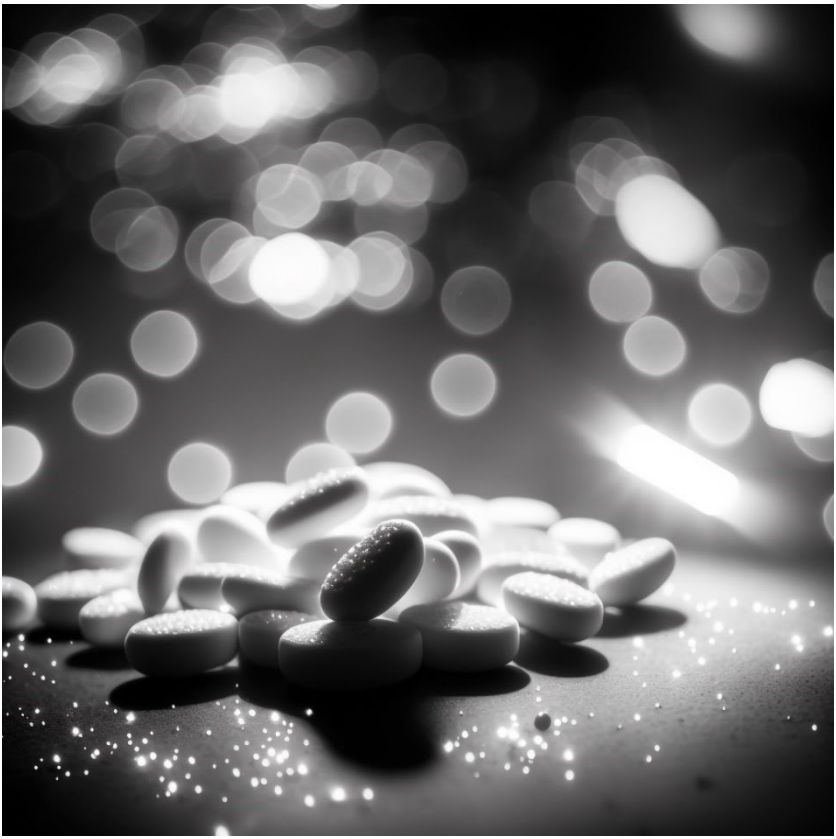
When it comes to substance abuse, it has been found that alcohol or heroin abuse are able to provoke significant implications to cerebral reserve capacity and functions which may progress to neurodegenerative diseases like Alzheimer's disease and presenile Dementia. Abuse of alcohol, benzodiazepines, tobacco and cannabis may increase the risk for dementia, while according to studies those who use benzodiazepines are 1.7 more times vulnerable to develop dementia than those who have never use it.

5.6 References

- Abdullahi, A. M., Musa, A., & Sarmast, T. (2019). Substance Abuse: A Literature Review of the Implications and Solutions. *Researchgate.Net*. Retrieved from https://www.researchgate.net/profile/Abba-Musa-Abdullahi/publication/344584135_Substance_Abuse_A_Literature_Review_of_the_Implications_and_Solutions/links/5f81afc7a6fdccfd7b55614d/Substance-Abuse-A-Literature-Review-of-the-Implications-and-Solutions.pdf
- Carpenter, S. (2001, June). *American Psychological Association.* Retrieved from Cognition is central to drug addiction: https://www.apa.org/monitor/jun01/cogcentral#:~:text=Cognition%20is%20central%20to%20drug%20addiction%20Recent%20research,likely%20setting%20the%20stage%20for%20addiction%20and%20relapse.
- Dykes, G., & Casker, R. (2021). Adolescents and substance abuse: the effects of substance abuse on parents and siblings. International Journal of Adolescence and Youth, 26(1), 224–237. https://doi.org/10.1080/02673843.2021.1908376
- Hartney, E. (2022, August 25). verywell . Retrieved from DSM 5 Criteria for Substance Use Disorders: https://www.verywellmind.com/dsm-5-criteria-for-substance-use-disorders-21926.
- Kolb, B., & Whishaw, I. Q. (2015). *Fundamentals of Human Neuropsychology.* Worth Publishers.Kolb, B., & Whishaw, I. Q. (2015). *Fundamentals of Human Neuropsychology.* Worth Publishers.
- Medical News Today . (2022, June 19). Retrieved from What are the effects of drug abuse?: https://www.medicalnewstoday.com/articles/effects-of-drug-abuse#summary

- P., B., & Robbe Mathias, A. C. (2012). Cognitive-Behavior Therapy for Substance Abuse. In Standard and Innovative Strategies in Cognitive Behavior Therapy. InTech. https://doi.org/10.5772/30007
- Pinel, J. P. (2013). *Biopsychology.* Pearson.
- Sahu, K. K., & Sahu, S. (2016). Substance Abuse Causes and Consequences. *Bangabasi Academic Journal*, *9*(5), 52–58.

6 Chapter VI: Medications without a prescription



Some medicines for minor illnesses can be bought without a prescription. These medicines are called "Over the Counter" (OTC). The purpose of selling these drugs without a prescription is for people to treat simple diseases themselves at home without going to the doctor. For example, simple pain relievers and cough medicines can be purchased directly from pharmacies, supermarkets and other stores. Some OTCs, such as eye drops, are also available without a prescription but need the supervision of a pharmacist.

The list is being expanded in OTC, that is, over-the-counter drugs, in which national and international companies have invested heavily for the last 5 years. However, there are also those who state that the expansion of the OTC market will create some drawbacks. Concerned that unconscious drug use will increase when the list of over-the-counter drugs is expanded, the authorities also take measures to prevent this. Accordingly, the pharmacists work to prevent unconscious consumption. Dose adjustment, price and active ingredient should be taken into consideration for the drugs to be included in the list. Currently, the list of over-the-counter drugs includes simple pain relievers, nutritional supplements and products with no side effects, such as vitamins, skin creams, and intestinal regulators.[1]

6.1 What are the risks of over-the-counter drugs?

No medicine is completely risk free. Unconscious use of OTC drugs can threaten your life. The Turkish Ministry of Health indicates that OTC drug use has been increasing among adolescents in recent years.[2] OTC use among young people is occasionally used as a means of entertainment. This situation expands the supply and use of some types of illegal drugs. This can pave the way for addiction in young people.

No one wants to live in pain, and fortunately we have effective treatments for many different types of pain today. But many run a serious risk of addiction if you take them for too long. The medical definition of an addictive drug is that you need more of it as time goes on to have the same effect and crave it if

you don't have it. Withdrawal symptoms include sweating and dizziness, anxiety and shortness of breath, as well as severe pain.

Even more worrying, some pain relievers can make your body more sensitive to pain. If you are taking painkillers and you have pain, your instinct is to take more painkillers, which can result in feeding the addiction.

Even 'simple' pain relievers like paracetamol or anti-inflammatory tablets like ibuprofen or naproxen can be addictive if you take them at least three times a week for three months. However, tablets containing codeine are much worse. Taken just twice a week for three months or longer, they can cause these headaches, and it takes much longer to get over the headaches and pains that come with stopping them.[3]

Research showed that the addiction development for OTC drugs is usually neglected. In this research they noticed that three of their patients developed addictions to Nurofen plus.[6]

6.2 How to prevent over-the-counter drug addiction?

If you're taking pain relievers for a long-term condition, don't stop them right away. But if you're taking regular doses of strong pain relievers, ask yourself some serious questions.

First, have you been taking medication regularly for more than three months? If so, do you know exactly how many painkillers you take per day? Have you ever made an effort to take more than the prescribed dose? Think you're out of medication before it's time to renew your prescription? Do you 'borrow' tablets from other people, including your spouse, because you always seem to run out?

Dealing with pain is not easy. If you answered 'yes' to any of these questions, talk to your doctor. Options include pain management clinics, pain group work, physiotherapist evaluation and possibly counseling.

Don't buy prescription medicines from internet sellers who don't require a prescription. If you found an online supplier that is offering medicines for sale without prescription that usually require a prescription? Be aware: they are selling fake medicines. Using them can seriously damage your health.[4]

Community Psychologists are working to prevent addiction among young people. Depending on the person's education, experience, and preferences, community psychologists may work as educators, professors, program managers, consultants, policy developers, evaluators, and researchers in community organizations, universities, or government agencies to improve mental health and community well-being. The monitoring of behavior that is developed for young people. For this purpose, nationally representative surveys of youth behaviors, including substance use, antisocial behavior, sexual behavior, depression, nutritional habits, Youth Risk Behavior Research and National Household Survey on Drug Abuse can be conducted.[9]

What Is Family Therapy?

Family therapy is a type of treatment designed to help with issues that specifically affect families' mental health and functioning. It can help individual family members build stronger relationships, improve communication, and manage conflicts within the family system. By improving how family members interact and relate to one another, family therapy can foster change in close relationships. Some of the primary goals of family therapy are to create a better home environment, solve family issues, and understand the unique issues that a family might face.

Types of Family Therapy

There are several types of family therapy. A few that you might encounter include:

Family systems therapy: This type is an approach that focuses on helping people utilize the strengths of their relationships to overcome mental health problems.

Functional family therapy: This is a short-term treatment often utilized for young people experiencing problems with risky behavior, violence, or substance use. It helps teens and families look for solutions while building trust and respect for each individual.

Narrative family therapy: This type encourages family members to each tell their own story to understand how those experiences shape who they are and how they relate to others. By working with this narrative, the person can start to view problems more objectively than just seeing things through their own narrow lens.

Psychoeducation: This type of treatment is centered on helping family members better understand mental health conditions. By knowing more about medications, treatment options, and self-help approaches, family members can function as a cohesive support system.

Supportive family therapy: This type of therapy focuses on creating a safe environment where family members can openly share what they are feeling and get support from their family.[10]

For Prevention of Misuse of OTC Drugs How Safely Storing and Disposing

Once you choose an OTC pain medication that's right for you or a loved one, it's important to store it safely. It is important to learn where to store your meds, how to keep them Up and Away and Out of Sight of young children, how to prevent misuse, and what to do when you no longer need the medication. You should find a safe place to store all your medications. It is usually best to store medications somewhere that is cool and dry such as a hall closet or kitchen cabinet. They can be damaged by the heat and humidity from the shower and bath when stored in a bathroom, if you noticed that any are expired, discolored, dried out, do not take them as they may no longer work.

If you have young children, you also need to be sure to store all your medications and vitamins up and away and out of sight. You should never leave medications or vitamins out on a table countertop or sink or any easy to access spot you may want to consider storing them in a childproof medication

safe. Also keep purses, bags and coats that contain them out of reach in your home. Always lock caps tightly and put away medications after every use.

If your oat EC pain medication has expired or you no longer have a need for it, make sure to dispose of it properly to avoid misuse by others. Most OTC medications can be thrown in the trash unless the medications label has other disposal directions. If it is safe to throw in the trash, mix the medication with something unappealing like kitty litter or coffee grounds so that if someone finds it, they won't want to take it. You can also bring medications to community disposal.

6.3 Tips for safe use of OTC pain medications

- Do not take more than the recommended dosage.
- Take only one medication with the same *active* ingredient at a time (see packaging label).
- Avoid alcohol when taking these medications.
- Take NSAIDS with a snack or meal.
- Combining herbal products, OTC medications and prescription medications may lead to multi-drug interactions and potentially negative side effects. If you are taking other medications, it is important to check with your healthcare provider or pharmacist before starting new OTC medication.
- Seek medical attention if any side effects occur.
- Keep all medications out of reach of children and pets.[8]

6.4 What are the Risks of the Use of the Internet to Obtain Over-the-Counter Medicines in Adolescents and Young Adults

Non-medical use of prescription drugs is common and carries risks such as injury, overdose and abuse, and the development of addiction. Internet pharmacies offer over-the-counter drugs, creating a source of illicit drugs accessible to anyone with an Internet connection. Pain relievers are the most commonly purchased type of medication. Most adolescent and young adult online purchasers make their purchases from their own or a friend's home.

Non-medical use of prescription drugs is the second most common form of illicit drug use and carries significant risks, including accidental injury, overdose, and developing addiction.[5]

OTC and second-hand drugs sold on the Internet are dangerous. Experts warned that "by selling drugs even containing red prescription drugs, they are committing crimes by spreading death". Unfortunately, drug sales on the Internet cannot be prevented. This must be prevented. As the use of these drugs is already harmful, we do not know whether the people who sell them for profit pour the drug and fill it with water or poison.[7]

6.5 References

1. https://www.nhs.uk/conditions/medicines-information/
2. https://www.kocaelieo.org.tr/duyuru/recetesiz-ilac-halk-sagligini-tehlikeye-atmak-demektir-recetesiz-ilaca-hayir-7664
3. https://www.saglik.org.tr/post/agri-kesici-bagimliligi-konusunda-endiselenmeli-misiniz
4. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5303004/
5. Watanabe, T., Ogai, Y., Koga, T., Senoo, E., Nakamura, K., Mori, N., & Ikeda, K. (2009). Assessment of Japanese Stimulant

Control Law Offenders Using the Addiction Severity Index—Japanese Version: Comparison with Patients in Treatment Settings. *International journal of environmental research and public health*, *6*(12), 3056-3069.

6. Ford, C., & Good, B. (2007). Over the counter drugs can be highly addictive. *BMJ*, *334*(7600), 917-918.
7. https://www.indyturk.com/node/273946/sa%C4%9Flik/eczac%C4%B1lardan-internette-sat%C4%B1lan-ikinci-el-ila%C3%A7lar-i%C3%A7in-uyar%C4%B1-%C3%B6l%C3%BCm-sa%C3%A7%C4%B1p-su%C3%A7
8. https://blog.ufhealthjax.org/2021/09/23/navigating-over-the-counter-medications-to-manage-pain/
9. https://www.researchgate.net/publication/232583418_The_role_of_the_community_psychologist_in_the_21st_century
10. https://www.verywellmind.com/family-therapy-definition-types-techniques-and-efficacy-5190233

7 Chapter VII: Rehabilitation and addiction treatment options

7.1 Introduction

Drug addiction is a serious physiological and psychological condition (National Institute on Drug Abuse). Drug addiction is a complex disorder that can affect almost every aspect of a person's functioning at home, at work and school, and in the community. It is, however, something which can be treated. In this chapter, there are many behavioral and medication related strategies articulated, for example: using pills, vaccination, family services, motivational interviews, art therapy, horticultural therapy, etc. It is also important to mention that some treatments with young people can cause ethical dilemmas (Stockings et al, 2016).

7.2 Is it possible to treat drug addiction?

Yes, but it is not easy. People cannot simply stop using drugs because addiction is a chronic disease. Most patients require long-term or repeated care to completely stop using drugs and regain their health.

Addiction treatment must assist the individual by doing the following:

- Refrain from using drugs, and
- Staying drug-free and productive in your family, workplace, and social life.

7.3 What are the possible treatments for drug addiction?

There are numerous options for successful treatment of drug addiction, following:

Long-term follow-up to prevent relapse (deterioration after improvement) which includes: behavioral counseling, medication, medical devices, and applications used to treat withdrawal symptoms or deliver skills training, as

well as evaluation and treatment for co-occurring mental health issues such as depression and anxiety (Garland and Howard, 2018).

A number of different of care, along with a personalized treatment program and follow-up options, can be critical to success. As needed, treatment should include medical and mental health services. Following-up care may include community or family-based recovery support systems.

7.4 What are the principles of effective treatment?

Based on scientific research, the following key principles should serve as the foundation of any effective treatment program (Hammond, 2017):

- Addiction is a complex but treatable disease which has an impact on brain function and behavior.
- There is no single treatment that is appropriate for everyone.
- People must have immediate access to treatment.
- Effective treatment addresses the patient's entire set of needs, not just his or her drug use.
- It is critical to stay in treatment for an extended period of time.
- The most commonly used forms of treatment are counseling and other behavioral therapies.
- Medications are frequently an important part of treatment, especially when combined with other therapies.
- Behavioral treatments.
- Treatment plans must be reviewed on a regular basis and modified to meet the changing needs of the patient.
- Numerous different possible mental disorders should be addressed during treatment.
- The first stage of treatment is medically assisted detoxification.
- Treatment does not have to be voluntary in order to function properly.
- The use of drugs during treatment must be constantly monitored.

7.5 How medications and psychological devices are used in the treatment of drug addiction?

Medication and devices can be used to alleviate withdrawal symptoms, prevent relapse, and treat coexisting conditions.

- ***Withdrawal***: During detoxification (detoxification is the physiological or medicinal removal of toxic substances from a living organism), medications and devices can help to suppress withdrawal symptoms. Medication should be applied in parallel with therapy. Detoxification is not just a "treatment" itself, but rather the first step in the process. Patients who do not receive additional treatment after detoxification typically resume drug use. According to one study of treatment facilities, medications were used in nearly 80% of detoxification treatment (SAMHSA, 2014). The Food and Drug Administration (FDA) granted a new indication for an electronic stimulation device, NSS-2 Bridge, to help reduce opioid withdrawal symptoms in November 2017. This device, which is worn behind the ear, sends electrical pulses to stimulate specific brain nerves. In addition, the FDA approved lofexidine, a non-opioid medicine designed to alleviate opioid withdrawal symptoms, in May 2018 (Harvey et al., 2020).
- ***Relapse Prevention****:* Medication can help patients re-establish normal brain function and reduce cravings. There are medications available to treat opioid (heroin, prescription pain reliever) addiction, as well as tobacco (nicotine) and alcohol addiction. Other medications are being developed to treat stimulant (cocaine, methamphetamine) and cannabis (marijuana) addiction (Politi, 2020).

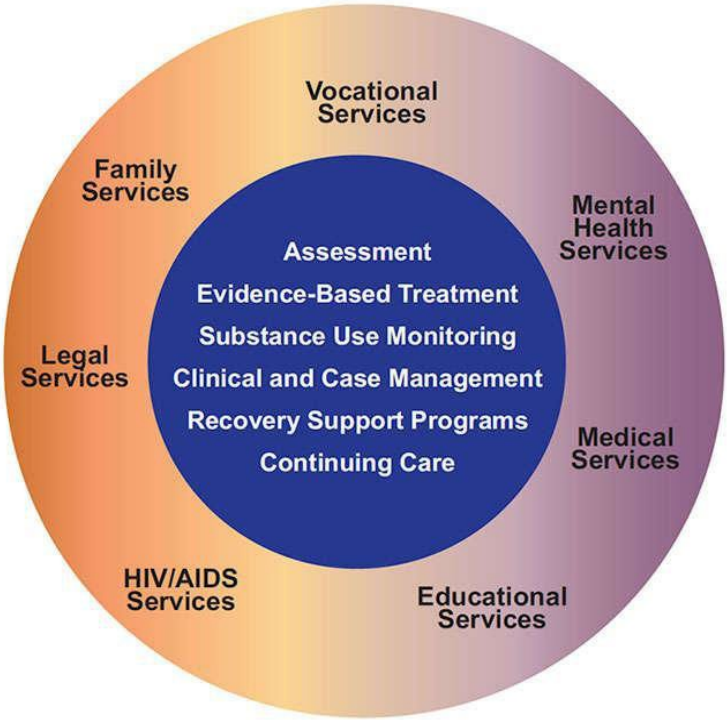
People who use multiple drugs, which is very common, require treatment for all of the drugs they use.

- ***Opioids:*** To treat opioid addiction, methadone (Dolophine, Methadose), buprenorphine (Suboxone, Subutex, Probuphine, Sublocade), and naltrexone (Vivitrol) are used. Methadone and

buprenorphine suppress withdrawal symptoms and relieve cravings by acting on the same brain targets as heroin and morphine (Harvey, 2020).

- ***Tobacco:*** Nicotine replacement therapies come in a variety of forms, including patches, sprays, gum, and lozenges. These items are available without a prescription. The Food and Drug Administration (FDA) in the United States has approved two prescription medications to treat nicotine addiction: bupropion (Zyban) and varenicline (Chantix) (Treatment Approaches for Drug Addiction 2006).
- ***Alcohol:*** There are three medications that have been approved (Müller, 2016):
    - **Naltrexone** inhibits opioid receptors, which are involved in the rewarding effects of alcohol as well as the craving for alcohol.
    - **Acamprosate (Campral)** may alleviate long-term withdrawal symptoms such as insomnia, anxiety, restlessness, and dysphoria (generally feeling unwell or unhappy). It could be more effective in patients suffering from severe addiction.
    - **Disulfiram (Antabuse)** prevents alcohol from being broken down. Acetaldehyde accumulates in the body, causing unpleasant symptoms such as flushing (warmth and redness in the face), nausea, and irregular heartbeat.

The best treatment programs offer a combination of therapies to meet the needs of each patient.



7.6 What is the role of behavioral therapies in the treatment of drug addiction?

Behavioral therapies assist patients in the following:

- Modifying their attitudes and behaviors related to drug use or increasing healthy life skills, and,
- Continue to use other forms of treatment, such as medication.

Patients can be treated in a variety of settings using a variety of approaches.

Outpatient behavioral treatment encompasses a broad range of programs for patients who see a behavioral health counselor on a regular basis. The majority of the programs include either individual or group drug counseling, or both. These programs typically provide behavioral therapies such as:

Family Crisis Intervention Program (FCIP): Substance abuse has a negative impact on families all over the world, and someone who is misusing substances can suffer from immediate harm and danger.

Understanding the importance of preventing overdoses, job loss, familial abuse, and even eviction can be extremely stressful. In order to properly interfere, you must first determine whether the situation is safe to confront your family member. It is then a matter of having clear and open communication about their problem (Al Channa et al., 2012).

Cognitive Behavioral Therapy (CBT): The key component of CBT is the interaction of thoughts, feelings, and behaviors in a way that each influences and is influenced by the others. For example, your thoughts and behaviors influence your feelings, and your feelings influence your thoughts and behaviors. This concept empowers the client to improve the unfavorable aspect by addressing the other two (Noel et al, 2013). For example, when working with young people, therapists can focus on thoughts such as drugs will give me pleasure, feelings such as happiness derived from using drugs, and behaviors such as attempts to use drugs. With CBT, psychologists try to raise awareness for the connection between thoughts, feelings, and behavior, so that young people become more aware how their thoughts and feelings affect their drug use behavior.

Motivational Interviewing: Motivational interviewing is a psychotherapeutic approach that aims to move an individual away from indecision or uncertainty and toward finding the motivation to make positive decisions and achieve set goals. The five main motivational interviewing styles are as follows: expressing empathy, avoiding argumentation, rolling with resistance, establishing discrepancy, and promoting self-efficacy (Li et al, 2016).

Mindfulness-based Treatment of Addiction: MBIs actually teach practices that elicit the state of mindfulness, which is defined as a state of metacognitive awareness characterized by attentive and nonjudgmental monitoring of here and now. This includes cognition, emotion, sensation, and perception with no focus on the past or future. Mindfulness practice has been proposed to include two primary components: focused attention and open monitoring (Garland etl al., (2018).

Rational Emotive Behavior Therapy (REBT): Rational Emotive Behavior Therapy (REBT) may assist you in recognizing negative thoughts and combating feelings of self-destruction. REBT's goal is to help you realize that the power of rational thinking is within you and not dependent on external situations or stressors (Li et al., 2016).

Contingency Management (CM): Contingency management therapy reinforces positive behavior (such as sobriety) by providing tangible rewards. According to the National Institute on Drug Abuse, this type of treatment has been used successfully to combat relapse (Yiu et al., 2021).

12 Step-Facilitation: It is a type of group therapy that acknowledges the addiction has several negative consequences which can be social, emotional, spiritual, and

physical. This type of therapy starts with acceptance, then progresses to surrender to a higher power, and finally to participation in regular group meetings. Events such as "Alcoholics Anonymous", contains group meetings for discussion and mutual support (Granö et al., 2016).

Dialectical Behavior Therapy: This is beneficial for patients who struggle to regulate their emotions and have suicidal or self-harm thoughts. Acceptance of unpleasant thoughts, feelings, or behaviors is emphasized in order for patients to overcome them (Granö et al., 2016).

The Matrix Model: The Matrix model provides a framework for individuals in recovery from stimulant addiction to maintain abstinence. It's mostly used to help people recover from methamphetamine or cocaine addiction. The

therapist behaves like a teacher or a coach, fostering a positive relationship with the patient and encouraging behavioral change. The therapist encourages the patient's dignity and self-worth while avoiding confrontational communication. The Matrix model, yet includes drug testing (Lauzière et al., 2022).

Eye Movement Desensitization and Reprocessing: Eye movement desensitization and reprocessing therapy reduces the distress caused by traumatic memories and the symptoms of post-traumatic stress disorder, which frequently cause or worsen substance use disorders. EMDR therapy assists patients in reprocessing traumatic memories in order to make them less painful. While recalling the traumatic event, the patient makes external eye movements. The procedure instructs the brain to associate the memory with less distressing feelings in order for it to heal (Hammond, 2017).

Animal Therapy: Animals are used in a number of addiction treatments. Patients interacting with horses during equine therapy is one of the most popular animal-assisted therapies. Nonverbal cues from the horses provide feedback. Patients learn to understand their own emotions and how to deal with negative emotions like frustration and fear (Treatment Approaches for Drug Addiction, 2016).

Music Therapy: According to music therapy research, song writing can promote healthy change, drumming can promote relaxation, and dancing can reduce stress, anxiety, and depression symptoms. According to a study published in the Drug and Alcohol Review, music therapy is associated with a patient's willingness to participate in treatment (Hammond, 2017).

Art Therapy: Patients express themselves by drawing, painting, sculpting, or creating art journals. Stress painting, in which patients paint during times of high stress, and incident drawings, which depict events that occurred during substance abuse, are also art therapy techniques (Hammond, 2017).

Horticultural Therapy: Gardening and other plant-based activities are part of horticultural therapy, which is led by a trained therapist. Horticultural therapy, also known as garden therapy and therapeutic gardening, has been shown in

studies to improve critical thinking, attention span, stress, anxiety, and social integration (Politi et al., 2017).

7.7 References

- Alatawi Khader K., et al. (2022). "Drug Detection Tests and the Important Factors and Effects of the Development of Addiction." *Journal of King Saud University – Science*, *34* (5). p. 102093. https://doi.org/10.1016/j.jksus.2022.102093.
- Al Channa M., et al. (2012) "A Programme Evaluation of the Family Crisis Intervention Program (FCIP): Relating Programme Characteristics to Change." *Child & Family Social Work, 19* (2), pp. 225–236., https://doi.org/10.1111/j.1365-2206.2012.00896.x.
- Garland Eric L., & Matthew Howard O. (2018). "Mindfulness-Based Treatment of Addiction: Current State of the Field and Envisioning the next Wave of Research." *Addiction Science &amp*, *13*, Clinical Practice. https://doi.org/10.1186/s13722-018-0115-3.
- Granö N., et al. (2016) "Community-Oriented Family-Based Intervention Superior to Standard Treatment in Improving Depression, Hopelessness and Functioning among Adolescents with Any Psychosis-Risk Symptoms." *Psychiatry Research*, *237*, pp. 9–16., https://doi.org/10.1016/j.psychres.2016.01.037.
- Kehle-Forbes Shannon M., et al. (2016) "Study Design, Interventions, and Baseline Characteristics for the Substance Use and Trauma Intervention for Veterans (Strive) Trial." *Contemporary Clinical Trials, 50*, pp. 45–53., https://doi.org/10.1016/j.cct.2016.07.017.
- Politi M., et al. (2020) "Traditional Use of Banisteriopsis Caapi Alone and Its Application in a Context of Drug Addiction Therapy." *Journal of Psychoactive Drugs, 53* (1), pp. 76–84., https://doi.org/10.1080/02791072.2020.1820641.
- Lauzière J., et al. (2022) "Cultural Safety as an Outcome of a Dynamic Relational Process: The Experience of Inuit in a Mainstream Residential Addiction Rehabilitation Centre in Southern Canada."

Qualitative Health Research 32 (6), pp. 970–984., https://doi.org/10.1177/10497323221087540.

- Li, L., et al. (2016) "Effectiveness of Motivational Interviewing to Reduce Illicit Drug Use in Adolescents: A Systematic Review and Meta-Analysis." *Addiction 111* (5), pp. 795–805., https://doi.org/10.1111/add.13285.
- Fernandes, L. & Mokwena, K.E. (2016). The role of locus of control in nyaope addiction treatment. *South African Family Practice, 58* (4). 153-157, DOI:
- 10.1080/20786190.2016.1223794.
- Müller, U., et al. (2016). Nucleus Accumbens Deep Brain Stimulation for Alcohol Addiction – Safety and Clinical Long-term Results of a Pilot Trial. *Pharmacopsychiatry, 49* (4), 170-173. doi: 10.1055/s-0042-104507
- Noel, X., Brevers, D., & Bechara, A. (2013). A triadic neurocognitive approach to addiction for clinical interventions. *Front. Psychiatry,* Retrieved from: https://doi.org/10.3389/fpsyt.2013.00179
- National Institute on Drug Abuse. Principles of Drug Addiction Treatment: A Research-Based Guide (Third Edition). January 2014. Retrieved from: https://nida.nih.gov/sites/default/files/podat-3rdEd-508.pdf
- Harvey Laura M., et al. (2020) "Psychosocial Intervention Utilization and Substance Abuse Treatment Outcomes in a Multisite Sample of Individuals Who Use Opioids." *Journal of Substance Abuse Treatment*, 112, pp. 68–75., https://doi.org/10.1016/j.jsat.2020.01.016.
- Hammond, C. (2017). Treatment Strategies for Substance Use Disorders in Adolescents: A Clinical Review, *Psychiatric Times, 34 (*6). Retrieved from: https://www.psychiatrictimes.com/view/treatment-strategies-substance-use-disorders-adolescents-clinical-review
- Beck B. et al., (2017). Supplemental Material for Systematic Review of Smart Recovery: Outcomes, Process Variables, and Implications for Research. *Psychology of Addictive Behaviors*. https://doi.org/10.1037/adb0000237.supp.

- "Treatment Approaches for Drug Addiction."(2006). PsycEXTRA Dataset. https://doi.org/10.1037/e597452007-001.
- Stockings, E., Hall, W. D., Lynskey, M., Morley, K. I., Reavley, N., Strang, J., ... & Degenhardt, L. (2016). Prevention, early intervention, harm reduction, and treatment of substance use in young people. *The Lancet Psychiatry*, *3*(3), 280-296.
- Yiu HW, Rowe S, Wood L. (2021). A systematic review and meta-analysis of psychosocial interventions aiming to reduce risks of suicide and self-harm in psychiatric inpatients. *Psychiatry Res.* Nov;305:114175. doi: 10.1016/j.psychres.2021.114175. Epub 2021 Aug 16. PMID: 34455215.