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PREVALENCE OF SUBSTANCE USE AMONG THE GENERAL POPULATION: SITUATION IN CROATIA AND COMPARISON WITH OTHER EUROPEAN COUNTRIES

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This paper has two primary aims: to present the data on the prevalence of licit and illicit substance use among the general population in the Republic of Croatia and to compare these prevalence rates with those from other European countries. The data on the prevalence in Croatia were gathered by empirical research on a nationally representative sample of Croatian adults aged 15-64 years (N = 4756). The data on the prevalence of licit drugs for other European countries were obtained through secondary analysis of raw data from the Special Eurobarometer 385 (tobacco) and 331 (alcohol), and the source of data on illicit drugs was the EMCDDA's Statistical Bulletin 2012. The results showed that, in Croatia, last month prevalence of smoking was 37.4%, which is among the highest in Europe and above the European average (32.4%). In the month prior to the research, 60.8% of adults in Croatia drank alcohol, which is among the lower prevalence rates compared to the other European countries and also lower than the European average (70.3%). Cannabis was the most widely used illicit drug in Croatia, 15.6% of adults used it at least once in their lifetime, which is below the European average (23.7%).

Keywords: substance use, general population, prevalence, Croatia, Europe



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INTRODUCTION

The use of both licit (tobacco, alcohol) and illicit substances has been known to mankind since ancient times. In the past their use was present in the regions of their origin, but today the use of licit and illicit substances is widely spread all around the world, especially in the Western society (United Nations Office on Drugs and Crime, 2010). It represents one of the major public health problems throughout the world, with far-reaching consequences for individuals, families and general welfare of countries worldwide (Sakoman, 2006). Experience has shown that it is not easy to combat the production and distribution of both licit and illicit substances – which are linked to dependency on these substances – nor to prevent other serious individual and social damage (van der Stel & Voordewind, 1998). Although it is known that the use of licit substances is also potentially very harmful, the use of tobacco and alcohol is socially accepted, even though smoking is becoming less accepted (United Nations Office on Drugs and Crime, 2010). The initial assessment of factors responsible for the global burden of disease, tobacco, alcohol and illicit drugs together contributed to 12.4% of the total number of deaths in the world in the year 2000 (World Health Organization, 2002).

Globally, smoking is the leading cause of adverse health effects. According to the estimates of the World Health Organization, there are one billion and one hundred million smokers around the world, or about one third of the world population over the age of 15 years (World Health Organization, 2013a). The prevalence of current tobacco smoking is an important predictor of the future burden of tobacco-related diseases (World Health Organization, 2012). The World Health Organization estimates that in developed countries 41% of men and 21% of women smoke, and in developing countries 48% of men and 8% of women, noting that the number of young people and women who smoke in many countries is increasing (World Health Organization, 2002).

According to the estimates of the World Health Organization (2004), about 2 billion people worldwide consume alcoholic beverages, and 76.3 million are dependent on alcohol. The global burden associated with the consumption of alcoholic beverages, in terms of morbidity and mortality, is significant in almost all parts of the world (World Health Organization, 2002). The harmful use of alcohol is associated with many serious health, social and developmental issues, including violence, child abuse and neglect, and absenteeism in the workplace, and also harms the well-being and health of people around the drinker (World Health Organization, 2011).

According to data from the United Nations Office on Drugs and Crime (2010), it is estimated that worldwide between 155

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and 250 million people have taken illicit drugs at least once in the year 2008, which is between 3.5% and 5.7% of the population aged 15-64 years, while between 18 and 38 million people are addicted to illicit drugs. Drug addiction is closely associated with the major social problems such as poverty, unemployment, prostitution, delinquency, crime, homelessness, etc. (United Nations International Drug Control Programme, 1995). Globally, cannabis users are the majority of users of illicit drugs, among 129-190 million people, or between 2.9 and 4.3% of the population aged 15-64 years (United Nations Office on Drugs and Crime, 2010). Amphetamines are the second most commonly used illicit drug, followed by cocaine and opiates (United Nations Office on Drugs and Crime, 2010).

The problem of substance use is also a serious social problem in Croatia, for both licit and illicit substances (Hibell et al., 2012; Katalinić, Kuzman, Markelić, & Mayer, 2012; Office for Combating Drugs Abuse of the Government of the Republic of Croatia, 2011; Orban & Glavak, 2006; Sakoman, 2008). Consequently, Croatia has a history of institutional coping with substance use and there has been a lot of effort to reduce the harm resulting from substance use, for both individuals and society. The efficiency of these attempts is mostly conditioned by knowledge of the basic characteristics of the phenomenon of substance use. Therefore, the insight into the prevalence of licit and illicit drug use among the general population is of the utmost importance. The most important way to assess the prevalence of substance use are studies among the general population. However, due to the specifics of the problem itself, the estimates are often made based on the research conducted among some specific target groups (school children or vulnerable groups) or through some indirect methods. Still, an increasing number of countries recognize the importance of conducting researches among the general population, especially for the development of strategies to combat drug abuse, and such researches are becoming essential in the process of reaching elemental insight into the state of drug use. In Europe, the agency responsible for collecting the data on drug use and addiction is the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). To ensure factual, objective, reliable and comparable information on drugs and drug addiction at the European level, EMCDDA has developed five specific epidemiological indicators, in collaboration with the Reitox network, experts across Europe and with other international organizations competent in the field of drugs and drug addiction. The five key indicators are the basis for the EMCDDA reporting on trends and developments in the European drug situation (European Monitoring Centre for Drugs and Drug Addiction, 2012b). They are: General po-

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pulation surveys, used to obtain information on drug use among the general population; Problem drug use, used to collect data on the prevalence and incidence of problem drug use at national and local level; Treatment demand indicator, used to describe the population of problem drug users entering treatment; Drug-related deaths and mortality, used to obtain statistics on the number and characteristics of people who die as a consequence of drug use, and finally Drug-related infectious diseases, used to collect data on drug-related infectious diseases, particularly among injecting drug users. Comprehensive understanding of the extent of the substance abuse problem requires examination of all these indicators.

An analysis of the available official documents as well as existing scientific research on substance (ab)use in the Republic of Croatia revealed that all the indicators except general population survey have been relatively systematically collected (Office for Combating Drugs Abuse of the Government of the Republic of Croatia, 2011; European Monitoring Centre for Drugs and Drug Addiction, 2012a). Furthermore, analyses have shown that there is a lack of information concerning the problem of substance use on the extent and use patterns of individual types of drugs amongst the general population. However, some studies have been conducted which give an insight into the problem of substance use in some specific populations, like youth. European School Survey Project on Alcohol and Other Drugs (ESPAD) is conducted in Croatia regularly since 1995, and provides snapshots of levels of licit and illicit drug use, trends and attitudes of 15 to 16-year-old school students across Europe (Hibell et al., 2012). Also, reports and studies like the 2003 Croatian Health Survey (World Health Organization, 2009), Global Status Report on Alcohol 2004 (World Health Organization, 2004), and databases like the European Health for All Database (World Health Organization, 2013b) provide some insight into the extent of the problem of tobacco and alcohol use in Croatia, but up to date there was no scientific research on the prevalence of illicit drug use among the general population. Also, no research to date has included the use of both licit and illicit substances among the general population. Consequently, any effort to contextualize the situation of substance use in Croatia by comparing it with other European countries was not possible. Because of all the aforementioned, it was crucial to conduct a general population survey on substance use in Croatia, and the results presented in this paper were obtained by the first comprehensive research about licit and illicit drugs use among the general population in Croatia. This paper has two primary aims: to present the data on the prevalence of licit and illicit sub-

stance use among the general population in the Republic of Croatia and to compare these prevalence rates with those from other European countries.

METHODS

The data on the prevalence of substance use among the general population in Croatia was gathered by empirical research described in detail in this chapter of the paper. The sources of data on the prevalence of substance use among the general population in different European countries were Eurobarometer surveys conducted on behalf of the European Commission (licit drugs), and the EMCDDA's Statistical Bulletin (illicit drugs). More specifically, the estimations of prevalence of licit drug use for European countries were based on secondary analysis of data collected through the Special Eurobarometer 385 (tobacco)¹ and the Special Eurobarometer 331 (alcohol)² (European Commission, 2012b, 2012c). Both datasets are available at GESIS – The Data Archive for the Social Sciences. Secondary analysis of these datasets enabled a cross-country comparison of the prevalence of tobacco and alcohol use in specific age groups. The source of data on illicit drug use for European countries presented in this paper was the EMCDDA's Statistical Bulletin 2012, which contains the data from the most recent national general population survey available since the year 2000. These data were modified to meet the purpose of this research, and are presented in the Results section in order to facilitate the comparison of results obtained by the research on illicit drug use among the general population in Croatia with other European countries.

Sample

The target population in this study were residents of the Republic of Croatia aged between 15 and 64 years, living in private households. The planned sample was divided into two subsamples. In the sample of population aged 15-64 years, a target of 4,000 interviews was set, and with oversampling, an additional 800 respondents aged 15-34 years were included in the research. The purpose of oversampling was to get a more robust sample of this segment of population that is more prone to consume all types of drugs. For the purpose of this study, 10,212 addresses were selected and 9,102 of them were valid. From them, 4,831 respondents participated in the study, which resulted in a 53.1% response rate, and 4,756 properly filled in the questionnaires. Since minors (aged 15-17) were also included in the study, the Croatian Psychological Chamber's recommendations on including minors in the research were followed and parental consent for interviewing a child was asked for.

The data was weighted to represent the distribution of birth cohort and gender in the general population of Croatia. The main characteristics of respondents after the process of sample weighting are presented in Figure 1.

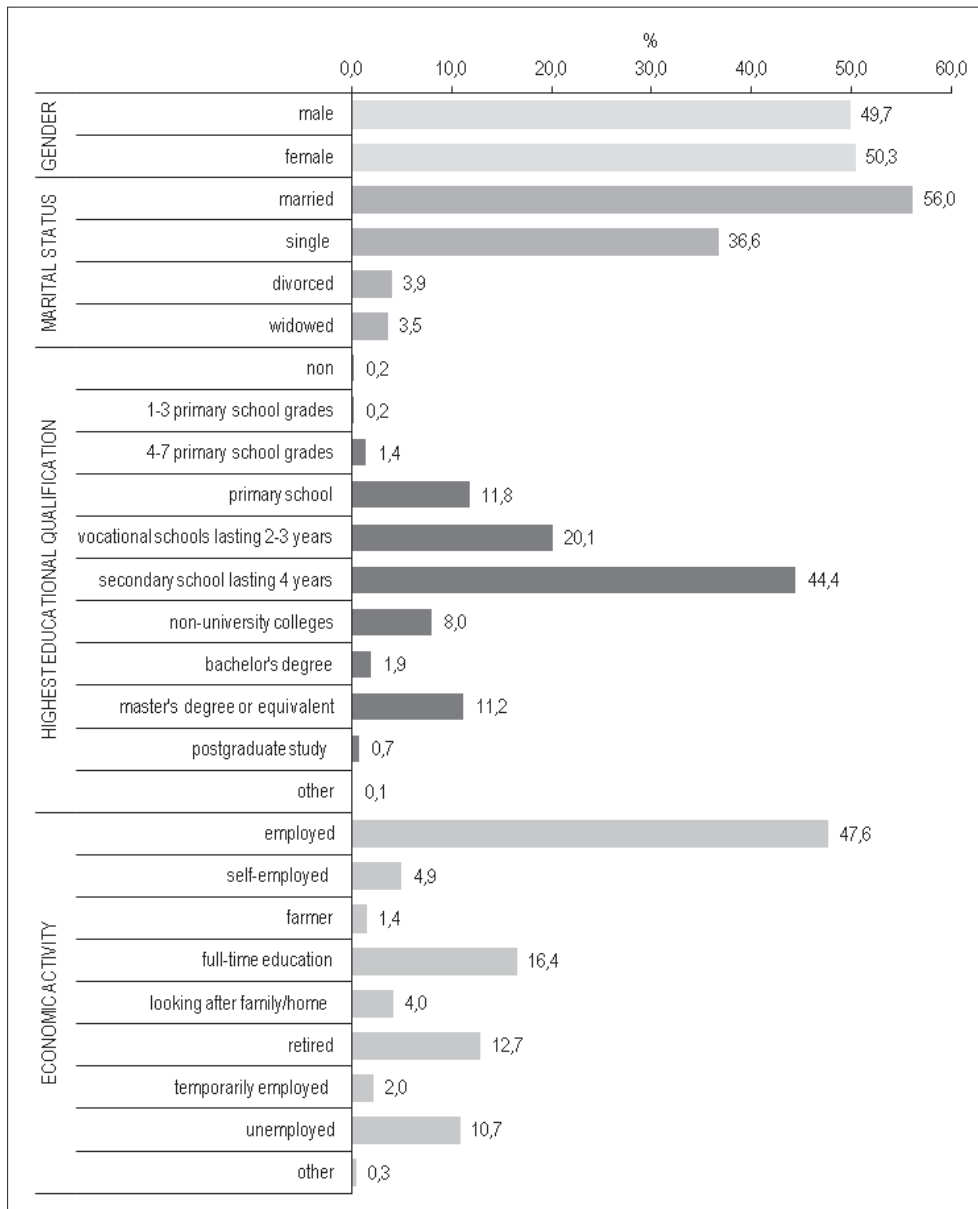


FIGURE 1
Main characteristics of respondents: gender, marital status, highest educational qualification and economic activity (%)

Furthermore, the 95% confidence intervals were used in order to indicate precision of estimates of the population prevalence rates, and also to help identify gender and age differences in prevalence rates of licit and illicit substance use among the general population.³

Instruments

For the purpose of this research, the Croatian translation of the *European Model Questionnaire* (EMQ) was used, a questionnaire which is standardly used in national surveys on substance use, and which allows the international comparability of the epidemiological status in the field of substance use (European Monitoring Centre for Drugs and Drug Addiction, 2002). As this paper outlines the results on the prevalence of licit drug use (tobacco, alcohol) and illicit drug use among the general population, it is important to precisely define the terms used. The term "prevalence" refers to the proportion of population who reported taking substance over a particular time period. The prevalence was measured in a way that respondents were asked to recall their personal substance use in the following periods: lifetime, last year and last month. Lifetime prevalence refers to the proportion of the respondents in a sample who reported ever using a particular substance. The respondent who reported lifetime prevalence of use of the particular substance may or may not be currently using that substance. Lifetime prevalence should not be interpreted in a way that a respondent is seen as someone who used a substance for a longer time period or will use it again in the future. Last year prevalence refers to the proportion of the respondents in a sample who reported using a particular substance in the year prior to the research. Last year prevalence is often referred to as recent use of substance and it is an indicator of the situation in the field of substance use. Last month prevalence refers to the proportion of the respondents in a sample who reported using a particular substance in the 30 days prior to the research. Last month prevalence is often referred to as current use of a particular substance. However, some of the respondents who reported current substance use can be only occasional or first time users who happen to have used a particular substance during the 30 days prior to the research, and because of that current substance use shouldn't be referred to as regular substance users (European Monitoring Centre for Drugs and Drug Addiction, 2002).

Socio-demographic variables included gender and age of respondents. The results are given for all respondents (aged between 15 and 64 years), hereinafter in the text referred to as all adults, for young adults (aged between 15 and 34 years), and are also presented by age categories (15-24 years, 25-34 years, 35-44 years, 45-54 years, and 55-64 years).

Procedure

The data were gathered by face-to-face interviews in the respondents' households. The fieldwork was conducted from May to August 2011. Since questions concerning substance use are seen as very sensitive, much attention has been devoted to ensuring the anonymity of respondents. The interviewers were asked to

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give the respondents introduction that solicits their participation in the survey and to give them an invitation letter which explained the purpose of the study to reassure them that the study was genuine, about confidentiality, importance of the research, information how the results are going to be presented etc. The respondents were assured that their participation in the research was voluntary and anonymous, and that all collected information was confidential, as well as that the collected data would be used only as a summary data, and would not be processed as single cases. Also, it was made possible, due to the sensitivity of the topic, for the respondents to fill out the questionnaire on their own. The interviewer assisted the respondent in clarifying any questions they did not understand if such problems occurred. As an additional reassurance of anonymity, respondents were given an unmarked envelope and were instructed that upon finishing with the questionnaire they had to insert the completed survey in the envelope, seal it and mix it with other unmarked envelopes of other respondents that the interviewer had already collected. The interviewing took approximately 20 minutes.

RESULTS

Tobacco use

As shown in Table 1, in Croatia more than half of all adults reported having ever smoked tobacco in their lifetime (57.5%).

Tobacco use		lifetime			last year			Prevalence: last month		
		%	CI-	CI+	%	CI-	CI+	%	CI-	CI+
All adults (15-64)	Total	57.5	55.5	59.5	39.7	37.9	41.6	37.4	35.7	39.3
	Males	62.9	60.2	65.4	43.3	40.9	45.7	40.9	38.5	43.3
	Females	52.3	49.8	54.8	36.2	33.9	38.5	34.0	31.8	36.3
Young adults (15-34)	Total	54.8	51.9	57.7	42.4	39.6	45.2	39.1	36.4	41.9
	Males	58.1	54.2	62.0	44.9	41.1	48.8	42.1	38.3	46.0
	Females	51.3	47.6	55.0	39.8	36.4	43.3	36.0	32.7	39.5
Age categories	15-24	50.1	46.2	53.9	40.0	36.2	44.0	36.0	32.2	39.8
	25-34	59.7	56.3	62.9	44.9	41.7	48.1	42.4	39.3	45.6
	35-44	64.6	60.9	68.1	46.9	43.2	50.6	44.4	40.7	48.2
	45-54	60.3	56.7	63.8	37.8	34.6	41.1	36.1	32.9	39.4
	55-64	51.3	48.3	54.3	26.2	23.8	28.7	25.9	23.5	28.4

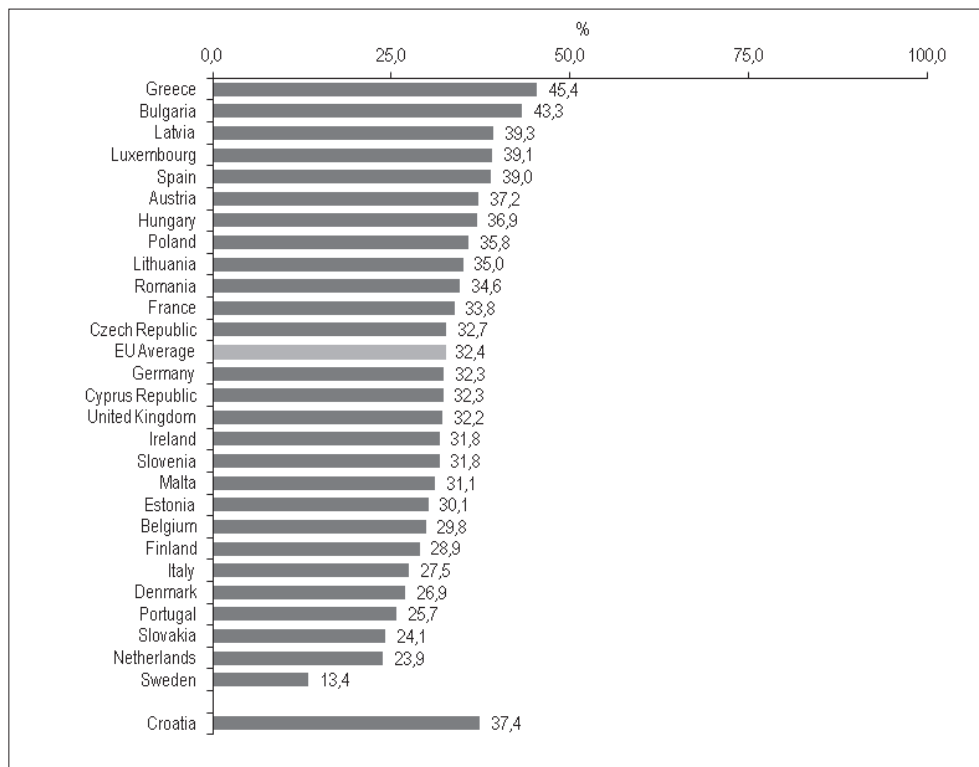
TABLE 1
Lifetime, last year and last month prevalence rates of tobacco use in Croatia with the 95% confidence intervals, among all adults and young adults by gender, and by age categories (%)

The lifetime prevalence rate of tobacco consumption among young adults was also high (54.8%). In the year prior to the research 39.7% of all adults and 42.4% of young adults reported having smoked tobacco, and in the month prior to the research 37.4% of all adults and 39.1% of young adults. The lowest last year and the last month prevalence rates of tobacco consumption were reported in the 55-64 age group (26.2%

FIGURE 2

The comparison of the proportion of the adult population (15-64 years old) who smoked tobacco in the month prior to the research in Croatia and European countries (%)

and 25.9%, respectively), and the lowest lifetime prevalence rate was similar in the oldest and the youngest age group (51.3% and 50.1%, respectively), while in other age groups the prevalence rates of tobacco consumption were around 60% for the last year, and around 40% for the last month. In all prevalence categories, the reported rate of tobacco consumption was higher among males than females among both all adults and young adults. However, comparisons of confidence intervals of the reported smoking prevalence rates showed that these intervals in all prevalence categories among all adults do not overlap, and among young adults do overlap. Thus, we can conclude that only differences among all adults in lifetime, last year and last month prevalence of smoking between males and females are statistically significant (Table 1).



Source: Dataset from Special Eurobarometer 385 wave 77.1 (European Commission, 2012c)

Figure 2 presents the proportion of smokers in the month prior to the research in the adult population (15-64 years) in Croatia and European countries (data from 2012). As shown in Figure 2, there are great variations in the proportion of the adult population smoking tobacco in the month prior to the research across different European countries, ranging from 13.4% to 45.4%. The proportion of smokers was the lowest (less than

15%) in Sweden, and the highest (above 40%) in Greece and Bulgaria. According to the results of this research, Croatia had very high last month prevalence of smoking among the adult population (37.4%), higher than the average proportion of population smoking tobacco in the month prior to the research in European countries (32.4%).

Alcohol use

The majority of respondents in Croatia in all age and gender categories reported having ever consumed alcohol in their lifetime (Table 2). The lifetime prevalence rate was 86.4% for all adults and 88.3% for young adults. Furthermore, 71.8% of all adults and 79.5% of young adults reported alcohol consumption in the year prior to the research, and 60.8% of all adults and 66.8% of young adults reported alcohol consumption in the month prior to the research. There were no considerable differences in the lifetime prevalence of alcohol consumption between different age groups, since the range of reported lifetime prevalence was between 83.1% (55-64 age group) and 91.7% (25-34 age group). However, the difference was more prominent for the last year and last month prevalence rates of alcohol use, where respondents from the oldest age group reported considerably lower prevalence rates (59.6% and 50.8%, respectively) than respondents from the younger age groups. Reported prevalence rates of alcohol consumption were statistically significantly higher amongst males than females in all prevalence categories, among both adults and young adults (Table 2).

TABLE 2
Lifetime, last year and last month prevalence rates of alcohol use in Croatia with the 95% confidence intervals, among all adults, young adults, and by age categories (%)

Alcohol use		lifetime			last year			Prevalence: last month		
		%	CI-	CI+	%	CI-	CI+	%	CI-	CI+
All adults (15-64)	Total	86.4	84.6	88.1	71.8	69.8	73.7	60.8	58.8	62.7
	Males	92.5	90.8	94.0	81.1	78.9	83.1	74.3	71.9	76.6
	Females	80.3	77.7	82.7	62.5	59.9	65.1	47.2	44.8	49.7
Young adults (15-34)	Total	88.3	86.1	90.2	79.5	76.9	81.8	66.8	64.1	69.3
	Males	91.0	88.4	93.1	85.1	82.0	87.7	77.2	73.9	80.2
	Females	85.4	82.4	88.0	73.8	70.3	77.0	56.0	52.5	59.4
Age categories	15-24	84.9	81.4	87.9	77.6	73.7	81.0	64.5	60.5	68.3
	25-34	91.7	89.6	93.4	81.5	78.6	84.1	69.2	65.9	72.2
	35-44	87.5	84.4	90.0	71.8	68.1	75.2	59.3	55.3	63.2
	45-54	84.4	81.4	87.1	66.7	63.2	70.0	58.6	55.0	62.1
	55-64	83.1	80.0	85.8	59.6	56.0	63.0	50.8	47.3	54.3

Figure 3 presents the comparison of proportion of the adult population (15-64 years) who used alcohol in the month prior to the research in Croatia and European countries (data from 2009).

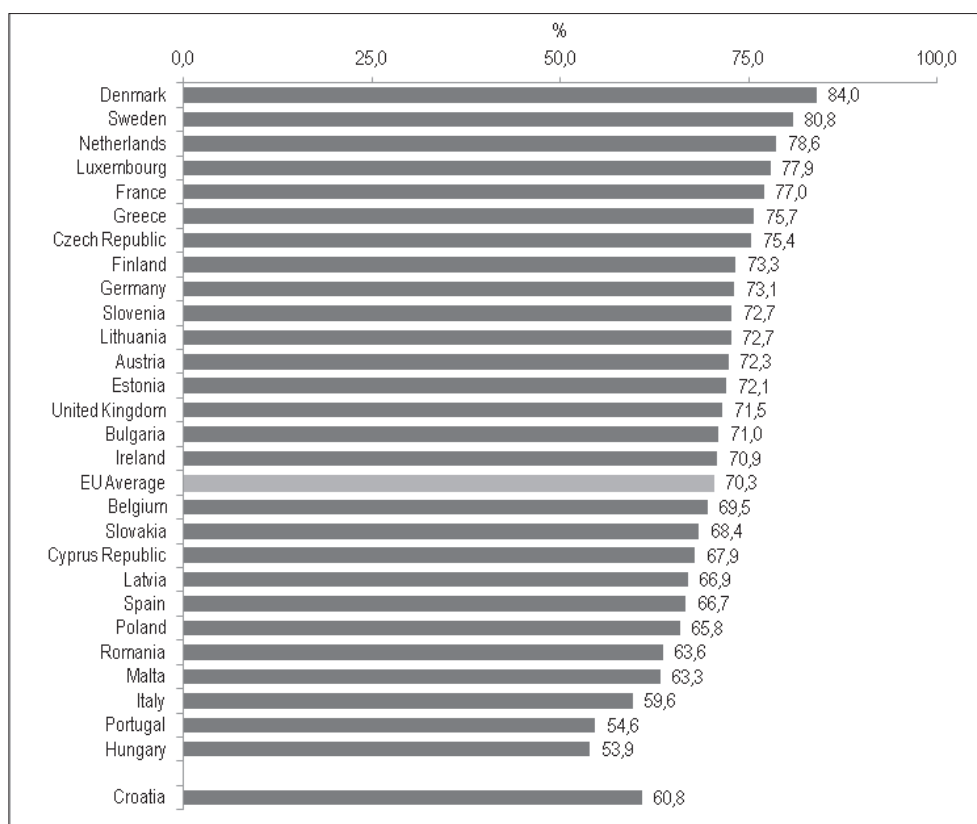


FIGURE 3
The comparison of the proportion of the adult population (15-64 years old) who used alcohol in the month prior to the research in Croatia and European countries (%)

Source: Dataset from Special Eurobarometer 385 wave 72.3 (European Commission, 2012b)

As shown in Figure 3, there are wide variations across different countries in the proportion of adults (15-64 years old) who used alcohol in the month prior to the research, with national prevalence figures varying from 53.9% to 84%. The proportion of adults who consumed alcohol in the last month was the highest (above 80%) in Denmark and Sweden, and the lowest (less than 60%) in Hungary, Portugal, and Italy. According to the results of the current research, in Croatia 60.8% of all adults drank alcohol in the month prior to the research, which is among the lower prevalence rates compared to the other European countries, and also lower than the average proportion of adult population who used alcohol in the last month in European countries (70.3%).

Illicit drug use

The lifetime prevalence rate of using any illicit drugs in Croatia was 16.0% of all adults, and around one-quarter (25.7%) of young adults (Table 3).

Any illicit drug use		Prevalence:								
		lifetime			last year			last month		
		%	CI-	CI+	%	CI-	CI+	%	CI-	CI+
All adults (15-64)	Total	16.0	14.4	17.8	5.3	4.5	6.4	3.2	2.5	3.9
	Males	21.4	19.0	24.1	7.4	6.1	9.0	4.4	3.4	5.8
	Females	10.7	9.2	12.3	3.3	2.6	4.2	1.9	1.4	2.5
Young adults (15-34)	Total	25.7	23.0	28.7	10.7	8.9	12.9	6.2	4.9	7.9
	Males	32.6	28.9	36.6	14.4	11.6	17.8	8.5	6.3	11.3
	Females	18.6	15.8	21.8	6.9	5.4	8.9	3.9	2.9	5.3
Age categories	15-24	22.6	19.3	26.4	12.7	10.2	15.6	7.3	5.4	9.9
	25-34	28.9	25.4	32.6	8.7	6.7	11.2	5.0	3.7	6.8
	35-44	17.0	14.4	20.0	3.3	2.2	5.0	1.8	1.1	3.2
	45-54	7.8	5.8	10.4	1.0	0.5	2.1	0.8	0.3	1.8
	55-64	1.9	1.2	3.0	0.5	0.2	1.3	0.5	0.2	1.3

TABLE 3
Lifetime prevalence, last year and last month prevalence rates of any illicit drug use in Croatia with the 95% confidence intervals, among all adults and young adults by gender, and by age categories

Note: The term "any illicit drugs" refers to taking one or more of the following drugs: cannabis, amphetamines, ecstasy, cocaine, heroin, and LSD.

5.4% of all adults and 10.8% of young adults reported having used some type of illicit drug at least once in the year prior to the research, and 3.2% of all adults and 6.2% of young adults in the month prior to the research (Table 3). Analysis of age differences showed higher lifetime prevalence rates of taking any illicit drugs among those younger than 44 years than among older age groups – the highest lifetime prevalence rate was reported in the 25-34 age group (28.9%), followed by the 15-24 and 35-44 age groups (22.6% and 17%, respectively). Furthermore, higher last year and last month prevalence rates of taking any illicit drugs were reported among those younger than 34 years – both the highest last year and last month prevalence rates were reported by the 15-24 age group (12.7% and 7.3%, respectively). Statistically significantly more males than females reported having used any illicit drugs in all prevalence categories, among both adults and young adults (Table 3).

Cannabis was the most commonly used illicit drug in Croatia (Table 4). The lifetime prevalence rate was 15.6% for all adults and 25.3% for young adults. Furthermore, 5% of all adults and 10.5% of young adults reported cannabis use in the year prior to the research, and 2.9% of all adults and 6.1% of young adults reported cannabis consumption in the month prior to the research. Higher lifetime prevalence rates of cannabis use were reported among those younger than 44 years than among older age groups – the highest lifetime prevalence rate was reported in the 25-34 age group (28.2%), followed by the 15-24 and 35-44 age groups (22.5% and 16.7%, respective-

TABLE 4
Lifetime prevalence, last year and last month prevalence rates of cannabis use in Croatia with the 95% confidence intervals, among all adults and young adults by gender, and by age categories

ly). Higher last year and last month prevalence rates of cannabis use were reported among those younger than 34 years, with the highest last year and last month prevalence rates reported by the 15-24 age group (12.6% and 7.3%, respectively). The reported lifetime, last year and last month prevalence rates of cannabis use were statistically significantly higher among males than females, among both adults and young adults (Table 4).

Cannabis use		Prevalence:								
		lifetime			last year			last month		
		%	CI-	CI+	%	CI-	CI+	%	CI-	CI+
All adults (15-64)	Total	15.6	14.0	17.5	5.0	4.2	6.0	2.9	2.3	3.7
	Males	20.9	18.4	23.6	7.1	5.8	8.7	4.2	3.2	5.5
	Females	10.4	8.9	12.0	2.9	2.3	3.8	1.6	1.2	2.3
Young adults (15-34)	Total	25.3	22.6	28.3	10.5	8.7	12.7	6.1	4.7	7.8
	Males	32.0	28.3	36.0	14.3	11.5	17.7	8.4	6.2	11.2
	Females	18.4	15.6	21.6	6.6	5.1	8.6	3.7	2.7	5.1
Age categories	15-24	22.5	19.1	26.2	12.6	10.1	15.6	7.3	5.4	9.9
	25-34	28.2	24.8	31.9	8.4	6.5	10.9	4.8	3.5	6.6
	35-44	16.7	14.2	19.6	2.5	1.7	3.9	1.5	0.8	2.6
	45-54	7.2	5.3	9.7	0.7	0.3	1.6	0.5	0.2	1.3
	55-64	1.6	1.0	2.6	0.5	0.2	1.2	0.5	0.2	1.2

Lifetime prevalence rates of use of illicit drugs other than cannabis were considerably lower than prevalence rates of cannabis use among both all adults (below 3%): amphetamines 2.6%, ecstasy 2.5%, cocaine 2.3%, LSD 1.4%, and heroin 0.4%, and young adults (below 6%): amphetamines 5.1%, ecstasy 4.6%, cocaine 3.8%, LSD 2.4%, and heroin 0.5%. Last year prevalence rates for all illicit drugs other than cannabis were up to 0.8% among all adults and 1.6% among young adults, and last month prevalence rates were up to 0.3% among all adults and 0.5% among young adults (Table 5). Although there were differences between males and females and also between different age categories for illicit drugs other than cannabis, because of the low prevalence rates of these illicit drugs, detailed analysis on their use will not be performed.

Furthermore, since the use of all illicit drugs except cannabis had relatively low prevalence rates in Croatia (Table 5), the comparison of data on illicit drug use from Croatia with that from other European countries will be presented in detail only for cannabis. In Figure 4 the comparison of lifetime, last year and last month prevalence rates of cannabis use in European countries (data from the most recent national general population survey available since 2000) and Croatia, for all adults and young adults are presented.

Illicit drug use	All adults (15-64)			Young adults (15-34)			Age categories				
	Total	Males	Females	Total	Males	Females	15-24	25-34	35-44	45-54	55-64
Lifetime prevalence											
Ecstasy	2.5	3.7	1.3	4.6	6.5	2.6	2.8	6.3	2.1	0.6	0.4
Amphetamines	2.6	3.6	1.6	5.1	6.5	3.6	3.7	6.6	1.5	0.6	0.4
Cocaine	2.3	3.2	1.4	3.8	5.1	2.5	2.5	5.1	2.7	0.5	0.5
Heroin	0.4	0.7	0.2	0.5	0.6	0.3	0.3	0.6	0.7	0.3	0.1
LSD	1.4	2.3	0.6	2.4	3.6	1.1	1.8	3.0	1.2	0.9	0.2
Last year prevalence											
Ecstasy	0.4	0.6	0.1	0.5	0.7	0.2	0.6	0.3	0.4	0.3	0.2
Amphetamines	0.8	1.1	0.5	1.6	2.0	1.2	1.7	1.5	0.3	0.2	0.1
Cocaine	0.5	0.7	0.3	0.9	1.2	0.7	0.9	0.9	0.4	0.2	0.1
Heroin	0.1	0.2	0.0	0.1	0.2	0.1	0.2	0.1	0.0	0.2	0.1
LSD	0.3	0.4	0.1	0.4	0.5	0.3	0.4	0.4	0.1	0.3	0.1
Last month prevalence											
Ecstasy	0.2	0.3	0.1	0.2	0.2	0.1	0.1	0.2	0.3	0.3	0.1
Amphetamines	0.2	0.4	0.1	0.5	0.8	0.2	0.6	0.3	0.0	0.2	0.1
Cocaine	0.3	0.3	0.2	0.4	0.4	0.3	0.3	0.5	0.3	0.2	0.1
Heroin	0.1	0.2	0.0	0.1	0.2	0.1	0.2	0.1	0.0	0.2	0.1
LSD	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.2	0.1	0.3	0.0

TABLE 5
Lifetime prevalence, last year and last month prevalence rates of use of illicit drugs other than cannabis in Croatia, among all adults and young adults by gender, and by age categories

As seen in Figure 4, there were considerable differences in prevalence rates of cannabis use among all adults between European countries in all prevalence categories, with national prevalence figures varying from 1.6% to 32.5% for lifetime use, 0.3% and 14.3% for last year use, and 0.1% and 7.6% for last month use. Among the highest prevalence countries for all prevalence categories of cannabis use among all adults were Spain, Italy, and France, and the lowest Romania, Malta, and Greece. The prevalence rate of lifetime cannabis use among all adults in Croatia (15.6%) was lower than the average prevalence rate of cannabis use in the European countries (23.7%), while last year and last month prevalence rates of cannabis use in Croatia (5% and 2.9%, respectively) were similar to the average prevalence rates of cannabis use in the European countries (6.8% and 3.6%) (Figure 4).

As in Croatia, national prevalence rates of lifetime, last year and last month cannabis use were higher among young adults than among all adults in all European countries (Figure 4). Prevalence rates of cannabis use among young adults in European countries varied from 3% to 49.3% for lifetime use, 0.6% and 20.7% for last year use, and 0.2% and 14.1% for last month use. Among the highest prevalence countries for all prevalence categories of cannabis use among young adults were Czech Republic, France, Spain and Italy, and the lowest Romania, Malta, and Greece. The prevalence rate of lifetime cannabis use among young adults in Croatia (25.3%) was lower than the average prevalence rate of cannabis use in the European countries (32.5%), whereas the last year and the last month prevalence rates of cannabis use among young adults

in Croatia (10.5% and 6.1%, respectively) were similar to the average prevalence rates of cannabis use in the European countries (12.4% and 6.6%).

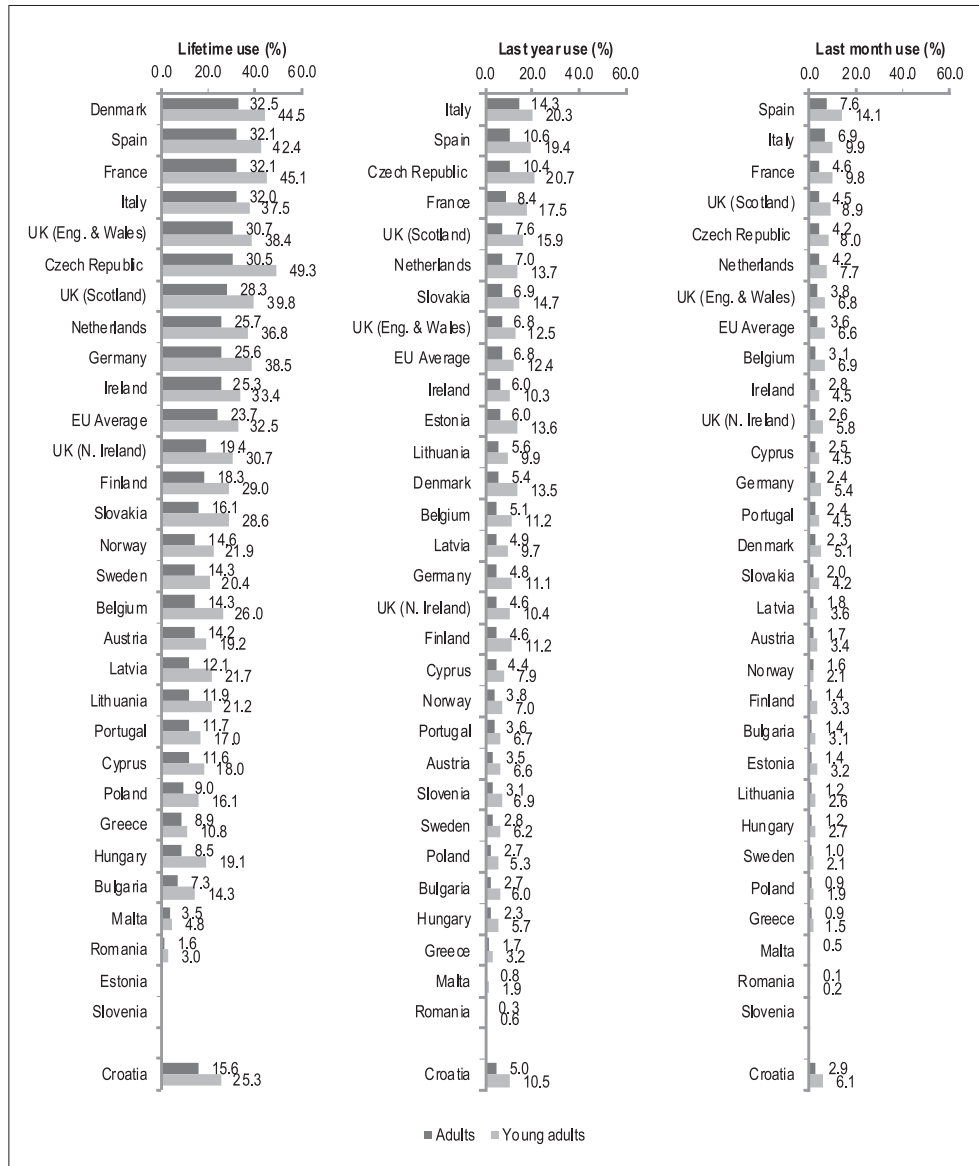


FIGURE 4
The comparison of lifetime, last year and last month prevalence rate of cannabis use in Croatia and European countries, for all adults and young adults (%)

Source: EMCDDA's Statistical Bulletin 2012 (European Monitoring Centre for Drugs and Drug Addiction, 2012c).

In Table 6 the comparison of lifetime prevalence rates of ecstasy, amphetamines, cocaine and LSD use in European countries (data from most recent national general population survey available since 2000) and Croatia are presented.

	Ecstasy	Amphetamines	Cocaine	LSD
Lifetime prevalence in Croatia	2.5%	2.6%	2.3%	1.4%
European average	3.4%	3.8%	4.6%	/
Range	0.4-8.3%	0.1-11.6%	0.3-10.2%	0.1-5.6%
Lowest-prevalence countries	Greece (0.4%) Romania (0.7%) Norway (1.0%) Poland (1.2%)	Greece (0.1%) Romania (0.1%) Cyprus (0.7%) Portugal (0.9%) Slovakia (1.2%)	Romania (0.3%) Lithuania (0.5%) Greece (0.7%) Poland (0.8%)	Romania (0.1%) Bulgaria (0.2%) Greece (0.3%) Lithuania (0.4%) Malta (0.5%)
Highest-prevalence countries	United Kingdom (8.3%) Ireland (6.9%) Netherlands (6.2%) Spain (4.9%)	United Kingdom (11.6%) Denmark (6.2%) Sweden (5.0%) Ireland (4.5%)	Spain (10.2%) United Kingdom (8.9%) Italy (7.0%) Ireland (6.8%)	United Kingdom (5.6%) Czech Republic (2.6%) Germany (2.4%)

TABLE 6
The comparison of lifetime prevalence rates of ecstasy, amphetamines, cocaine and LSD use in Croatia and European countries (data from most recent national general population survey available since 2000), for all adults (%)

Source: EMCDDA's Statistical Bulletin 2012 (European Monitoring Centre for Drugs and Drug Addiction, 2012c).

For all listed illicit drugs⁴ there were considerable differences between countries in lifetime prevalence of use (Table 6). Among the highest prevalence countries for lifetime prevalence rates of use of amphetamines, ecstasy, cocaine, and LSD was the United Kingdom, and the lowest Greece and Romania. In Croatia, the lifetime prevalence of use of amphetamines, ecstasy and cocaine among all adults (2.6%, 2.5%, and 2.3%, respectively) was somewhat lower than the European average (3.8%, 3.4%, and 4.6%, respectively) (Table 6).

DISCUSSION

The results of this research showed that in Croatia around one out of three adults (37.4%) aged 15-64 years smoked tobacco in the month prior to the research, which can be considered as current tobacco use (European Monitoring Centre for Drugs and Drug Addiction, 2002). That is somewhat higher than the results of the previous study in Croatia based on the Croatian Health Survey 2003 (according to Samardžić, Santo, & Kožul, 2008), which showed that 31.4% of population currently smoked tobacco. However, it should be noted that in that study the respondents were older than 18 years, and according to the results of this research, last month prevalence of smoking in the youngest age category (15-24 years) was also high (33.3%), which might point to the increased prevalence of smoking. Also, the results of ESPAD, research which is continually conducted among young people (15-16 year-old school students across Europe), showed that the pre-

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valence of smoking among youth in Croatia was 41%, which is very high (third in Europe after Latvia and Czech Republic), since the European average is 28% (Hibell et al., 2012). The comparison of the proportion of smokers in the month prior to the research obtained in this research with that from other European countries showed that the proportion of smokers in Croatia (37.4%) was among the highest in Europe and above the European average, which was 32.4% (European Commission, 2012a).

According to the results of this research, in Croatia the majority of all adults reported having used alcohol in their lifetime (86.4%). That is higher than the results of previous research in Croatia based on the Croatian Health Survey 2003 (according to World Health Organization, 2004), which showed that lifetime prevalence of alcohol consumption was 77.1%. The proportion of respondents who drank alcohol in the year prior to the research in Croatia in the current research was 71.8%, and 60.8% of all adults in Croatia reported alcohol consumption in the month prior to the research. That is lower than the average proportion of adult population who used alcohol in the last month in the European countries (70.3%). However, it should be taken into account that results of the Special Eurobarometer 331 (European Commission, 2010) showed that at country level the European citizens most likely to have had an alcoholic drink in the last 30 days (calculated from those who claimed to have drunk alcohol in the past 12 months) are, for example, Italians (94%) and Portuguese (91%), but at the same time 39% of Italian and 42% of Portuguese respondents reported that they have abstained from alcohol during the past 12 months. For Croatia, the situation is similar – 28.2% of all adults abstained from alcohol during the past 12 months, but 83% of all respondents who reported having drunk alcohol in the past 12 months also reported having an alcoholic drink in the last 30 days. This points to a polarity of consumption patterns – while many do not consume alcoholic beverages, those who do, tend to drink regularly (European Commission, 2010). Also, last month prevalence is only a general indicator of alcohol consumption, and to gain more insight into alcohol consumption among the general population, the frequency of drinking in the last 30 days should be analyzed, and also the level of consumption (number of drinks drunk on one occasion).

The results of this research showed that, like in other European countries, cannabis was the illicit drug most widely used in Croatia. Among both all adults and young adults in Croatia, prevalence rates of lifetime cannabis use were lower, and last year and last month prevalence rates were similar to

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the average prevalence rates of cannabis use in the European countries. Other illicit drugs included in this study had lower prevalence rates of use in both Croatia and other European countries. For Croatia, lifetime prevalence of cannabis use in ESPAD study was 18% which is very close to the European average (17%), and last month prevalence of cannabis use was 7% which is exactly like the European average (7%) (Hibell et al., 2012). The results of this research also showed that the prevalence rate of last month cannabis use among young adults in Croatia was very near the average of the European countries (6.1% vs. 6.6%), which leads to the conclusion that systematic prevention should be especially aimed at young age groups. Also, last month prevalence of cannabis use in Croatia was highest among the 15-24 age group (7.3%), which further supports this conclusion.

The results of this research indicated a significant rate of consumption of both licit and illicit substances in the Croatian society. Since there are considerable differences in the prevalence rates of tobacco use, alcohol use, and cannabis use between men and women in Croatia, and there were also differences among age categories, future research should take into account gender and age variables in the comparison of data from different countries. There are also other important variables that should be taken into account in analyzing the problem of both licit and illicit substance use, since they influence their prevalence, but are beyond the scope of this paper, like other socio-demographic variables (socio-economic status, education, employment, marital status etc.). According to the results for the European Union, unemployed respondents were the most likely of all socio-demographic groups to report they currently smoke, also respondents with a lower socio-economic status, and those with lower level of education (European Commission, 2012a). Furthermore, people who left education earlier and people with lower financial status were less likely to have had alcohol in the last year, while people with higher occupational status were more likely to drink (European Commission, 2010). Other socio-demographic variables should also be taken into account when analyzing illicit substance use, since they influence the prevalence of its use (European Monitoring Centre for Drugs and Drug Addiction, 2012a; United Nations International Drug Control Programme, 1995). Also, the comparisons of prevalence rates of substance use between Croatia and other European countries presented in this paper are basic comparisons, which serve as a frame for further analyses. In order to have a complete picture of the extent of substance use and allow comparisons between different countries, patterns of substance use, which can range from experimental or occasional use to regular use and addiction, should also be examined.

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It should be taken into account that for illicit drugs, due to the standardized methodology and the use of the European Model Questionnaire, the obtained data is highly comparable with data from other European countries. However, there are still differences in the national survey sampling methodology used and the year of data collection, response rate, and population sizes, which means that small differences, in particular between countries, should be interpreted with caution (European Monitoring Centre for Drugs and Drug Addiction, 2012a). Other limitations of this study are the same as in other studies on the substance use amongst the general population. In this research, only individuals living in private households were included, and because of that some groups of respondents, for which a higher prevalence of substance use might be expected, were not included (like individuals in hospitals, prisons, therapeutic communities and correctional facilities, homeless). Furthermore, in this research, self-report measures of respondents' substance use were used, and although measures were taken to ensure respondents' sincerity, giving socially desirable answers cannot be completely excluded. Despite the mentioned limitations, this study is very important since it is the first of this type in the Republic of Croatia. It was conducted on a large representative sample of heterogeneous respondents and therefore it gives, on a national level, an overview of substance use amongst the general population. This information is fundamental for understanding and assessing the situation in the field of substance use, defining priorities and forming and evaluating strategies for substance abuse prevention and drug policy, regulation and control.

NOTES

¹ The Special Eurobarometer 385 was part of the Eurobarometer wave 77.1 and was conducted in February and March 2012 on a multi-stage, random sample. The target population in this study were residents of the EU countries aged 15 years and over. The data were gathered by face-to-face interviews and 26,751 respondents participated in the survey (about 1,000 interviews per country).

² The Special Eurobarometer 331 was part of the Eurobarometer wave 72.3 and was conducted in October 2009 on a multi-stage, random sample. The target population in this study were residents of the EU countries aged 15 years and over. The data were gathered by face-to-face interviews and 26,788 respondents participated in the survey (about 1,000 interviews per country).

³ The confidence intervals were used instead of a χ^2 test to indicate statistical significance of differences between estimations because χ^2 test is sensitive to sample size. More precisely, the χ^2 test tends to

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produce lower p values when used on large samples, which could lead to falsely rejecting a null hypothesis (Cohen, 1994; Higgins & Green, 2008).

⁴ Data on heroin use among the general population in European countries, and the European average of lifetime prevalence of LSD use among the general population were not available from the EMCDDA's Statistical Bulletin.

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Prevalencija uporabe sredstava ovisnosti u općoj populaciji: stanje u Hrvatskoj i usporedba s drugim europskim zemljama

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Ovaj rad imao je dva cilja: podastri podatke o prevalenciji uporabe legalnih i ilegalnih sredstava ovisnosti u općoj populaciji Republike Hrvatske i usporediti te prevalencije s onima iz drugih europskih zemalja. Podaci o prevalencijama u Hrvatskoj prikupljeni su empirijskim istraživanjem na reprezentativnom uzorku odraslih između 15 i 64 godine (N = 4756). Podaci o prevalencijama uporabe legalnih sredstava ovisnosti dobiveni su sekundarnom analizom sirovih podataka iz Specijalnog Eurobarometra 385 (duhan) i 331 (alkohol), dok je izvor podataka o ilegalnim drogama bio Statistički buletin Europskog centra za praćenje droga i ovisnosti o drogama (EMCDDA) iz 2012. godine. Rezultati su pokazali da je u Hrvatskoj prevalencija pušenja cigareta u mjesecu koji je prethodio istraživanju bila 37,4%, što je među najvišima u Europi i iznad je europskoga prosjeka (32,4%). U mjesecu koji je prethodio istraživanju 60,8% odraslih u Hrvatskoj pilo je alkohol, što je među nižim prevalencijama u usporedbi s drugim europskim zemljama i ispod je europskoga prosjeka (70,3%). Kanabis je najčešća ilegalna droga u Hrvatskoj, 15,6% odraslih konzumiralo ga je barem jednom u životu, što je ispod europskoga prosjeka (23,7%).

Ključne riječi: uporaba sredstava ovisnosti, opća populacija, prevalencija, Hrvatska, Europa