

## RESEARCH ARTICLE

# Romanian young people's drinking habits

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**Objective:** Alcohol use can cause social problems. Beside alcoholism the "binge drinking" and the "pre-drinking" could be a harmful form of alcohol use based on scientific literature data. In this study the alcohol use behaviors and associated problems were evaluated among young people aged between 14-30 years.

**Methods:** The study was carried out using a self reporting questionnaire, containing the Alcohol Use Disorders Identification Test (AUDIT) developed by World Health Organization and 10 more questions. This questionnaire was created in two languages (Romanian, Hungarian) and uploaded to the on-line survey page ([www.kwiksurveys.com](http://www.kwiksurveys.com)). The link was shared at different Facebook groups.

**Results:** The questionnaire was completed by 933 young people. There was a predominance of females (66.99%) and the participant's average age was 22.12 years ( $\pm 2.78$ ). The results show that males' relative risk (RR) for alcoholism is 7.18 (CI95%, 3.47-14.85). Majority (539; 57.77%) of the participants had at least one time binge drinking, from this 36.66% were occasionally binge drinkers and 21.11% were regular binge drinkers. More males binge drinkers were found than females (RR: 1.72; CI95%, 1.55-1.90). The people who participate in pre-drinking have RR of 2.14 (CI95%, 1.89-2.41) for binge drinking. The binge drinkers have RR of 2.58 (CI95%, 1.78-3.37) for drunk driving.

**Conclusions:** Binge drinking is a really common habit among young people. Measures to reduce the risk or prevent the harmful consequences of this habit should be employed.

**Keywords:** binge drinking, survey, alcohol consumption, young people

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## Introduction

In any society the alcohol consumption is often associated with major problems, like alcohol dependence, alcohol intoxication, cirrhosis of the liver, drunk-driving, car accidents or other kind of injuries [1-5]. Alcoholism is a well known disease, but the latest papers show, that it is more common among the older population [6]. Among the younger population (aged 14-30 years) other habits are spreading, like the binge drinking (risky drinking) and the preloading (frontloading, predrinking, botellón), that are also harmful habits [7]. Binge drinking is when one person drinks more alcohol containing drink than a fixed limit at one occasion. Different number of drinks appears for this limit in the scientific literature, usually ranging from 4 to 6 standard drinks at one occasion [1,8,9]. The preloading is an event preceding a party, when the young adults get together at someone's home and consume alcohol [6,10-13].

The majority of people are honest when they are completing an online survey. Almost everyone has a Facebook profile and they visit this site every day, uploading personal information about themselves [3,14,15]. These profiles contain many posts and pictures, that refer to the alcohol or drunkenness [3,16,17].

The objectives of this study were to describe the Romanian young people's alcohol using habits by using an online survey, which was sent to the target group via Facebook.

## Methods

The survey has been conducted by using a self-reported questionnaire. The questionnaire contained 24 questions. The first four questions were asking about the basic information of the participants (gender, age, county of residence, occupation). No identifiers such as the individual's name, ID number or IP address were recorded in order to preserve the anonymity of the participants. These questions were used to collect information just from the target group, young people, aged between 14 and 30 years, who were living in Romania.

The Alcohol Use Disorders Identification Test (AUDIT) was used for the next ten questions. The AUDIT was developed by the World Health Organization to identify persons with hazardous alcohol consumption. Each response had a score from 0 to 4 that meant that the AUDIT test had a score from 0 to 40. Based on this score the participants were classified into four risk levels (Zone I-IV). Zone I (score 0-7) defined as abstinence or low risk drinking. Zone II (score 8-15) refers to alcohol use in excess; these people need only some simple advice about alcohol consumption. Zone III (scores 16-19) refers to high risk drinking, these people need a brief counseling and continued monitoring. Zone IV (score 20-40) defined as alcohol dependence [18].

A second classification was made based on the third question of the AUDIT. The participants were ranked in two categories: binge drinkers and non-binge drinkers. Binge drinking was defined as 6 or more standard drinks at one occasion. One standard drink contains approximately

10-12 g of pure alcohol. Non-binge drinkers were identified as people who never engaged in binge drinking in their entire lives. The binge drinkers were divided in two subcategories: occasional binge drinkers and usual binge drinkers. The occasional binge drinkers were the people who engaged in binge drinking less than once a month and the usual binge drinkers were the people who had a binge drink monthly or often.

The next ten questions were asking about the circumstances of the drinking (type of the alcoholic beverage, the drink quality, the place of drinking, the drinking occasion, the companionship, participation in preloading, the purpose of the preloading, drinking after preloading, driving after drinking, accident caused by drunk-driving).

The questionnaire was prepared in two languages (Romanian and Hungarian), and was uploaded to one of the online survey builder sites ([www.kwiksurveys.com](http://www.kwiksurveys.com)). After that, the link of the questionnaire was posted in different Groups, and shared on different Profiles on one of the most popular social networking site, Facebook ([www.facebook.com](http://www.facebook.com)). The link of the questionnaire was also uploaded to some local online advertising sites, but these sites had only a few visitors. The questionnaire was available to the public for 4 weeks, between January 24<sup>th</sup>, 2014 and February 24<sup>th</sup>, 2014.

The answers of the questionnaire were downloaded in Microsoft Office Excel format from the kwiksurveys site. The results were analyzed, counted and summarized also in Excel. The statistical analysis was made using GraphPad InStat program. The Fisher's exact test was used for the calculation of the relative risk and the odds ratio. The significance level was set at  $\alpha=0.01$ .

## Results

The questionnaire was filled in by 1111 people. One hundred seventy-eight of the responses were eliminated, because they weren't completed or had some contradictory answers; therefore a total of 933 questionnaires were analyzed. Among the participants 625 (66.99%) were female. The responders' average age was 22.15 (SD 2.78) (Figure 1), 70.03% were students, 19.87% were employed, 7.20% were school students and 2.90% were unemployed. Most of the participants (42.44%) were living in the county of Mureş, the rest of them in neighbouring Romanian counties. Figure 1 presents the age distribution of the young peoples, who complete the questionnaire.

The distribution of the young people according to their gender and AUDIT test results is presented in Table I. The first column containing the number of participants, who's scores were in the respective zone and the next column showing the percentages of females/males, who's scores were in that zone. The four risk zones were divided in two risk levels: low risk (zone I-II) and high risk (Zone III-IV). The relative risk of the incidence of alcoholism was calculated based on these levels. Statistically significant difference was found between the genders, the men have an

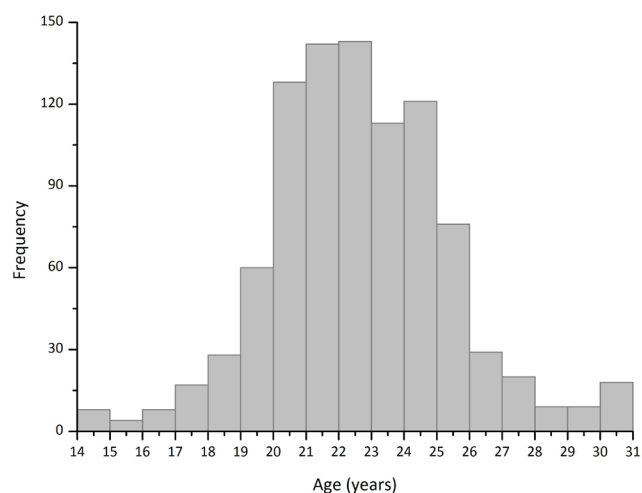


Fig. 1. The age distribution

average of 7.18 times higher chance for developing alcoholism compared to women (CI 95%, 3.47-14.85).

Table I. Distribution, by gender, of the young people in the four risk zone of the AUDIT

	Female		Male	
Zone I	527	84.46%	191	61.81%
Zone II	88	14.10%	86	27.83%
Zone III	6	0.96%	20	6.47%
Zone IV	3	0.48%	12	3.88%
Summary	624		309	

Some characteristics of the young people's alcohol consumption were described based on the Zone I (717 participant): they were consuming alcohol 2-4 times a month (40.31%) or less often (46.58%), they have 1-2 standard drinks at that occasion (70.99%), but just 53.97% of them never engaged in binge drinking. The price range of the alcoholic beverage they were consuming is middle-class (61.31%) and it's usually wine (64.96%) or beer (54.25%). Young people drink at the clubs, discos (62.34%) or house parties (48.03%), with friends (82.87%). Usually the birthdays, name days, anniversaries (75.70%) and the student parties (50.95%) provide an opportunity for drinking. Before the parties 36.79% of the people participated at the preloading, the majority of them (87.60%) went to this event to have a good time and not to get drunk. Unfortunately 11.14% of the participants were driving after drinking, at least once in their lifetime and 3.08% of them were not aware that consuming 1 or 2 beers before driving it is called drunk-driving.

In the case of binge drinkers a statistically significant difference was found also between the genders. The binge drinking is 1.72 times more common in the case of men, than women (CI95%, 1.56-1.90).

The binge drinking is 2.14 times more common in the case of the people who participate at the preloading (CI95%, 1.89-2.43). The binge drinkers have a 2.58 times higher chance to drive drunk (CI95%, 1.78-3.73), and

6.45 times higher chance to get in a car accident caused by drunk-driving (CI95%, 1.50-27.64).

Significant differences were found between the frequency of drinking among the binge drinkers and the non-binge drinkers: the majority (58.63%) of the non-binge drinkers consumed alcohol monthly or less than monthly, the majority (54.97%) of the occasional binge drinkers were drinking alcohol less than 4 times a month and the usual binge drinkers were drinking from 2-4 times a month (45.69%) to 2-3 times a week (40.61%). The rest of the major differences are displayed in the Table II.

## Discussion

Only a small percentage (3.75%) of the young people reported that they do not consume alcoholic beverages. Our findings are in concordance with those published by Wilczyński et al., who reported in 2013 that among Polish people (aged 18-27 years), 4.5% reported abstinence from alcohol [19]. There is some difference compared to the data collected by Shah et al. in 2009 among medical students, 14% of them do not consume alcohol [20]. Same difference (19.2%) was found in the epidemiology study among Chinese College Students in 2012 [21], but the Chinese people's alcohol-metabolizing enzymes have different genotype, they metabolize alcohol in a different pattern than other populations, so perhaps this is the cause why they consume less alcohol than other people [22-24].

A major difference (59.1%) was noticed in Romania by Lotrean et al., but they were analyzing school students only between age 15 and 17 [25]. In a study of 774 Australian students, Reavley et al. found that spirits, wine and beer were the most commonly consumed types of alcohol [26].

Popova et al. also noticed that the Romanian and the Hungarian people consumed a high percentage of beer, wine and spirits [5]. The current study shows that only 34.60% of the participants (from the Zone I) were drinking spirits, but people from the other risk zone were consuming more spirits, so the average population is consuming a high percentage of spirits. This fact is also supported by the Table II.

Popova et al. collected similar data about binge drinkers among women, they found 10.2% of Romanians and 16.0% of Hungarians are usual binge drinkers. In the case of men they found more binge drinkers than in our study, they recorded 47.0% of Romanian and 43.9% of Hungarian are usual binge drinkers [5]. Shah et al's data is also similar to our study; they found 40.0% of occasional binge drinkers and 28.4% of usual binge drinkers among medical students [20].

Hanewinkel et al. got different results for each nation among school students (aged 10-19 years), they note down 7% of Icelandic, 20% of Polish, 23% of Dutch, 30% of German and 40% of Scottish are binge drinkers [1]. In the case of women Eliassen et al. also got different results for each nation, they found 25.8% of Dutch, 24.3% of Norwegian, 14.9% of Icelandic and 11.7% of Swedish are usual binge drinkers [28]. The results of the current study are closer to the consumption of the Swedish women. Another study made on Australian students revealed that 33% of students drank 6 or more drinks in one occasion at least monthly [26].

In Brasilia Zarzar et al. found a little number of binge drinkers among 15-19 year old teens, 26.2% are occasional and 9.9% are usual binge drinkers [27].

Table II. Relevant difference between the non-binge drinkers, the occasional and the usual binge drinkers

	non-binge drinkers		occasional binge drinkers		usual binge drinkers		
	%	N	%	N	%	N	
Summary	42.23	394	36.66	342	21.11	197	
female	53.37	333	34.29	214	12.34	77	
male	19.74	61	41.42	128	38.83	120	
consumption of spirits	20.77	76	54.52	181	72.49	137	
drinking is a weekend relaxation	23.12	86	55.29	183	79.47	151	
drinking is in the evening program	13.71	51	30.82	102	57.37	109	
participation in preloading	21.72	81	59.52	197	77.25	146	
drunk driving	8.60	32	15.76	52	33.51	63	
accident caused by drunk-driving	0.54	2	1.51	5	6.91	13	
memory loss (black out) because of drinking	less than monthly	9.93	37	30.41	104	47.72	94
	monthly	0	0	2.05	7	13.71	27
	weekly or often	0	0	0	0	3.00	6
failed to do what was normally expected from them	less than monthly	6.60	26	14.04	48	22.34	44
	monthly	1.02	4	2.05	7	6.09	12
	weekly or often	0.25	1	0.29	1	4.57	9
feeling of guilt or remorse after drinking	less than monthly	14.72	58	33.63	115	27.92	55
	monthly	0.51	2	4.39	15	11.68	23
	weekly or often	0.51	2	0.29	1	5.58	11

A significant difference was noticed between our study and the study made by Ji et al. That research shows that 37.4% of men and 11.6% of women were occasional binge drinkers, and just 2.9% of the young Chinese people (4.9% of men and 1.3% of women) were usual binge drinkers in 2012 [21], these results reflect, that the Chinese people's alcohol metabolizing enzymes are different [22-24]. The preloading is a common habit in many countries and every nation is participating at this event in different proportions. Hughes et al. realized that 61.4% of the British, 59.6% of the Spanish, 56.2% of the Dutch and 34.8% of the Slovenian people had preloaded [7]. Zamboang et al. found out that 45% of young people (aged 14-18 years) from northeastern United States were participating in the preloading [29]. Among art students, Borsari et al. noticed that 31% of the students participated at preloading and the students, who preloaded, had 1.75 times more heavy drinking days than the others [30].

In New Zealand 17.3% of adolescents were reporting drunk driving [31], in Spain 23.2% of the young people had been drunk-driving [32].

Just a few drunk-drivers were found compared to the study made by Treloar et al. They reported that 75.6% of the men and 63.4% of the women were drunk-drivers, but the target group of this study was the young people who had access to a car and were driving at least once in the last month. In our study the percentage of the drunk drivers were calculated from the whole test groups, which could make some difference between the results [33].

Similar to the current study Valencia-Martin et al. proved that the people who engaged in binge drinking have more chances to drunk driving and have more car accidents caused by the alcohol, than the people who are consuming a small amount of alcohol [34].

## Conclusion

The study proved that the alcoholism can be major problem among the Romanian young people. Almost all of the participants are consuming alcohol and the majority of them prefer binge drinking.

Our results show that this habit is frequently associated with harmful incidence, like the memory loss, fail to do what was normally expected from you, drunk-driving and accidents caused by drunk-driving.

Based on the results of this survey it would be helpful to start a program in which the risk of the drinking would be explained to young people, how to drink, how to behave when they drink and what to do when someone in their surrounding is drunk.

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