PREVELANCE OF ADDICTIVE SUBSTANCE USE AND AFFECTING FACTORS IN HIGH SCHOOL STUDENTS IN IPEKYOLU DISTRICT OF VAN PROVINCE

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ABSTRACT

This study was conducted to determine the frequency of substance addiction in high school students and to evaluate the factors affecting it. 1131 high school students were included in the cross-sectional study. A questionnaire about socio-demographic characteristics and Addiction Profile Index Adolescent Form (APİ-E) form were applied to the students in a closed envelope method. 58.7% (655) of the students were male and 41.3% (472) were female. The mean age of the participants in the study is 16,81±1.38. 9.4% of the participants (70 people) stated that they received psychiatric treatment. 18.5% (209 people) of the students used an addictive substance at least once. 12.2% (138 people) used at least one of the addictive substances except alcohol. Substance use for once in a lifetime is significantly higher in boys than in girls (p<0.001). Substance use is significantly higher in those with a broken family structure and those living separately from their families than those with a nuclear or extended family structure (p=0.002). Those who received psychiatric treatment due to any complaint at least once were significantly higher than those who did not receive psychiatric treatment (p<0.001). Substance use at least once is significantly higher in children with low school success compared to other groups (p<0.001). Correlation between students' achievement status and API-E subscale scores was examined. A strong negative correlation was found between achievement status and API-E scores in all subscales. As with other health problems, disadvantaged groups are at risk in addiction. It is important to support these children during childhood and adolescence. Addiction remains an important public health problem.

Keywords: Students, addiction, prevelance, cross-sectional.

INTRODUCTION

According to the World Health Organization, health; It is a state of complete physical, mental and social well-being (Güler & Akın, 2012). Addiction is an important public health problem in that it impairs all three components of this state of well-being. Addictive substance use is one of the important public health problems in the world and in our country. Although tobacco and alcohol addiction are among the leading ones, abuse of psychoactive drugs is also responsible for high morbidity and mortality rates. Among these psychoactive drugs, there are opiates such as heroin, cocaine, and stimulant drugs such as amphetamines (Detels et al., 2015). In recent reports, it is stated that cocaine production is at record levels and there are serious increases in the use of amphetamine-derived drugs (United Nations publication, 2022).

Dependence; It is a psychiatric syndrome. For the diagnosis of addiction; DSM-V is used. Accordingly, the presence of any three of the 7 items is used to diagnose addiction.

- Development of tolerance to the substance used
- Withdrawal symptoms appear when the substance is discontinued or reduced
- Wanting to reduce or quit the substance, but failing to do so
- Spending a great deal of time obtaining, using, or giving up the substance
- Withdrawal from social, work and personal activities due to substance use
- Using the substance in larger amounts and for longer than needed
- Not being able to give up substance use even though it causes or exacerbates physical or mental problems (DSM-V, 2013).

During adolescence, young people are considered to be a vulnerable group in terms of substance addiction because they are prone to risky behaviors. The stress caused by being in a period of rapid physical, mental and social development, physical or personal concerns about themselves, their struggle for independence with their families, and the lack of development of the concept of risk may push them to adopt some dangerous bibliography should be reviewedbehavior patterns and try some substances harmful to their health (Güler & Akın, 2012).

Substance use prevalence is significantly higher in adolescence and young adulthood and is among the leading risk factors for disease burden in this age group. While the increase in substance use in adolescence is changing rapidly around the world, this change is more pronounced in low- and middle-income countries (Detels et al., 2015). According to the Europe report, 24.7 million 14.4% of 3.9 million cocaine users, 2.1% of 3.9 million cocaine users, 2.6 million MDMA It has been determined that 1.7% of the users and 1% of the 1.7 million amphetamine users are young adults between the ages of 15-34 (The European Monitoring Center for Drugs and Drug Addiction, 2019).

Early initiation of substance use increases the likelihood of being severe and extends into adulthood. It also brings many negative health and social consequences for both users and their families (Patton et al. 2007).

Since illicit drug use is common during adolescence, school studies are important in terms of detecting the use of different substances. It is thought that the survey studies conducted in schools will be useful for making predictions about the future. In a study conducted with high school students in the United States in 2015, it was found that the most frequently used illicit drug was cannabis, followed by amphetamine, an illegal drug (Johnston et al. 2015).

According to the World Health Organization drug report, there are 246 million drug or stimulant drug users in the world. 27 million of them are drug addicts. It causes more than 400,000 deaths per year. Blood-borne infections are an important risk factor for HIV/AIDS, traffic accidents and suicide (WHO, 2018). WHO report on drugs and stimulants, 2018). In a study conducted with İnönü University students, drug use was found to be 2.2% (Koca and Oğuzöncül, 2015). In a study conducted with students at Kırklareli University, the frequency of once-a-lifetime drug use was found to be 10.4% (Ulukoca et al., 2013). There are large-scale studies in Turkey. The most important reason for this is that the use of drugs and stimulants is legally prohibited in Turkey and people avoid giving information about it.

METHOD

Research Model

This a cross-sectional study. Cross-sectional studies, in the simplest definition, are observational studies that give the prevalence of a health-related condition in the community. Cross-sectional studies are conducted on either the entire population at risk or a representative sample of the population. Because of their prevalence, they are often superior to case-control studies. Cross-sectional studies do not include prospective follow-up. For this reason, analytical results are not as sufficient as cohort studies (Tezcan, 2017).

Population and Sampling of the Study

The population of this cross-sectional study consists of 22597 students studying in the 1st-4th grades of the high school located within the borders of the İpekyolu district of Van province. The sample size was calculated as 1065 (when the prevalence was 3% in the stat calc program, the worst expected value was 2%, and the confidence interval was 95%) and 135 people were taken as a backup sample. While selecting the sample, high schools were first determined by simple random method. Then, the number of students to be selected from each class was calculated by stratified sampling method. Students who will be included in the study with a systematic method were selected from the classes. A total of 1131 students were reached from 14 high schools in the İpekyolu district of Van.

Data Collection Tools

A questionnaire consisting of 9 questions containing sociodemographic characteristics developed by the researchers and the Addiction Profile Index Adolescent Form (API-E) were applied to the students (Ögel et al., 2012). API-E is an addiction scale developed for 15-18 years old. It consists of 25 questions. It has 5 sub-dimensions. It has sub-dimensions of substance and substance use characteristics, diagnostic criteria, effects on

life, craving, motivation. It is a Likert type scale. The students put the completed forms in the sealed envelope box. The names and surnames of the students were not requested.

Data Analyse

The analysis of the obtained data was made with the SPSS 22.0 statistical program. Descriptive statistics are given as percentage, mean±standard deviation. Fisher exact test and chi-square analysis were used to compare categorical variables. Conformity of continuous variables to normal distribution was evaluated by Kolmogorov-Smirnov test. Mann Whitney U Test was used in paired group comparisons and Kruskal Wallis analysis of variance was used in comparisons of more than two groups. The relationship between APİ-E scores and school success was tested with Spearman's correlation. Significance level was accepted as $p < 0.05$. Ethics committee approval was obtained for this study from the Van Training and Research Hospital Clinical Researches Local Ethics Committee with the desicion dated and numbered (20/11/2015, 2015/6).

FINDINGS

1131 students were included in this study. 58.7% (655) of the students were male and 41.3% (472) were female. 44.4% of the participants were Anatolian high school (489 people), 38.0% vocational high school (418 people), 12.6% (139 people) religious education (imam hatip) high school and 5.0% (55 people) science high school. 25.3% (287 people) of the participants were 9th grade, 24.7% (279 people) were 10th grade, 28.5% (322 people) were 11th grade, 21.5% (243 people) were 12th grade. The mean age of the participants in the study is 16,81±1.38. 9.4% of the participants (70 people) stated that they received psychiatric treatment.

62.5% (707) of the participants had a nuclear family structure, 34.4% (388 people) had an extended family structure, and 3.1% (34 people) had a broken family structure. The mothers of 92.1% (1042 people) of the students are housewives. The fathers of 31.0% (351 people) of the participants are workers, 20.9% (236 people) are civil servants, 15.8% (179 people) are unemployed, and 23.6% (267 people) are shopkeepers. . The mothers of 40.1% (454 people) of the participants are illiterate. 49.2% (546 people) of their fathers have primary school or below education level. 60.5% (646 people) said that their income is equal to their expenses. The median value of the number of siblings is 5(min:0, max:19). 88.6% (985) people live with their families. 48.8% (542) stated that they were successful in school, 45.3% (523) stated that their school success was at a moderate level, and 5.9% (66) were unsuccessful at school.

18.5% (209 people) of the students used an addictive substance at least once. 12.2% (138 people) used at least one of the addictive substances except alcohol. The distribution of the substances used by the participants according to the types is given in Table 1.

Table1. The Use Cases of the Participants According to the Type of Substance

Type of addictive substance	Never Used		Used at least one	
	N	%*	N	%*
Alchol	983	87,4	142	12,6
Cannabis	1054	93,9	69	6,1
Ectasy	1093	98,1	21	1,9
Heroin	1091	97,2	32	2,8

Cocaine	1096	97,5	28	2,5
Crack cocaine	1097	98,1	21	1,9
Rohipnol, rivotril	1091	97,5	28	2,5
Volatile substances	1049	93,5	73	6,5
Various pills	1077	96,2	43	3,8
Amfetamin etc.	1098	98,5	17	1,5
LSD, GHB etc.	1086	97,9	23	2,1

*row percentage

In our study, the mean score of the substance use feature subscale was 0.20±0.02. Diagnostic criteria subscale mean score is 0.78±0.08. The mean score of the effects on life subscale is 0.83±0.09. The mean craving subscale score is 0.19±0.02. Motivation subscale mean score is 0.19±0.02. APİ-E total mean score is 0.73±0.07.

The comparison of the sociodemographic characteristics of the participants with substance use is given in Table 2. Substance use for once in a lifetime is significantly higher in boys than in girls (p<0.001). Substance use is significantly higher in those with a broken family structure and those living separately from their families than those with a nuclear or extended family structure (p=0.002). Substance use at least once was significantly higher in mothers with high school education and above compared to other groups (p=0.001). Substance use at least once was significantly higher in those with a father's education in primary school or below (p<0.001). Considering the income level, no difference was observed between the groups in terms of substance use at least once. Those who do not have a regular place to stay and those who stay with their relatives at least once are significantly higher than those who stay with their families or in a dormitory (p=0.003). Those who received psychiatric treatment due to any complaint at least once were significantly higher than those who did not receive psychiatric treatment (p<0.001).

Table 2. Comparison of the Participants' Socio-demographic Characteristics and Substance Use

		Substance use at least once in a lifetime				x^2	p
		Yes		No			
		N	%	N	%		
Gender	Female	59	12,4	416	87,6	20,12	**<0,001**
	Male	150	22,9	506	77,1		
Income	Income less than expenses	25	17,7	116	82,3		
	Income equal to expences	110	17,0	536	83,0	3,78	0,43
	Income more than expences	62	22,2	217	77,8		
Family Structure	Nuclear family	113	16,0	594	84,0		
	Extended family	83	21,4	305	78,6	12,53	**0,002**
	Broken family	13	36,1	23	63,9		
Where he lives	With family	176	17,9	809	82,1		
	With relatives	6	30,0	14	70,0	16,0	**0,003**
	School dormitory	14	15,6	76	84,4		
	Not have a regular place of residence	9	52,9	8	47,1		
Maternal Educational Level	Illiterate	74	16,0	388	84,0		
	Primary Education	83	17,0	406	83,0	19,31	**0,001**
	High School and Above	42	25,8	121	74,2		
Fathers Educational Level	Illiterate	37	27,8	96	72,2		
	Primary Education	74	12,6	515	87,4	28,64	**<0,001**
	High School and Above	89	23,8	285	76,2		
Psychiatric treatment	Yes	28	40,0	42	60,0	55,86	**<0,001**
	No	181	17,0	879	83,0		

The comparison of the substance use status of the participants according to their school characteristics is given in Table 3. Substance use in islamic religious education (imam hatip) high school students is significantly lower than other school types (p=0.01). The class of the student does not affect substance use. Substance use at least once is significantly higher in children with low school success compared to other groups (p<0.001).

Table 3. Comparison of the Participants' Substance Use Status According to School Characteristics

		Substance use at least once in a lifetime				x^2	p
		Yes		No			
		N	%	N	%		
School Type	Anatolian High school	91	18,4	399	81,6		
	Vocaitonal High School	90	21,1	330	78,9		
	Religious Education High School	14	9,4	126	90,6	11,22	**0,01**
	Science High School	14	25,5	41	74,5		
Class	9	38	13,6	241	86,4		
	10	53	18,5	234	81,5	6,96	0,07
	11	70	21,7	252	78,3		
	12	48	19,8	195	80,2		
School Success	Successful	84	15,5	458	84,5		
	Medium	98	19,5	405	80,5	15,29	**<0,001**
	Unsuccessful	23	34,8	43	65,2		

36.1% (66) of the participants who stated that they used any substance at least once in their life stated that substance use negatively affected their education life, and 36.4% (67) stated that it negatively affected their family relations. 42.9% (78) wanted to reduce substance use.

Comparison of API-E total and subscale scores by gender is given in Table 4. All API-E subscale scores and total scores were found to be significantly higher in males than in females.

Table 4. Comparison of API-E Total and Subscale Scores by Gender

Sub-scales	Gender				Z	p
	Female		Male			
	Mean rank	Mean $\pm$se	Mean rank	Mean$\pm$se		
Substance use characteristics	513,37	0,06±0,02	573,18	0,29±0,03	-4,85	**<0,001**
Diagnostic criteria	538,91	0,37±0,08	577,01	1,09±0,13	-3,84	**<0,001**
Effect on Life	535,20	0,43±0,11	577,06	1,11±0,14	-4,34	**<0,001**
Craving	542,19	0,09±0,02	572,85	0,27±0,03	-3,54	**<0,001**
Motivation	542,85	0,09±0,02	572,85	0,27±0,03	-3,54	**<0,001**
APİ-E total	509,88	0,36±0,07	565,36	0,99±0,12	-4,60	**<0,001**

Correlation between students' achievement status and API-E subscale scores was examined. A strong negative correlation was found between achievement status and API scores in all subscales.

CONCLUSION and DISCUSSION

In a study examining the frequency of alcohol and substance use among high school students in Nevşehir; it was observed that 13.3% used cigarettes, 12.6% used alcohol and 6.2% used substances (Ozcan et al., 2016). In the study conducted by Olanrewaju et al. in Nigeria in 2020 on students aged 15-29, it was determined that 45.4% of the participants used addictive substances at least once. In the study conducted by Mavural et al. with students

aged 10-19 in Tanzania in 2019, the lifetime rate of substance use was found to be 19.7%. In our study, 12.2% of the participants stated that they used at least one of the addictive substances except alcohol. Since the dates of the studies and the age range of the study groups were different, the rates may have changed. This suggests that the rate of use is higher in older ages.

In the study of Avcı et al. in 2016 on those who continued their apprenticeship training; 9.0% use cannabis, 3.6% ecstasy, 1.8% heroin, 2.7% amphetamine, 4.5% LSD and similar substances regularly. In the study conducted by Demirci and Eker in 2017 with university students, cannabis use at least once was 7.8%, ecstasy 2.0%, heroin 0.6%, amphetamine 0.8%, LSD 0.8%. In our study, cannabis use at least once was 6.1%, ecstasy 1.9%, heroin 2.8%, amphetamine 1.5%, LSD 2.1%. The reason for the low rate of non-heroin substances in our study may be that access to these substances is more difficult in this region. For heroin, our city is a transition zone.

In the study of Avcı et al., daily alcohol use was 7.1%, and in the study of Özcan et al. in high school students in Nevşehir, the rate of alcohol use was 12.6%. In the study conducted by Demirci and Eker in 2017 on university students, alcohol use at least once was found to be 18.6%. In our study, alcohol use at least once was 12.6%. In our study, regular alcohol use was found to be lower. The province where the study was conducted is located in the east of Turkey. Alcohol consumption in this region is not socially welcomed. This may be an effective factor in the low usage.

In a study conducted by Turhan et al. in 2011 on university students, substance use was found to be significantly higher in males than female students. Similarly, in our study, substance use was higher in male students.

In the study conducted by Atlam and Yüncü in 2017 on university students, a relationship was found between the history of divorced parents and substance use. In the study of Erincik et al. in 2022, they found that substance addiction is higher in single-parent children. In our study, substance use was found to be higher in children from broken families.

In the study conducted by Atlam and Yuncu in 2017 on university students, it was stated that as the education level of the mother increased and the education level of the father decreased, substance use increased. It was found similarly in our study.

Erincik et al., in their study in 2022 in 9th grades; the mean scores of substance use characteristics were found to be 0.09, diagnostic features of 0.37, impact on life 0.34, cravings 0.09, motivation 0.19, and API-E total score to 0.46. In our study, the mean score of the substance use feature subscale was 0.20±0.02. The mean score of the diagnosis subscale is 0.78±0.08. The mean score of the effects on life subscale is 0.83±0.09. The mean craving subscale score is 0.19±0.02. Motivation subscale mean score is 0.19±0.02. APİ-E total mean score is 0.73±0.07. The reason for the higher mean scores in our study may be that all classes in high schools were included in the study. Addictive substance use increases with age.

In the study of Erincik et al. in 2022, in 9th grades, girls' craving and motivation subscale scores were found to be higher than boys. In a study conducted by Demirci and Eker in 2017 on university students, male students'

substance use, impact on life, motivation and total API-E scores were found to be significantly higher. In the study conducted by San et al. in 2020, the total API-E score of male students was found to be significantly higher than that of female students. In our study, all subscale scores and API-E total scores were found to be higher in males.

In a study conducted by Demirci and Eker in 2017 on university students, substance use was found to be significantly higher in those using psychiatric drugs compared to those not using psychiatric drugs. In our study, substance use was found to be more common in psychiatric drug users.

This study was conducted to determine the frequency of substance use among high school students and to evaluate the factors affecting it. In our study, the frequency of non-alcoholic substance use was found to be high. Addiction negatively affects physical and mental health. In addition, it has negative effects on the social and family environment of the person. In our study, substance addiction was found to be higher in students with low school success. Addiction itself also lowers school success. The child who is unsuccessful in school can make risky friends and environment. This brings with it other risks. Adolescence and young adulthood are the periods when risk-taking behavior is highest. When substance addiction is added to this, risk-taking behavior increases even more. As risk taking behavior increases, tendency to violence, accidents and sexually transmitted diseases will increase. Therefore, substance abuse is an important public health problem in all aspects.

SUGGESTIONS

This study only gives the frequency of substance use among high school students in a particular region. It is important to carry out cross-sectional studies in different age groups. There is no follow-up in our study. Therefore, the cause-effect relationship is not very clear. For this, prospective cohort studies are needed.

Our study only determined the situation. No social support was provided for children using addictive substances in the study. It is important that such studies are carried out in cooperation with different institutions. Thus, students who want to get help can be given medical and social support. Studies on this subject will guide in reducing addiction.

ETHICAL TEXT

In this article, journal writing rules, publication principles, research and publication ethics rules, journal ethics rules were followed. Responsibilities for any violations that may arise regarding the article, belong to the author. Ethical approval was obtained fort he study with the decision of Van Training and Research Hospital Clinical Researches Local Ethics Committee Van Yuzuncu Yil University Social and Humanities Sciences dated 20/11/2015 and numbered 2015/6 .

REFERENCES

American Psychiatric Association, editör. *Diagnostic and Statistical Manuel of Mental Disorders (DSM-V)*, Fifth edition ed. American Psyhiatric Publishing, 2013.

Atlam, D. H. & Yüncü, Z. (2017) Üniversitesi Öğrencilerinde Sigara, Alkol, Madde Kullanım Bozukluğu ve Ailesel Madde Kullanımı Arasındaki İlişki. *Klinik Psikiyatri,* 20:161-170.

Avcı D., Selçuk KT., & Selma Doğan S. (2017). Çıraklık Eğitimine Devam Eden Ergenlerde Madde Kullanım Sıklığı, Öfke Düzeyi-Öfke İfade Tarzı ve Bağımlılık Şiddeti İlişkisi. *Psikiyatri Hemşireliği Dergisi*, 8(1):1–8.

Demirci, M. & Eker, E. (2017) Üniversite öğrencilerinin madde bağımlılığı sıklığı ve madde kullanım özellikleri. *ABMYO Dergisi,* Sayı 48(63-84).

Detels, R., Gulliford, M., Karim, Q.A. & Tan, C.C. (Eds.) (2015) *Oxford textbook of global public health*, sixth edition. Published in the United States of America by Oxford University Press (Vol 1) 1361-62.

Erincik, A., Çelikay Söyler, H., & Gürbüz, A. N. (2022). Dokuzuncu Sınıf Lise Öğrencilerinde Madde Kullanımının Duygu Düzenleme ve Bağlanma Stilleri ile İlişkisinin İncelenmesi. *Sosyal, Beşeri Ve İdari Bilimler Dergisi*, *5*(12), 1747–1764.

Johnston, L.D., O'Malley, P.M., Miech, R.A., Bachman, J.G., & Schulenberg, J.E. (2015). *Monitoring the Future: National Results on Adolescent Drug Use. Key Findings on Adolescent Drug Use.* The University of Michigan Institute for Social Research. https://files.eric.ed.gov/fulltext/ED578539.pdf

Koca B, Oğuzöncül F, 2015, İnönü Üniversitesi Sağlık Yüksekokulu Öğrencilerinin Sigara, Alkol, Madde Kullanımı, Madde Kullanımına Etki Eden Etmenler ve Aileden Aldıkları Sosyal Desteğin Etkisi, *Kocaeli Tıp Dergisi*, 4(2), 4-13.

Mavura RA., Nyaki AY., Leyaro BJ., Mamseri R., George J., Ngocho JS, & Mboya IB. (2022). Prevalence of substance use and associated factors among secondary school adolescents in Kilimanjaro region, northern Tanzania. *PLoS ONE* 17(9): e0274102.

Olanrewaju, J.A., Hamzat, E.O., Enya, J.I., Udekwu, M.O., Osuoya, Q., Bamidele, R., Johnson, O.F. , Johnson, B.S., Olanrewaju, I., & Owolabi, J.O. (2022). An assessment of drug and substance abuse prevalence: a cross-sectional study among undergraduates in selected southwestern universities in Nigeria. *Journal of International Medical Research*, Vol. 50(10) 1–11.

Ögel, K., Karadayı, G., Şenyuva, G., & Hatipoğlu, S. (2012). Development of the Addiction Profile Index (API) Adolescent Form. *Bulletin of Clinical Psychopharmacolog,* 22(Suppl. 1):S109.

Özcan, A. , Öztürk, G.K., Özdil, K., & Kaya, Ş.Ş. (2016). Lise Öğrencileri Arasında Sigara, Alkol ve Madde Kullanım Sıklığı: Nevşehir Örneği. *Bağımlılık Dergisi*, Cilt:17, Sayı:4, s:164-171.

Pekcan, H., (2012) Asölesan(Delikanlı) Sağlığı *Halk Sağlığı Temel Bilgiler* içinde, Güler, Ç. & Akın, L (2. Baskı, Cilt 1 dayfa 522-526). Hacettepe Üniversitesi Yayınları.

Patton, G.C., Coffey, C., Lynskey, M.T., et al. (2007). Trajectories of adolescent alcohol and cannabis use into young adulthood. *Addiction*, 102, 607–15.

San, A., Erensoy, H., Aytaç, H.M., & Berkol, T.D. (2020). Üniversite Öğrencilerinde Depresyon Düzeylerinin, Madde Kullanımları ve Aile Tutumları ile İlişkisi. *Bağımlılık Dergisi*, 21(1):1-12.

Tezcan, G.S. (2017). *Temel Epidemiyoloji.* Hipokrat Kitabevi, s:99-100.

The European Monitoring Centre for Drugs and Drug Addiction. (2019). *European Drug Report 2019: Trends and Developments.* https://www.emcdda.europa.eu/publications/edr/trends-developments/2019_en

Turhan, E., İnandı, T., Özer, C., & Akoğlu, S. (2011). Üniversite öğrencilerinde madde kullanımı, şiddet ve bazı psikolojik özellikler. *Türkiye Halk Sağlığı Dergisi*, 9(1).

Ulukoca, N., Gökgöz Ş., Karakoç A. (2013). Kırklareli Üniversitesi Öğrencileri Arasında Sigara, Alkol ve Madde Kullanım Sıklığı. 18(4). 230-234.

United Nations Office On Drugs And Crime. (2022). *World Drug Report 2022*. https://www.unodc.org/unodc/en/data-and-analysis/world-drug-report-2022.html

WHO, 2018, Expert Committee on Drug Dependence, *40th report*, Switzerland, WHO press.