

The prevalence and risk factors of psychoactive substance use among secondary school students in Turkish Republic of Northern Cyprus

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ABSTRACT

Objective: This study is a follow-up study of the study, which was conducted in 1999. In the light of the recent results, this study's aim is to investigate prevalence of psychoactive substance use; such as cigarettes, alcohol and others, and to see the change in ratios compared to previous years. **Methods:** This study was conducted in March 2015, with 1487 secondary school students from state schools and private schools in TRNC. A questionnaire form consisted of questions about sociodemographic characteristics, use of tobacco, alcohol and other psychoactive substances was administered to the students. The questionnaire of the study was based on questions from the European Schools Research Project on Alcohol and Other Drugs, similar with recent school-based studies in TRNC. **Results:** Results showed that, the percentage of smoking at least once was 8.9%, alcohol use percentage was 36.3%, use of other psychoactive drugs (OPD) was 5.5% and the use of illegal substances was 3.9%. When the results compared with 1999 study, it has seen that illegal substance use was increased. Most commonly reason of using OPD were entertainment, curiosity and irritability. It was seen that first OPD use was decreased to the age of 11 and below. Smoking, alcohol use and being drunk were the risk factors for becoming probably users of illegal drugs. **Conclusion:** Research findings indicated that there is an increase in the use of different kinds of psychoactive substances. (Anatolian Journal of Psychiatry 2018; 19(6):586-592)

Keywords: psychoactive substance use, prevalence, risk factors, secondary school students

Kuzey Kıbrıs Türk Cumhuriyeti'nde ortaokul öğrencileri arasında psikoaktif madde kullanımının yaygınlığı ve risk etkenleri, 1999-2015

Öz

Amaç: Bu çalışma 1999 yılında yapılan çalışmanın izleme çalışması niteliğindedir. Önceki bulguların ışığı çerçevesinde bu araştırmanın amacı, Kuzey Kıbrıs Türk Cumhuriyeti'ndeki ortaokullarda sigara, alkol ve diğer psikoaktif maddelerin yaygınlıklarını ve risk etkenlerini araştırmak, önceki yıllara göre değişen oranlar saptamaktır. **Yöntem:** Çalışma Mart 2015'de KKTC'deki Milli Eğitim ve Kültür Bakanlığının Genel Orta Eğitim ve Mesleki Teknik Öğretim Dairelerine bağlı bütün devlet ortaokulları ve özel kolejlerde 1487 ortaokul öğrencisi arasında yapılmıştır. Anketteki sosyodemografik bilgiler yanında sigara, alkol ve diğer psikoaktif madde (DPM) kullanımı ile ilgili sorular Alkol ve Diğer Maddelerle İlgili Avrupa Okulları Araştırma Projesi Çalışmasından yararlanılarak hazırlanmıştır. **Bulgular:** Çalışmada yaşam boyu en az bir kez sigara içme oranı %8.9, alkol kullanımı %36.3, DPM kullanımı %5.5, yasa dışı madde kullanımı %3.9 olarak saptanmıştır. 1999'da yapılan çalışma ile karşılaştırıldığında yasa dışı madde kullanımında artış olduğu görülmüştür. Öğrencilerin DPM deneme nedenlerinin en çok eğlenmek, merak ve sıkıntı-

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larını gidermek amaçlı olduğu bulunmuştur. Öğrencilerin çoğunlukla DPM kullanımına 11 ve daha küçük yaşta başladıkları belirlenmiştir. Yasa dışı madde kullanmada ise sigara-alkol içme ve sarhoş olmanın risk etkenleri olduğu görülmüştür. **Sonuç:** Araştırma sonuçları KKTC ortaokul gençleri arasında psikoaktif madde kullanım oranlarının Avrupa ülkelerine göre daha düşük olduğunu belirlemekle birlikte, yasa dışı madde kullanımında artış olduğunu, ayrıca birçok psikoaktif madde kullanımında da artış eğilimi bulunduğunu göstermektedir. (*Anadolu Psikiyatri Derg* 2018; 19(6):586-592)

Anahtar sözcükler: Psikoaktif madde kullanımı, yaygınlık, risk etkenleri, ortaokul öğrencileri

INTRODUCTION

The use of psychoactive substances is one of the most important problems in the world and needs to be over emphasized.¹ Psychoactive substance use is considered to be a serious public health problem today, because it affects the physical, psychological and psychosocial life of a person, harms the social and economic structure of societies and starts at an early age.^{2,3} Rapid industrialization, urbanization and changing forms of life have put children into the struggle of surviving and have pushed many of them into the dark world of substance abuse as a shelter.⁴ The age of psychoactive substance use has decreased and the use of these substances among adolescents increased.⁵ As a consequence, prevention efforts have focused on young people which considered to be one of the most important, leading risk groups.^{6,7} According to the United Nations Office of Substance and Crime Global Youth Network (UNODC) report in 1999, the prevalence of life time cannabis use among 15-16 year old students is, 4.5% to 5% in Asia, 1% to 35% in various parts of Europe, 40.9% in USA and 42.8% in Ontario, Canada.^{8,9}

In recent years, the name of the Turkish Republic of Northern Cyprus (TRNC) has often comes up with the use of psychoactive substances, as the TRNC's location is on the way of substance trafficking.¹⁰ TRNC is on the route of substance traffic which known as 'Golden Crescent' and starts from Afghanistan, Pakistan and Iran and goes all the way to Europe. This road, also known as the Balkan road, reaches to Cyprus as well, while making its way to south. It is known that they use this route starting from Turkey and continue via Bulgaria, Romania, Hungary, Czechia, Czechand Slovakia.¹¹ It is reported that a significant portion of the heroin reaches the UK, is also taken through Turkey and Cyprus.¹²

Recently, researches in the TRNC have shown a tendency to increase in substance abuse and exploitation.¹³ When we evaluate university,¹⁴ high school in 1996,¹⁵ 1999,¹⁶ 2004,¹⁷ 2011,¹⁸

2015¹⁹ and primary school studies.²⁰ It was seen that psychoactive substances are easily accessible and spread rapidly.

As of now, there is only one research in the TRNC that involves secondary school students aged 13-14.²¹ This study is the follow-up study of the work done in 1999. In the light of previous findings, the aim of this research is to investigate the prevalence and risk factors of tobacco, alcohol and other psychoactives substances in secondary schools in the Turkish Republic of Northern Cyprus and to find out the changes in rates compared to previous years. With the help of the data, which obtained from these studies, it will be possible to develop up-to-date preventive programs and public health policies.

METHODS

Participants

The Ministry of National Education and the Turkish Education Board evaluated study's questionnaires, and the written approval was obtained because of the examination. The study was conducted in March 2015, in all state secondary schools and private colleges affiliated to the General Directorate of Secondary Education and Vocational Technical Education in the TRNC under the Ministry of National Education and Culture. In the academic year 2014-2015, there were 31 secondary schools affiliated to TRNC General High School. Ten thousand and one hundred forty-eight children were students at the sessecondary schools. One thusond and five hundred thirty-five students who were detected by stratified sampling method in this study. The sample size was calculated by sampling formula of known polulation ($n = Nt^2pq/d^2 (N-1) + t^2pq$)²² where n was the sample size; N was the population size; and t was the value for selected alpha level of 0.025 in each tail=1.96 (the alpha level of risk the researcher is willing to take that true margin of error that may exceed the acceptable margin of error). Besides, (p) (q) was the estimate of variance which was 0.046 (maximum possible proportion 0.055) *1 (maximum possible proportion

0.845) which produce maximum possible sample size. Finally, d was the acceptable margin of error for proportion being estimated at 0.01 (error a researcher is willing to accept). To achieve a representative sample of the population, stratified sampling was used.

Instruments

The survey form used in the research was the same form used in 1999 secondary school prevalence study.²¹ The survey, which was given to the students; contained questions about sociodemographic characteristics, smoking, alcohol and psychoactive substance use. The section on cigarette, alcohol and other psychoactive substances in the survey was based on the questions of the European Schools Research Project (ESPAD) Alcohol and Other Drugs.^{23,24}

Data collection

The data collection phase of the study was carried out by a team of authors and professors and students of the Psychology Department of the Near East University. Before the survey, students were informed that this research is purely scientific work and that the answers will be confidential. Upon entering the classes, the teachers who were in the class were asked to leave and the students were allowed to fill the form with only the interviewers present; and they were solely helping the students when necessary.

Analysis of data

The data obtained in the study were analyzed by a computer using Statistical Package for Social Science (SPSS) 21 software package program. Descriptive statistical methods were used in the study and chi-square statistical method was used in user-nonuser comparison of sociodemographic characteristics. Logistic regression analysis was used to determine the relationship between risk factors such as gender, age, place of birth, living with, education, religion, smoking and alcohol use and being drunk (independent variables) and illicit drug use (dependent variables).

RESULTS

This study was conducted in March 2015 in all public secondary schools and private colleges affiliated to the General Directorate of Secondary Education and Vocational Teaching in the TRNC under the Ministry of National Education and Culture. In the academic

year 2014-2015, there were 31 secondary schools in the TRNC General Secondary School. Ten thousand and one hundred forty-eight children were students at these secondary schools. There were 1535 students who were detected by stratified sampling method were included in this study, but 1487 (97%) of the forms were used for statistical analysis as 48 (3%) of them had inconsistent or inconclusive answers. Seven hundred and thirty-seven of the students (49.6%) were female and 750 (50.4%) of them were male students. The average age of the students were 13.31 ± 1.12 . 883 (60%) of the students were citizens of the TRNC, 420 (28.6%) of them were from Turkey and 168 (11.4%) of them were citizens of other countries. 490 (33%) of them were grade 6 students, 467 (31.4%) of them were 7th grade students and 526 (35.4%) of them were 8th grade students.

This study showed that, 8.9% of the students tried smoking at least once in their lifetime. 0.4% of the females and 1.1% of the males smoked at least once ($p > 0.05$). 3.4% of the females and 3.1% of the males have smoked at least once in the last 30 days. Most commonly, the students smoke to have fun (63.2%) and curiosity (20.1%).

The rate of students using alcohol at least once in their lives was 49.3%. 46.1% of the females and 53.4% of the males tried alcohol at least once in their lifetime. The rate of students using alcohol at least once in the last year was 39.6%. The frequency of students using alcohol at least once in the last 30 days was 21%. 18.8% of the females and 24.1% of the males drank alcoholic beverages at least once in the last 30 days. 15.3% of the students have never been drunk during their lifetime. 12.2% of the females and 19.5% of the males become drunk at least 1-2 times. 38.3% of the females and 40.1% of the males use alcoholic beverages to have fun.

This study shows that, lifetime prevalence of using other psychoactive drugs (OPD) besides cigarette and alcohol use at least once was 5.5% and illegal substances was 4.9%. It also shows that lifetime prevalence of ecstasy use was 0.9%, cannabis was 0.9% and synthetic cannabinoid was 0.8%. Most commonly used drugs among OPD were; benzodiazepine (2.1%), volatile substances (1.6%) and pills with alcohol (2.2%). Prevalence of using cocaine, heroin, amphetamine, LSD, ecstasy and anabolic steroid were between 0.5 and 0.9%. The comparison of the lifetime prevalences between 1999 and 2015 studies are presented in Table 2. Most common reason of using OPD were enter-

Table 1. Comparison of some sociodemographic characteristics of students who use and do not use illegal substances

Groups	Non-user		User		χ^2	p
	n	%	n	%		
Gender					1.36	0.240
Female	628	96.8	21	3.2		
Male	618	95.5	29	4.5		
Place of birth						
Turkey	909	96.5	33	3.5		
Cyprus	304	95.5	16	5.0		
United Kingdom	18	94.7	1	5.5		
Other	24	100.0	0	0		
Monthly income of the family					2.52	0.258
1000 TL and less	48	94.1	3	5.9		
1000-2000 TL	413	94.9	22	5.1		
2000-4000 TL	632	7.1	19	2.9		
4000 TL and above	151	96.8	5	3.2		
Loss of year					2.71	0.100
Yes	1058	96.6	37	3.4		
No	197	94.3	12	5.7		
Mother's level of education					6.67	0.155
Illiterate	64	92.2	5	7.2		
Primary school	319	97.3	9	2.7		
Secondary school	201	98.0	4	2.0		
High school	443	95.3	22	4.7		
University	214	95.1	11	4.9		
Father's level of education						
Illiterate	39	92.9	3	7.2		
Primary school	280	97.2	9	2.7		
Secondary school	251	95.8	4	2.0		
High school	438	95.8	22	4.7		
University	227	95.1	11	4.9		
Smoking					64.85	<0.001
Once a week or less	1215	96.7	42	3.3		
More than once a day	7	53.8	6	46.2		
Alcohol					41.26	<0.001
Once a week or less	1139	96.4	42	3.6		
More than once a day	21	72.4	8	27.6		
Becoming drunk					13.21	<0.001
Three times and less	1161	96.5	42	3.5		
More than three times	45	86.5	7	13.5		

tainment, curiosity and irritability. Studies show that the first use of OPD decreased to the age of 11 and below. Table 1 provides a comparison of some sociodemographic characteristics of students who use and do not use illegal substances. Smoking, alcohol use and becoming drunk three times a week represents risk factors in the use of illegal substances both in 1999 and 2015 studies (Table 3).

DISCUSSION

This study reveals that substance use among secondary school youth is an important problem in the TRNC. This study was carried out to

determine the prevalence of substance use among the secondary school youth in TRNC, like previous study that was done in 1999²¹ and as it includes all secondary schools, refers to the same age group and consists of the same questions; serves as a 16 year old follow-up survey and has enabled us to monitor the changes of the rates in substance preferences in the TRNC.

The survey shows that, 8.9% of students tried smoking at least once in their life. In 1999, this proportion was found to be 12.4% among secondary school students.²¹ In the ESPAD Project which includes 26 countries²³ in 1995, 31 countries²⁴ in 1999 and 36 countries in 2012²⁵ the

Table 2. Comparison of lifetime prevalences of 1999 and 2015

Psychoactive drugs	1999 % (n=642)	2015 % (n=1487)
Cigarette	12.4	8.9
Alcohol	61.9	49.3
Sedative-hypnotics	2.9	2.1
Cannabis	1.0	0.9
Amphetamine	0.5	0.9
Extacy	0.8	0.9
Cocain	0.2	0.5
Heroin	0.3	0.5
LSD	0.4	0.8
Volatiles substances	3.0	1.6
Bonzai	-	0.8
Any other drugs	5.8	5.5
Illicit drugs	2.8	4.9

proportion of smoking among students in the TRNC, shown to be lower compared to the results of studies done in the same age group with similar method in ESPAD countries.

In the study, 36.3% in all and 49.3% in last year secondary school students were use alcohol at least once in their lifetime. However, the prevalence of the use of alcohol was found to be 61.9%²¹ in 1999. Eventhough the similar cultural and historical characteristics, alcohol use was seen to be at higher levels when we compared with some studies in Turkey.^{26,27} It seems that; young people in Italy, Portugal, Ukraine and Turkey are using alcohol in their homes as they are in the TRNC. In Denmark, Finland and Norway, the most used places are friends' houses; in South Cyprus and Czech Republic mostly used places are discos, in Ireland it is bars and

Table 3. Investigation of the risk factors that are effective in the use of illegal substance in secondary school students by logistic regression analysis

Sociodemographic variables	1999		2015	
	Odds Ratio	User/non-user %95 CI	Odds Ratio	User/non-user %95 CI
Sex (female/male)	4.528	(1.766-11.68)**	1.403	(0.732-2.488)
Passing the class (failed / passed)	5.513	(2.352-12.919)**	1.742	(0.893-3.399)
Place of birth (Turkey/Cyprus)	2.139	(0.494-9.267)	1.450	(0.787-2.671)
Age (14 and above/13-12-11 years old)	2.045	(0.857-4.879)	1.501	(0.835-2.697)
Mothers' education (high school and above/below)	2.026	(0.842-4.873)	1.927	(0.791-4.694)
Fathers' education (high school and above/below)	1.495	(0.648-3.448)	1.851	(0.601-5.703)
Monthly income of the family (2000 and above/below)	1.009	(0.440-2.315)	1.588	(0.511-4.936)
Smoking (more than once a day/less)	9.126	(4.085-20.385)**	18.737	(4.655-75.425)**
Drinking alcohol (more than once a week/less)	5.282	(2.272-12.280)**	12.588	(4.218-37.565)**
Being drunk (more than once a week/less)	7.854	(3.508-17.586)**	5.490	(2.002-15.055)**

*: $p < 0.05$; **: $p < 0.001$; CI=Confidence Interval

in Bulgaria they use it in pubs and far from family control.¹⁹

In the secondary school study in the TRNC, it was found that the rate of last year secondary school students using OPD at least once in their lifetime was 5.8% in 1999 and in 2015 it was 5.5%, a similar rate among students. It is also observed that illegal drug use rate has seen 4.9%. Lifetime illegal substance use was 2.8% in 1999. The illegal drug proportions of both studies may not be considered as high prevalence of illegal drug use. For example, according to NIDA's research report in 2011, half of the adolescents were found to use illegal substances at least once²⁸ despite the challenges on collecting data on illegal substance use in adolescents.

0.9% of ecstasy and 0.9% of cannabis use in this study revealed that ecstasy and cannabis use was similar proportions. It was determined that the overall rate of synthetic cannabinoid use was 0.8% in this study. It has been found that cannabis use rate was 2.7% in high schools and 2.9% in overall community adult surveys.^{19,29} All previous reports, school researches and studies on addicts show that most used illegal substance in the TRNC is cannabis.^{13,15,16,19,29-31} Synthetic cannabinoid has become the most popular ingredient in recent years. The use of synthetic cannabinoid is spreading very rapidly in the TRNC in recent years, since it is cheap. In recent years, it has been seen that the use of synthetic cannabinoids is spreading and replacing the

cannabis and ecstasy in TRNC.^{19,20}

Although volatile substance use tends to decline over the years, it is still one of the most common substance after tobacco and alcohol. The fact that volatile substances are easier to find and cheaper than other substances may be helping these substances to spread.³² It is seen that the most commonly used substance after tobacco and alcohol are volatile substances in the studies carried out in Turkey.^{1,33,34}

The use of sedative-hypnotic tablets among young people has shown increase in 1996 to 1999,¹⁵ however it's been stable since 2004.¹⁶ It was thought that the use of these pills would be reduced by the introduction of the doctor's prescription to these sedative-hypnotic pills which can be controlled by the Ministry of Health of the TRNC and sold with three copies of green prescriptions which was free to be provided from pharmacies without the need for a doctor's prescription until 2000.^{19,30,35}

In this study, the rate of substance use of male students was higher than that of female students. Similar trends have been observed in all school surveys.^{15,16,36} Turkey,³⁴ European countries²³ and USA have also been found to have a higher use rate among males. In this study, it was observed that the use of sedative-hypnotic pills rate was found to be about the same rate in male and female students, unlike recent years.

In 1996, 1999 and 2004 high-school studies also found that the use of sedative-hypnotic pills was higher among females than among males.^{15,16}

The results of the study showed that tobacco and alcohol rates are high in TRNC teenagers and also alcohol, cigarette and being drunk are seem to be the risk factors for illegal substance use. Preventive programs must focus on cigarette and alcohol use. The increase in non-therapeutic use of prescription pills reveals the need to raise awareness of the families of young people, as it is suggested in other young people studies in Cyprus.³⁷ Also for volatile substances, cannabis, synthetic cannabinoids and ecstasy use should be taken into consideration in prevention programs. Repeated prevalence studies with in the secondary schools in the TRNC, can able us to monitor the changes in the substance use rates in the TRNC and show us which topics should be emphasized in the preventive programs by determining the preferred substances.

This study covers the secondary school classes. However, a group of similar aged young people who do not attend school are out of coverage. In order to be able to demonstrate the psychoactive substance use profile of the TRNC youth; studies that include young people with a wider age range and who are not continuing their education, should be performed.

Authors' contributions: M.Ç.: finding subject, coordinating the project, design of the study, data acquisition and process, making statistical analyzes, literature review, manuscript writing; E.Ç.: data acquisition and process, design of the study, manuscript writing; İ.Ö.: data acquisition and process, literature review, gathering data, manuscript writing; M.K.: making statistical analyzes, manuscript writing; U.B.: gathering data; S.H.: gathering data.

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