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**SUBSTANCE ADDICTION AMONG YOUTH IN
NORTHERN CYPRUS**

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Abstract

It is stated that substance use in Northern Cyprus starts at a young age (12-15 years) and this is an important problem. It is necessary to examine the causes of this problem and to shed light on what needs to be done. It is thought that the findings of this research will be benefited especially in knowing the risk factors and how to carry out preventive studies. In this study, it is aimed to describe the current situation of youth living in Northern Cyprus regarding substance addiction. Thus, it will be possible to compare the research findings related to substance addiction among young people in Turkey, Europe and the world. It is also aimed to give direction to studies on addiction by explaining what the person, his/her family, educational institutions and society should do. In this study, a literature review will be carried out. In the literature review, a conceptual framework will be drawn by accessing current sources. In particular, it is aimed to use current reports, theses and articles. The article will include sub-headings on the basis of research questions. It should be also stated that a critical approach will be adopted.

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Keywords: Substance addiction, youth, Northern Cyprus, youth, prevention of addiction, roles of stakeholders

1. Introduction

The Northern Cyprus Prime Ministry Anti Drug Commission carries out its studies in the fields of supply-demand reduction, law and prevention studies regarding substances. The Northern Cyprus Drugs and Addiction Report 2021 reveals that substances such as cannabis, synthetic cannabinoids, ecstasy and cocaine are more commonly used among young generations in Northern Cyprus. For this reason, this review research was carried out based on the conclusion that it is important to determine the risk factors for young people and to reveal what should be done.

2. Purpose of the Study

It is stated that substance use in Northern Cyprus starts at a young age and this is an important problem. It is necessary to examine the causes of this problem and to shed light on what needs to be done. It is thought that the findings of this research will be benefited especially in knowing the risk factors and how to carry out preventive studies. In this study, it is aimed to describe the current situation of youth living in Northern Cyprus regarding substance addiction. Thus, it will be possible to compare the research findings related to substance addiction among young people in Turkey, Europe and the world. It is also aimed to give direction to studies on addiction by explaining what the person, his/her family, educational institutions and society should do.

3. Research Questions

- i. What is the general picture regarding substance abuse among young people living in Northern Cyprus?
- ii. What are the risk factors for young people regarding addiction?
- iii. What are the responsibilities of the individual, family, educational institutions and society in preventing addiction?

4. Method

In this study, a literature review will be carried out. In the literature review, a conceptual framework will be drawn by accessing current sources. In particular, it is aimed to use current reports, theses and articles. The article will include sub-headings on the basis of research questions. It should also be said that a critical approach will be adopted.

5. Findings

In the findings section, the results of the analysis were included in order to answer the research questions.

5.1. Substance use in North Cyprus

The rate of illegal substance use in Northern Cyprus was determined as 3.0-11.7% between 2003 and 2017 (Çakıcı et al., 2003; Çakıcı et al., 2006; Çakıcı et al., 2019). It is seen that the rates of psychoactive substance use are lower than in Europe and the USA. However, it is seen that there is an increase in the use of illegal substances in Northern Cyprus compared to years. When illicit drug use rate analysed it is seen that countries such as Cambodia (4%), China (6%), Hong Kong (0.5%), Indonesia (2.5%), Macau (0.1%), Malaysia (2.1%), Myanmar (0.9%), Philippines (2.1%) and Vietnam (0.2%) are higher in Northern Cyprus. Usage rates in Egypt (9.6%) and America (10.3) are close to Northern Cyprus (Devaney et al., 2007; Chaloupka & Weschler, 1996). In New Zealand, the rate of illegal substance use is 77.3%. This percentage is significantly higher than the usage rate in North Cyprus (Boden et al., 2006). In a study conducted ten years ago, it was revealed that 185 million adults in the world use illegal substances (Anderson, 2006).

In recent years, many studies have been carried out in Northern Cyprus, and the current situation has been revealed by comparing the research findings on substance use in different years, especially in primary, secondary, high school and universities. Analysing the studies of Çakıcı et al. for the last 20 years and presenting it in a report in 2021, the Anti Drug Commission revealed the substance use status of students at different education levels (North Cyprus Anti Drug Commission, 2021).

According to the results of a research at primary school level in 2015, it was determined that 10.9% of primary school 5th grade students smoked at least once in their lives, and the lifetime alcohol consumption rate of students was 23.5%. A study conducted in at-risk regions was conducted in 2019 and it was found that 17.0% of the students smoked at least once in their lifetime. In addition, in the aforementioned study, the lifetime alcohol consumption rate of primary school 5th grade students was determined as 27.6%.

The findings of the secondary school level substance use studies conducted in 2015 and 2019 are briefly as follows. In a study conducted in 2015, the rate of smoking at least once in a lifetime among all secondary school youth was 8.7%, the rate of alcohol use was 36.3%, and the rate of other psychoactive substance use was 4.9%. In 2019, the research was repeated with the same methods. In the study, it was found that 10.9% of the students smoked at least once in their lifetime. In the study, lifetime prevalence of alcohol use in the same age group was determined as 40.1%. The rate of students trying any DPM for life was determined as 5.3% in 2019. In the study, it was stated that the lifetime use rate of cocaine, heroin, amphetamine, LSD and ecstasy was between 0.3-0.9%. It is noteworthy that the use of ecstasy, which is one of the most used substances among these substances, increased threefold from 1996 to 2004.

In the study conducted in 2019 on the substance use of high school students in Northern Cyprus, the rate of smoking at least once was determined as 35.8%. The rate of alcohol use at least once in a lifetime was 67.4% and the lifetime use of other psychoactive substances was 9.1%. While the rate of smoking at least once in a lifetime among Turkish Cypriot high school students was 31% in 2015, it was determined that this rate increased to 35.8% in 2019.

Based on the research results in Northern Cyprus on the substance use of university students in 2019, it was determined that the lifetime smoking rate of students was 64.9%. The lifetime alcohol use rate was found to be 65.8%. In the study, the rate of illegal substance (DPM) use was found to be 16.7%. When the

research results are evaluated in terms of substance preferences, it is seen that the most commonly used illegal substance is cannabis, but synthetic cannabinoids are also used.

One of the studies carried out to represent the general public in Northern Cyprus was carried out in 2017. In this study, as a result of the participation of 1000 people, the frequency of lifetime smoking was 60.9%, the frequency of alcohol use was 63.5% and the frequency of DPM use was 11.7%. It has been observed that the use of illegal substances has increased gradually in Northern Cyprus since 2003. It has been determined that the most frequently used substances are cannabis, synthetic cannabinoids, ecstasy, codeine syrup and sedative drugs. Cyprus is a small country and this fact is seen as the reason to lead people to access to psychoactive substances and to spread them rapidly on the island.

Considering the above research results, it is seen that substance use is a threat to young people. Based on this reality, it is considered important to describe the risk factors for substance use for young people. In the last title of the findings section, what stakeholders should do about substance use prevention and rehabilitation is determined.

5.2. Risk Factors of Addiction for Youth

To get a handle on any issue, one of the most important things you can do is make sure you have a firm grasp on both the factors that led to the problem in the first place and the potential consequences those factors could have. The National Institutes of Health (NIH) (2019) identifies the top risk factors for opioid use disorder as the following: region, age, race, sex, education, occupation, poverty level, previous prescription opioid use, psychiatric comorbidities, and rural areas. Other risk factors include rural areas and psychiatric comorbidities.

Addiction to substances, which is closely related to substance use disorders (SUDs), represents large and growing public health problems that account for nearly 6% of the burden of disease on a global scale (Degenhardt et al., 2018). One way to look at it is as an issue with multiple facets, some of which are mental health, cultural norms, biological factors, and predispositions (Hatoum et al., 2022). In addition, substance use disorders (SUDs), which include both substance abuse and substance dependence (Saunders, 2017), are neuropsychiatric conditions characterized by a recurrent desire to continue taking a substance or drug despite the fact that doing so will have negative effects on one's life (Zou et al., 2017). The DSM-5 criteria for substance use disorder are outlined in American Psychiatric Association (2013). If a person has two to three symptoms, it is considered mild; if they have four or five symptoms, it is considered moderate; and if they have six or more symptoms, it is considered severe (Saunders, 2017). Each individual substance is treated as its own distinct form of substance use disorder. One of the most common types of mental illness is substance use disorder (SUD). The lifetime prevalence of a substance use disorder is 10%, while the prevalence over the past 12 months is 4% (Grant et al., 2016).

5.2.1. Individual Risk Factors

Biological and genetic risk factors. The argument that genetics play a significant role in addiction and addiction patterns has been proven to be strengthened in recent years by the study of predispositions and genetic patterns in DNA. Rylaarsdam (2018) the following statement was made: "Recent advancements in genomic analysis and gene expression profiling are beginning to advance our knowledge of genetics to

addiction" (p. 232). The advancement of DNA technology leads to the formation of new discoveries, which in turn contributes to the growth of the body of knowledge surrounding the genetics of behavior.

The importance of a family history of substance abuse as a risk factor for substance use disorder is supported by a significant body of research in the field (Merikangas et al., 1998). There is a possibility that a significant portion of this risk is inherited. In studies on adoption that Cadoret et al. (1995) have carried out, it has been shown that genetic risk factors could have a potentially significant impact. They discovered that offspring of biological parents who were alcoholic had a higher risk of developing a substance use disorder (SUD), even if they were separated from their biological parents at birth. The offspring of biological parents who were antisocial had an even greater risk of developing a substance use disorder via a path that began in childhood aggression and behavior problems. Studies involving behavior genetics and twins have also been used to investigate the heritability of a substance use disorder (SUD) and to differentiate between genetic, shared environmental, and individual environmental factors.

Being male, having a family history of substance use disorders, being young, and having a comorbid psychiatric disorder such as major depressive disorder, bipolar disorder, or posttraumatic stress disorder are all factors that increase the likelihood of developing a substance use disorder (Grant et al., 2016). The consequences that are associated with substance use disorders are staggering. Some of these consequences include compromised physical and mental health, increased spread of infectious disease, loss of productivity, reduced quality of life, increased crime and violence, increased motor vehicle accidents, increased instances of child abuse and neglect, and increased costs associated with health care (Day, 2018).

Heritability, or the proportion of observed variation that can be attributed to genetic factors, has been estimated to be anywhere between 40 and 60 percent in the case of SUD. Cocaine (72%) was found to have the highest heritability, while hallucinogens (39%) were found to have the lowest (Goldman et al., 2005). According to Verhulst et al.'s (2015) research, the heritability of alcoholism is 50%, while the heritability of opioid addiction ranges from 23% to 54% (Kendler et al., 2000).

Regarding the findings related to candidate genes, which have traditionally been selected on the basis of biochemical hypotheses (Agrawal et al., 2012), there were several significant genes identified that are related to metabolism (alcohol dehydrogenase) or to neurotransmission. In addition, there were several candidate genes that were found to be associated with both metabolic processes and neurotransmission (dopamine, serotonin, or gamma-aminobutyric acid). These genes were found to be associated with two or more instances of SUD: OPRM1, DRD2, DRD4, BDNF, and SLC6A4 (Lopez-Leon et al., 2021). In a recent study from Turkey there were new insights about the individual risk factors related to substance use, specifically with respect to the role of Alexithymia, Depression, Somatizasyon, Age, Gender, Attachment Styles (Ünüböl & Sayar, 2022).

Prenatal Substance Exposure. There is some evidence that prenatal exposure, at least to alcohol, may constitute a risk factor for an adolescent substance use disorder that is independent of the genetic risk. This risk factor is beginning to emerge (Yates et al., 1998).

Temperament. Certain personality constellations may put an individual at a higher risk for substance use disorder (Glantz & Sloboda, 1999). Individual temperament is a constellation of characteristics that are present from birth, largely stable throughout life, and may form the basis for personality; it may constitute a risk factor through the interaction of the individual with their environment. In this section, we will spend

some time discussing a few key temperament clusters. Behavioral disinhibition, which is characterized by under-control, impulsivity, and sometimes aggression, has been shown in a number of studies to often predict later substance use as well as poor behavioral outcomes. This is because behavioral disinhibition is characterized by under-control, impulsivity, and sometimes aggression. According to research conducted on adolescents, another temperamental trait that may be predictive of the likelihood of developing a substance use disorder is a desire for novel experiences or sensations (Wills et al., 1994).

The First Use. According to the findings of several population-based studies (Hanna & Grant, 1999), people who begin using substances at an earlier age than the majority of their contemporaries are more likely to develop a substance use disorder (SUD), and this finding does not appear to be an artifact caused by a longer period of follow-up.

Psychiatric. For more information, see Glantz and Sloboda (1999) and Weinberg and Glantz (1999) for a discussion of the high rates of comorbidity, also known as the co-occurrence, of psychiatric disorders and substance use disorders. In addition to substance abuse, a strong correlation has been found between conduct disorder and substance use disorders (Biederman et al., 1997). In point of fact, there might be significant genetic connections between a behavioral disorder and a substance use disorder, at least for alcoholism (Slutske et al., 1998). The co-occurrence of internalizing (mood and anxiety) disorders and externalizing (conduct or impulsivity) disorders is something that should be taken into consideration because it may in itself predispose children to developing a substance use disorder (SUD) (Windle & Windle, 1993). It is common knowledge that both genetic and environmental factors play a role in the etiology of substance use disorder (SUD) (Prom-Wormley et al., 2017).

5.2.2. Environmental Risk Factors

Family. As was mentioned earlier, a history of substance use disorder in the family is a strong indicator of the likelihood of substance use disorder in the offspring, and numerous parenting factors have been linked to increased likelihood of substance use disorder (Kumpfer et al., 1998). In addition to the transmission of susceptibility to substance use disorder through genetics, parents who use drugs may also influence their children through specific factors, such as modeling drug use, and nonspecific factors, such as marital discord or exposure to stress. Specific factors include modeling drug use. Nonspecific factors include marital discord or exposure to stress (Merikangas et al., 1998). Genes and the environment interact in very important ways; as a result, the environment may either increase or decrease the likelihood that certain vulnerability genes will be expressed in an outcome associated with a substance use disorder (SUD). A study of childhood and adolescent aggression that utilized an adoption paradigm provided an example of this type of interaction (Cadoret et al., 1995). When compared to children who did not have this known predisposition, it was discovered that children who were born with a biological predisposition to antisocial behavior were more sensitive to conditions in the adoptive home when it came to the manifestation of aggressive behavior during the development process. Therefore, it is unclear when family influences act directly as risk factors, when they act as interaction factors, and when they act as biological risk markers. In addition, the majority of the studies that were conducted on the topic of familial risk factors did not differentiate between the risk factors for substance use and the risk factors for an SUD. Studies on parental supervision have shed light on a few of these issues to a greater or lesser degree. The results of many of

these studies found a correlation between inadequate parental monitoring and the use of substances by adolescents (Hawkins et al., 1992). Despite the fact that there is evidence that a maternal substance use disorder is linked to low levels of parental monitoring, however, only a small number of these observational studies controlled for the presence of parental substance problems (Chilcoat et al., 1996).

Peers. A common contributor to the development of substance use disorders in adolescents is having friendships with people who partake in drug abuse (Hawkins et al., 1992). It is unclear, however, to what extent peers actually influence use and to what extent the selection of these peers is more of a marker for high risk. Peers are more likely to influence use when they share similar characteristics. According to Iannotti et al. (1996), adolescents may exaggerate or misreport the degree of substance use among their peers, which results in inflated estimates of peer association. Furthermore, despite the fact that influences from vulnerable adolescents' peers may mitigate or moderate the risk of initiating substance use, factors at the individual level probably play a larger role in the progression to a substance use disorder once the use has begun.

Risky Environment. By making it easier to obtain substances of abuse, a risky environment may be able to influence the kinds of behaviors that are associated with substance abuse. Having easy access to substances lowers the barriers involved in acquiring, using, and abusing substances, which in turn makes it easier to start using substances and opens the door to the possibility of abusing them. Environments that are highly accessible to tobacco, alcohol, and illegal drugs not only make it easier for people with substance use disorders to acquire substances, but they also may contain environmental cues that cause cravings for those substances (Mennis et al., 2016).

Region. The idea that someone's geographic location can make them more likely to develop an opioid use disorder is baffling. Drug trafficking is more prevalent in areas that have easy access to highways that cross the country. This makes it simpler to supply an area with illegal drugs, which in turn makes that area a risk factor for exposure to opioid abuse (O'Donnell et al., 2017).

Culture or Cultural norms. Over the course of the past few decades, there has been a significant shift in the culture of nations, which has allowed for a shift in perception regarding the use of and abuse of drugs. According to Hulvershorn (2019), "the public perceives cannabis as a safe source of recreation or even as a cure-all therapy" (p. 39). As an illustration, a growing number of people in the United States are turning to the use of cannabis as a means of alleviating anxiety, treating minor ailments, and assisting in the treatment of a variety of other conditions associated with curing. Cannabis is increasingly being used for recreational purposes, despite the fact that it is essential for the medical community and the culture of the nation to have an understanding of the medicinal properties of cannabis. This has resulted in cannabis becoming a sought-after item because it is perceived as being less harmful than other popular drugs. In recent years, the United States has fostered a culture of using mind-numbing substances to avoid the reality of daily disappointments, frustrations, and catastrophic events. This has been coupled with hands-off parenting methodologies, which have further contributed to the development of this culture. As the country continues to struggle under the weight of high addiction rates, the requirement for cultural shifts becomes an important component in the fight against addiction as well as many other behaviors that are associated with it, such as criminal activity. Many aspects of a person's behavior in everyday life are influenced by

their culture, which frequently results in the individual turning to self-medication to cope with challenging circumstances.

5.3. Responsibilities of the individual, family, educational institutions and society in preventing addiction

Our understanding of the biological and psychological factors that contribute to addiction has been fundamentally altered by recent advances in science. There is a tremendous potential to translate this vast knowledge base into meaningful advancements in the prevention and treatment of substance use disorder, which will not only benefit addiction medicine but also the multitude of health conditions that are triggered or exacerbated by drug use. This would be beneficial to both fields (Schulte & Hser, 2013).

On the basis of epidemiological data identifying factors that increase risk for or provide resilience against substance use disorder, a number of different prevention interventions for substance use disorder have been developed. These interventions are evidence-based and have been shown to be effective (Volkow & Boyle, 2018).

Table 1. Strategies include decreasing risk factors and enhancing protective factors at the individual, family, community or school, and societal levels

Domain	Modifiable Risk Factor	Intervention related to prevention
Individual	Early aggressive behavior	Self-regulation skills training
	Poor social skills	Social skills training
	Early substance use	Early prevention interventions
Family	Insufficient parental supervision	Parenting skills training
Family or schools	Low self-confidence	Educational interventions; tutoring
Community or schools	High drug availability	Supply reduction policies; community policing
	Misperceptions of drug use norms	Norms training
	Peer substance use	Refusal skills training
Societal	Poverty	Jobs training; community building interventions

Source: Modified from Badiani, Berridge, Heilig, Nutt, & Robinson, 2018; Volkow and Boyle, 2018

Because of our increased understanding of the effects of substance use on normal brain development, the deleterious effects of adverse environments, and the role of innate vulnerabilities, we will be able to develop personalized interventions to reverse or mitigate some of the deficits that have been identified. For instance, adverse social environments during early childhood can result in delayed prefrontal limbic connectivity, which is associated with impulsivity (Ersche et al., 2012; Govindan et al., 2010). As a result, impulsivity is a reliable indicator of increased susceptibility to substance use disorder (Moffitt et al., 2011). However, children can be taught to improve their ability to self-regulate and, as a result, learn to control their impulsivity through training. In addition, being socially isolated and being exposed to social environments with limited support are associated with lower levels of dopamine D2 receptor expression in the striatum. This is linked with increased susceptibility to impulsivity as well as compulsive drug use

(Martinez et al., 2010). Additionally, studies are beginning to identify changes in brain development that are triggered by early exposure to drugs such as alcohol and marijuana (Squeglia et al., 2015; Zalesky et al., 2012). Future access to standardized measures of brain development will support the development of early interventions to mitigate developmental vulnerabilities or counteract negative neuroadaptations. In this regard, the recently initiated Adolescent Brain Cognitive Development Study, which aims to study 10,000 children with brain imaging, genotyping, and deep phenotyping across the transition from childhood into adulthood, will provide valuable data for determining normal human variability in brain development and how it is disrupted by drug use and mental illnesses. The Adolescent Brain Cognitive Development Study aims to study 10,000 children with brain imaging, genotyping, and deep phenotyping across the transition from childhood into adulthood (National Institutes of Health, 2015). In a similar vein, the Baby Connectome Project, which is a study of brain development in children from birth up until the age of five years old (Volkow & Boyle, 2018), will provide insight into the early development of the human brain at a stage when it is most sensitive to the negative effects of adverse environmental factors, such as neglect and abuse.

Preventive therapies that do not involve the use of drugs. Neural stimulation technologies, such as transcranial magnetic stimulation (TMS), transcranial direct current stimulation (tDCS), deep-brain stimulation, and peripheral stimulation devices; behavioral interventions (Volkow & Boyle, 2018).

6. Conclusion

In Northern Cyprus, efforts should be made to reduce supply and demand for drugs, to make laws and to prevent drug addiction. Studies to reduce personal and social problems arising from substance use gain importance in Northern Cyprus. Addiction Awareness Training activities should be carried out for the whole society. In addition, educational activities should be carried out in educational institutions. Continuous training programs should be created and implemented in order to raise awareness of students, teachers and families about the fight against drugs.

In the fight against drugs, it is a holistic process that requires simultaneous struggle in the fields of prevention, education, treatment and rehabilitation. It is imperative that all institutions and organizations and even the society act together in order to combat drugs to be successful. While this obligation pushes the institutions to work in a scientific way, it ensures that the acquired knowledge and experience is transferred to the stakeholder institutions and individuals.

Social interventions and policies, psychosocial support programs, and strengthening the treatment and rehabilitation capacity in both the public and private sectors are the most important steps to be taken. With the social adaptation center prepared for the empowerment of the individual, the integration of the individual into the society (job, food, education, asylum services) should be ensured. In this way, the person will develop basic life skills and have a healthier life. In addition, vocational training courses should be provided for individuals and the individual should gain a profession by continuing these courses. In this way, it will be possible for these people to increase their self-confidence and develop their life skills.

Substance addicts and those at risk of addiction should be supported by rehabilitation process involving clinical psychologists and experts in the field of addiction. It is very important to support people with special programs according to their needs by applying personalized psychotherapy methods, individual

interviews or group therapies. Prevention programs, play a very serious role in the fight against substance addiction, with the function of delaying the age of onset of substance use and making it difficult to start other substances. Therefore, it seems possible to keep individuals completely away from substance addiction with life skills that were gained at an early age through prevention programs. Everyone has a responsibility to protect especially children and young people against the drug problem, which poses a great danger in Cyprus and in the world. Families have a great responsibility in this regard. It is a fact that family-oriented studies are important in prevention programs developed against substance use.

There has been a significant increase in drug-related crimes in Northern Cyprus in recent years. It is necessary to determine the causes and risk factors behind drug use or crimes and to identify the deficiencies experienced in the supply, use, addiction, treatment and rehabilitation of drugs. Considering the studies in the international arena, it is an inevitable necessity that the Prime Ministry Anti-Drug Commission in Northern Cyprus should be legally institutionalized. In addition, it is of great importance in the fight against drugs to carry forward the national state policy development studies initiated within the Prime Ministry Anti-Drug Commission.

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