



Fundamental Characteristics, Attitudes and Behaviors Regarding Substance Use Focusing on Cannabis: Findings from the General Population Survey in Turkey, 2011

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Abstract

Cannabis is the most prevalent illicit drug used in the world. We aimed to determine prevalence and some characteristics of cannabis use in Turkey. The study was based on a cross-sectional survey conducted with a nationally representative sample of 8045 individuals with in-house interviews. The life-time prevalence of substance use was found as 2.8%. Cannabis with 0.7% life-time prevalence, was the most commonly used substance. Cannabis users were concerned about some adverse outcomes such as anxiety with withdrawal (14%), losing control about using the drug (14%), daily performance problems (10.9%) and problems about interpersonal violence (6.9%). 35.1% of them wanted to quit and 18% regretted using cannabis. Prevalence of cannabis use is lower in Turkey compared with most of the other countries in the world. Nevertheless, it is a significant health concern. Identifying characteristics and attitudes related with cannabis use may help to improve policies about protective measures.

Keywords Substance · Cannabis · Prevalence · Population

Introduction

Substance use is a major global public health issue (Owoaje and Bello 2010). It is estimated that a total of 246 million people, or 1 out of 20 people between the ages of 15 and 64 years, used an illicit drug in 2013 (UNODC 2015). Recent trends indicate that the use and abuse of substances have dramatically increased worldwide particularly in developing countries (Babalola et al. 2013; Reddy et al. 2007).

Cannabis is the world's most prevalent illicit drug and the third most commonly used psychoactive substance, after

alcohol and tobacco (European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) 2015; NSDUH 2012). The prevalence varies widely from 0.5 to 42% depending on the population (Schlossarek et al. 2016). Estimates from 2014 EMCDDA indicated that 21.7% of European adults have reported lifetime use, and 5.3% have used cannabis in the past year. In addition, only a minority were (almost) daily users, namely under 1% of European adults; over two-thirds of these (almost) daily users were between 15 and 34 years of age. In this age group, over three quarters were men (EMCDDA 2015). According to the National Epidemiologic Survey on alcohol and related conditions, in the United States, the lifetime prevalence of cannabis is 8.4% in males and 4.3% in females (Grant et al. 2015).

Studies about the epidemiology of substance abuse in Turkey are usually conducted with the young population and studies regarding general population are scarce. Results of the health study conducted by Turkish Statistical Institute (TUIK 2010) revealed that 0.93% of the population used drugs at least once in lifetime, 1.26% of males and 0.61% of females. In 2003, The European School Survey Project on Alcohol and Other Drugs (ESPAD) conducted with 6149 young people in six metropolitan cities, found a lifetime prevalence of 5% for inhalants, 4% for cannabis, 2% for

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ecstasy, 2% for heroin and 2% for cocaine (ESPAD 2003). In a study conducted with 1720 students, prevalence of cannabis use at least once during life-time was 5.9% (Ilhan et al. 2009).

Available data point to a variety of patterns of cannabis use, ranging from experimental use to dependent use. Many individuals tend to discontinue their cannabis use after one or two experiments; others use it occasionally or during a limited period of time. Of those aged 15–64 who have ever used cannabis, 70% have not done so during the last year (EMCDDA 2015). Patterns of cannabis use that result in high doses being consumed may put the user at greater risk of developing dependence or other problems (Chabrol et al. 2003).

The behavioral effects of cannabis depend on the dose, potency, mode of administration, the user's previous experience with the drug, and the setting. Users typically report the feeling of euphoria and relaxation, termed as "high". As those effects subside, some report feeling sleepy or depressed, and others may feel anxious or have paranoid thoughts or experience acute psychosis. Cannabis use is linked to deficits in tasks of executive functioning. It has negative effects on memory, including the ability to form new memories, and on attention and learning. These effects can last up to 28 days after abstinence from the drug (Hall and Degenhard 2009). Studies show that long-term heavy cannabis users do show impairments in memory and attention that endure beyond the period of intoxication and worsen with increasing years of regular cannabis use (Solowij et al. 2002). Another adverse outcome related with cannabis use is increased risk of interpersonal violence. Violent behavior may be a result of adverse effects such as panic attacks, confusion and paranoia; withdrawal symptoms such as irritability, anger and aggression or may occur in connection with market transactions (Moore and Stuart 2005; Norström and Rossow 2014).

In the present study, we aim to obtain valid data about characteristics, attitudes and behaviors related with cannabis use, which in turn could be used to designate policies fighting against drugs.

Method

The current cross-sectional study was conducted as part of the general population survey of attitudes and behaviors towards the use of tobacco, alcohol and drugs in Turkey (Ilhan 2012).

A cross-sectional survey was conducted with a nationally representative sample consisting of household members from 25 provinces of Turkey who were aged between 15 and 64. The provinces were determined by TUBIM (Turkish Drug Addiction Monitoring Centre) General Population

Survey study group. 18,319 (92%) households specified by TUIK were visited and successful contacts were performed with 8045 individuals. The study was conducted in concordance with the Declaration of Helsinki. Written informed consent was obtained from the subjects. 10,274 household members could not be interviewed for several reasons. Reaching potential participants in their homes was challenging due to work and other reasons. Lack of interest and concern of the participants; the general lack of confidence in surveys; concerns on privacy and the participants' inability to spare time were among the reasons for failed interviews.

EMCDDA is a public organization which generates international drug policies. It develops model surveys in order to determine prevalence of substance use. The survey used in the study was developed by slight alterations on the EMCDDA Model Survey. It was developed by a team consisting of psychiatrists, psychologists, public health workers and epidemiologists. The survey was first implemented in a pilot study in Ankara. Face-to-face, in-house interviews were conducted by a trained team interviewers led by supervisors. The field application of the study was conducted between September and December 2011; final checks and data input were completed in February 2012.

The Statistical Package for the Social Sciences (SPSS) v.15.0 software program was used to construct the databases and perform the statistical analysis. Quantitative variables were reported as mean and standard deviation and qualitative variables were reported as percentages.

Results

The survey was conducted with 8045 subjects. 49.0% (n = 3943) were females and 51.0% (n = 4102) were males. The mean age was 36.10 ± 13.38 . 39. Of the participants, 5% (n = 3177) were elementary school graduates, 24.1% (n = 1935) were high school graduates and 16.9% (n = 1360) were secondary school graduates. 44.1% (n = 3545) were housewives, 14.6% (n = 1175) were workers and 11.1% (n = 889) were students. 71.3% (n = 5736) were married.

The life-time prevalence of substance use was found as 2.8% with 0.7% life-time prevalence of cannabis as the most commonly used substance. Table 1 indicates the life-time substance-use prevalence of the general population. Life-time, in the last 12 months and in the last 1 month cannabis-use prevalences were 0.7% (n = 56), 0.3% (n = 23) and 0.2% (n = 13) respectively. The mean age for the first-time cannabis-use is 20.89 ± 3.99 , with a median of 20.00. 0.2% of the population indicated that they are regular users of cannabis. Half of them (n = 6) used cannabis 4–7 times a week.

The last-time used cannabis was most commonly provided by the family and friends and was most commonly

Table 1 Life-time drug-use prevalence of the general population, Turkey, 2011

	Life-time prevalence (%)	Number of persons
Cannabis	0.7	56
Ecstasy	0.1	7
Amphetamine	0	1
Captagon	–	–
Methamphetamine	–	–
Crack	0	2
Cocaine	0	1
Heroin	0	2
LSD	–	–
Solvent	–	–
Magic mushroom	–	–
Methadone	–	–
Opioid–opium	–	–
Anabolic steroid	0	4
Other	2.0	160
Total	2.8 (2.7) ^a	233 (217) ^a

Asked by demonstrating in cards along with colloquial names

^aThere are individuals using more than one substance, individuals responding as other were considered as substance users, 217 individuals are substance users in total

used in a friend's house. Half of the cannabis users defined accessing cannabis within 24 h as “easy”.

86.7% of cannabis users expressed that they were “high” for 1–4 h, while 7.3% stated that they were high for at least 6 h 46% of users indicated that they tried and were able to quit cannabis. While 14% of cannabis users believed that the use of the drug is out of their control, 14% indicated that the possibility of being deprived from cannabis even by one dosage makes them anxious. 19.3% of users were concerned about the use of cannabis and 35.1% of them were willing to quit. 9.1% of cannabis users could not help using it every day, 10.9% were unable to perform what is expected of them under normal conditions, 9.1% used cannabis again to set them up for the day, 18% regretted using cannabis and 35.15% experienced concentration problems.

6.9% of cannabis users were themselves injured or caused an injury to someone else in context of interpersonal violence due to using the drug. 16.9% were advised to quit by their family, friends or a doctor.

Discussion

The prevalence of cannabis use is about five times that of other substances and the number of users entering treatment for cannabis problems has increased in recent years. Cannabis is the illicit drug most likely to be used by all

age groups (EMCDDA 2015). In our study, the life-time prevalence of substance use was found as 2.8% with 0.7% life-time prevalence of cannabis as the most commonly used substance. It is noteworthy that the drugs defined as “other” are more common than all identified drugs. This could imply that individuals hesitated to name the drug they use. Most of the prevalence studies about substance use in Turkey were conducted with students. Cannabis as the most commonly used/tried substance is a rather consistent finding (Ogel et al. 2001; Simsek et al. 2007; Ulukoca et al. 2013; Tanrikulu et al. 2009). In Turkey, there is only one general population study involving face-to-face interviewing which found that the prevalence of using any substance at least once in life-time was 1.35% (Isıklı and Iraklı 2002).

Oceania region, North America and Africa have the highest cannabis use prevalence rates rising up to 11.6% annual prevalence of use. It is about 5.7% in Western and Central Europe. 1.9% of the population aged 15–64 in Asia use cannabis annually. Estimates for the world's most populated countries are either unavailable (China) or only partially available and outdated (UNODC 2015). Compared with these data, we have a low prevalence of cannabis use in Turkey with life-time prevalence 0.7%, last year prevalence 0.3% and last month prevalence 0.1%.

Patterns of cannabis use can range from the occasional to the regular and dependent. Daily or almost daily cannabis use is defined as use on 20 days or more in the last month. Based on surveys of the general population, it is estimated that almost 1% of European adults are daily or almost daily cannabis users. While daily cannabis use is rare in the general population, among the nearly 3% of adults (15–64) who used cannabis in the last month, around one-quarter used the substance daily or almost daily (EMCDDA 2015). In the present study, 0.2% of the population indicated that they were regular cannabis users. Near half of this group used cannabis 4–7 times a week.

The onset of cigarette, alcohol and marijuana use typically occurs during adolescence (Clark et al. 2013). In our study the mean age for the first-time cannabis use was found as 20.89 ± 3.99 , an older age than expected. In Turkey, the age of onset for tobacco and alcohol use were also found to be older compared with most of the studies around the world (Ilhan et al. 2016). This may be because of the cultural strict upbringing styles that allow less realm of freedom for the kids so that they have limited access to external environment.

In our study subjects reported that cannabis was most commonly provided by the family and friends. Access to drug was defined as “easy” by the users. Home environment and peer interactions are important determinants for cannabis use. Associating with drug abusing peers, access to and availability of drugs, having parents or other family members who have problems with alcohol and drugs,

increase the risk for cannabis use (National Institute on Drug Abuse 2016).

The main feature of the recreational use of cannabis is that it produces a euphoriant effect or ‘high’. The high can be induced with doses of THC as low as 2.5 mg in a herbal cigarette and includes a feeling with decreased anxiety, alertness, depression and tension and increased sociability. The high comes on within minutes of smoking and then reaches a plateau lasting 2 h or more, depending on dose (Ashton 2001). In our sample, 86.7% of cannabis users expressed that they were “high” for 1–4 h, while 7.3% stated that they were high for at least 6 h. The facts that 14% of cannabis users believe that the use of the drug is out of their control and 9.1% feel the urge to use the drug everyday are indicative of dependence. Cannabis dependence is the most common type of drug dependence in many parts of the world after tobacco and alcohol. It is estimated that 1 in 9 cannabis users overall will become dependent and those who begin using the drug in their teens have approximately a one in six risk of developing dependence. These data are in concordance with the ratio (14%) in our study (Wagner and Anthony 2002). In our study, it is understood that a significant proportion of users experience withdrawal symptoms such as anxiety with missing a dosage. Users who try to quit experience withdrawal symptoms that include irritability, anxiety, insomnia, appetite disturbance, and depression (Villatoro 2009).

The number of cannabis users seeking treatment have increased dramatically in recent years. The major reasons for attempting to stop were problems about self-image, self-control, health concerns, and self-efficacy as well as interpersonal relationship, legal, social acceptability concerns (Hughes et al. 2016). 19.3% of the subjects were concerned about the use of cannabis and 35.1% had the will to quit. We believe that these findings have implications for secondary prevention and treatment of cannabis abuse.

Cannabis use is linked to deficits in tasks of executive functioning. It has negative effects on memory, including the ability to form new memories, and on attention and learning (Hall and Degenhard 2009). In our study 10.9% stated that they were unable to perform their normal routine and 35.15% reported concentration problems.

Research shows that kids who use marijuana weekly are nearly four times more likely than nonusers to report they engage in violent behavior (Reingle et al. 2013). Akkaya et al. (2006) stated that committed drug-related crimes were to a very great extent associated with cannabis. In concordance with these data, 6.9% of cannabis users in our study were involved in interpersonal violence due to using the drug.

The major limitation of our study was the challenge to reach sufficient level of response although several approaches were utilized to increase the rate of response. A significant effort was put forward to minimize response

bias. Multiple visits were made to the selected addresses. Only trained interviewers were engaged for this study. A helpline was formed to assist the participants and interviewers in managing the participants’ questions, refusals and information requests as well as the appointments. Explanation letters were sent to the potential participants by bearing the signatures of the academic members. Although these efforts provided additional assurance that the survey is an actual study, some of the subjects may not have responded properly because of confidentiality issues.

According to this study, although lower compared with most of the other countries in the world, cannabis use is a significant health concern in Turkey. Being familiar with characteristics and attitudes related with cannabis use may be an important tool to develop effective protective and preventive drug policies.

Author Contributions All the authors have substantially contributed to the preparation of the manuscript.

Compliance with Ethical Standards

Conflict of interest There is no conflict of interest.

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