

Prevalence of alcohol and drug consumption and knowledge of drug/alcohol-related sexual assaults among Italian adolescents

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Abstract

Introduction: Alcohol is the most widely used substance among adolescents, exceeding the use of tobacco and illicit drugs. The study aims at investigating the prevalence of alcohol and drug use and prevalence and knowledge of Drug Facilitated Sexual Assault (DFSA) among Italian adolescents.

Methods: The study population was a sample of 512 students of secondary education (high school) from 3 public schools in Milan, Italy. Two hundred and forty-nine boys and 263 girls aged 15 to 21 years old ($M = 16.2$, $SD = 2.1$) answered a specially structured anonymous questionnaire.

Results: Recent problem drinking ('every day' or 'once a week') was reported from 9% ('wine') up to 28% ('beer') of students. Cannabis and rave drugs usage (ranged from 'every day' to 'once only in a while') were reported by up to 38% ('cannabis') and 2% ('rave drugs') of students. Beer was the most popular type of alcoholic beverage (81%) with respect to wine (62%) and hard liquor (66%). Only a small percentage of participants stated that they were informed about the possible addiction to alcohol (5%) and its negative social consequences (3%). Nevertheless, almost all the students (92%) declared that alcohol consumption was less dangerous than other psychoactive substances. Finally, most students stated to know DFSA phenomenon (77%) and were victims or witness (13%) of a DFSA event.

Conclusion: Psychoactive substances consumption remains a serious problem among Italian adolescents. For a successful alcohol strategy there is a need to implement preventive measures and counseling approaches in school. Increasing the knowledge of the negative effects of alcohol/drugs use might also lead to a better prevention of the DFSA phenomenon.

KEY WORDS: drug abuse; alcohol drinking in college; cannabis; sex offenses; adolescent.

Riassunto

Introduzione: L'alcol è la sostanza più diffusamente utilizzata tra gli adolescenti, superiore all'uso di tabacco e droghe. L'obiettivo di questo studio è stato quello di studiare la prevalenza dell'uso di alcol e di droghe leggere ed il grado di conoscenza del fenomeno definito "Assalto Sessuale Facilitato dall'uso di droghe" tra gli adolescenti Italiani.

Metodi: La popolazione studiata era composta da un campione di 512 studenti di scuola secondaria superiore proveniente da 3 scuole di Milano, in Italia. 249 ragazzi e 263 ragazze di età compresa tra i 15 ed i 21 anni ($M = 16.2$, $SD = 2.1$) ha risposto ad un questionario anonimo.

Risultati: Sono stati riferiti problemi recenti collegati al bere ("ogni giorno" o "una volta alla settimana") dal 9% ("vino") fino al 28% ("birra") degli studenti. La cannabis e l'uso di droghe da sballo (da "ogni giorno" a "una volta ogni tanto") è stata riportata fino al 38% ("cannabis") e fino al 2% ("droghe da sballo") degli studenti. La birra è stata il tipo di bevanda alcolica più utilizzata (81%) rispetto al vino (62%) ed ai liquori (66%). Solo una piccola percentuale dei partecipanti ha dichiarato di essere stato informato sulla possibile dipendenza determinata dall'alcol (5%) e sulle conseguenze negative a livello sociale derivanti dal suo uso (3%). Quasi tutti gli studenti (92%) hanno dichiarato che il consumo di alcol era meno pericoloso di quello di altre sostanze psicoattive. Infine, molti studenti hanno dichiarato di conoscere il fenomeno definito "Assalto sessuale facilitato dall'uso di sostanze" (77%) e di essere state vittime o testimoni (13%) di un evento di questo tipo.

Conclusione: Il consumo di sostanze psicoattive rimane un serio problema tra gli adolescenti Italiani. Per una strategia efficace contro l'alcol è necessario implementare le misure di prevenzione e gli approcci di counselling nelle scuole. Aumentare la conoscenza degli effetti negative derivanti dall'uso di alcol e droghe potrebbe anche portare ad una più efficace prevenzione del fenomeno dell'"Assalto sessuale facilitato dall'uso di sostanze psicoattive".

TAKE-HOME MESSAGE

Psychoactive substances consumption remains a serious problem among Italian adolescents. Policy makers should implement preventive measures and counseling approaches in school. Increasing the knowledge of the negative effects of alcohol/drugs use might also lead to a better prevention of the 'Drugs-Facilitated Sexual Assault' phenomenon.

Competing interests - none declared.

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INTRODUCTION

According to the World Health Organization (WHO), the European Region has the highest levels of alcohol consumption per capita in the world [1]. Alcohol is the most widely used substance among adolescents, exceeding the use of tobacco and illicit drugs. Alcohol consumption is associated with many health risks and social problems [2–4]. In Italy, according to the European School Survey Project on Alcohol and Other Drugs (ESPAD) [5] alcohol beverage consumption and Heavy episodic drinking (HED) among adolescents are aligned with the ESPAD's average [6]. In addition, the rapid growth in cannabis abuse since the 1960s in North America, Western Europe and Australia led to about 147 million (2.5% of world population) cannabis users in the world [7]. Therefore, in most industrialized countries the use of illegal psychoactive substances begins during adolescence presenting a serious public health challenge [8]. In Italy, Molinaro et al. studied the trend of the illegals substance use among Italian high school students over 11 years (1999–2009). This study shows that illicit drug use is a widespread and probably expanding epidemic among Italian high school students, with cannabis at least five times more prevalent than any other drug [9]. Moreover, alcohol consumption and interpersonal violence are strongly linked, further challenging public health. Interpersonal violence can be classified into five categories: youth violence, child abuse, intimate partner violence, abuse of elderly people and sexual violence. Sexual violence include sexual assault, unwanted sexual attention and sexual coercion [10]. Drug Facilitated Sexual Assault (DFSA) has been defined as an offence in which victims are subjected to non-consensual sexual acts, while they are incapacitated or unconscious due to the effects of alcohol and/or drugs [11, 12]. In different studies, many different substances were associated with this crime, but in a recent review, Hall and Moore have identified alcohol and marijuana as the drugs most frequently implicated in substance-assisted sexual assault [13]. According to an Eu-

ropean report on the DFSA phenomenon, in Europe and elsewhere, alcohol is the psychoactive substance most commonly linked with sexual abuse and assault [14, 15]. Age, gender and drinking patterns are important factors for the risk of alcohol-related sexual abuse. This risk is highest among young people [10]. Campus sexual assault is a widespread problem and estimates of sexual assaults of college women have been remarkably consistent over time [16, 17]. Previous research based on university students has documented a strong relationship between alcohol and sexual assault. To date, however, there has been limited study on the association between alcohol and sexual assault among adolescents [18]. Data on DFSA in Italy is lacking, being there no study about the prevalence of alcohol facilitated sexual assault among Italian adolescents, to the best of our knowledge. The purpose of this study is to determine the prevalence of both cannabis and alcohol assumption, and the prevalence and knowledge of DFSA among Italian adolescents.

MATERIALS AND METHODS

A descriptive study was carried out in October 2015. Self-administered, anonymous surveys were conducted with a representative sample of 512 students aged 15–21 years at three senior schools in Milan. A questionnaire ad hoc was drawn up to assess knowledge and perceptions of alcohol and generic drugs. The questionnaire was divided into three parts: a) personal and parents' data, b) knowledge about alcohol and generic drugs, prior experience with them and c) knowledge of drugs facilitated sexual assault. Data concerning demographics and living conditions were collected using anonymous questionnaires (this questionnaire was designed specifically for the study, but its items were derived from the international literature [19, 20]). Adolescents were only asked about their direct or indirect experience of alcohol and/or drugs facilitated sexual assaults. Questionnaires were distributed to the students of three high schools in Milan. All students in the random selected classrooms were asked to complete, during a regular class period (approximately 20 min), a

self-administered questionnaire that was voluntary and anonymous. Students selected for the survey were informed about the objectives of the study, and had the right to refuse to participate without any consequences. A total of 512 subjects involved in this study returned a completed questionnaire.

RESULTS

The sample consisted of 512 respondents, of whom 48,6% were male ($n = 249$) and 51,4% ($n = 263$) were female. The mean age of the participants was 16.8 years ($SD 2.1$, range 15–21). A significant proportion of students were <18 years age (73.4%, $n = 376$) and attended the third year of the school. Parents of the participants were married/living with a partner (86.9%, $n = 445$) or divorced/separated (13.1%, $n = 67$). A little proportion of students (8.4%) declared parents' socioeconomic status as 'not good'. In Table 1 we show the prevalence estimated for problematic alcohol and drugs use during the last year. The frequency of alcohol assumption among participants was 'every day' or 'once a week' in a large percentage of the sample (53.1%). Recent problem drinking ('every day' or 'once a week') was reported from 12% ('wine') to

until up 25% ('beer') of students < 18 years old. Beer was the most popular type of alcoholic beverage (81.4%) versus wine (61.7%) and hard liquor (65.6%). Cannabis and rave drugs usage (ranged from 'every day' to 'only once in a while') were reported by to up 38% ('cannabis') and 2% ('rave drugs') of students. Moreover, students declared to be regular ('weekly' or 'daily' usage) smokers of cigarettes (35.0%) and cannabis (14.3%). During the last year, the cannabis usage was 'once in a while' in a large percentage of cases (38.7%). Only a small percentage of participants stated that they were informed about the possible addiction to alcohol (4.5%) and its negative social consequences (2.7%). A large percentage of the students (92.0%) believed that alcohol consumption was less dangerous than other psychoactive substances. In addition, most students declared to know the DFSA phenomenon (77.3%) and were victims or witness (12.7%) of a DFSA event. Finally, most students were aware of the negative effects of alcohol and drugs (89.9%) in different contexts: through their friends (40.2%), teachers (22.3%), internet (20.9%), their parents or other contexts (16.7%).

Table 1. Prevalence of alcohol and psychoactive drugs intake assumption in the last year.

Respondents (n = 512)	Every day	Once a week	Once a month	A few times a year	Only once in a while	Never
Beer (n.) (%)	10 (1.9)	135 (26.4)	84 (16.4)	149 (29.1)	39 (7.6)	95 (18.6)
Wine (n.) (%)	9 (1.8)	40 (7.8)	56 (10.9)	152 (29.7)	59 (11.5)	196 (38.3)
Hard liquor (n.) (%)	1 (0.2)	77 (15.0)	91 (17.8)	141 (27.5)	26 (5.1)	176 (34.4)
Smoking cigarettes (n.) (%)	138 (27.0)	41 (8.0)	10 (2.0)	41 (8.0)	45 (8.8)	237 (46.2)
Cannabis usage (n.) (%)	23 (4.5)	50 (9.8)	35 (6.8)	54 (10.5)	36 (7.0)	314 (61.4)
Rave drugs usage (n.) (%)	2 (0.4)	3 (0.6)	2 (0.4)	4 (0.8)	2 (0.4)	499 (97.4)

DISCUSSION AND CONCLUSION

In this study, our findings show that alcohol consumption and drugs usage were slightly prevalent in younger students. Table 1 shows the prevalence of alcohol and drugs use with respect to the frequency of intakes. Globally, problem drinking ('every day' or 'once a week') was reported from 9.6% ('wine') up to 28% ('beer') of students. Cannabis and recreational drugs usage (ranged from 'every day' to 'only a while') were reported by up to 38% ('cannabis') and 2% ('rave drugs') of students. Nevertheless, even though students from our sample commonly use both alcohol and drugs, especially cannabis, they have very limited insight on the negative physical, mental and social effects of the psychoactive substances. Considerable research among students in Europe and elsewhere is consistent with our findings of higher amount of problem drinking among male students compared to their female peers. Moreover, in senior high school students reported a higher frequency and quantity of consumption. According to WHO [1, 10], harmful use of alcohol is the leading risk factor for death in males aged 15–59 years, yet there is evidence that women may be more vulnerable to alcohol-related harm from a given level of alcohol use or a particular drinking pattern. Historically, women have consumed alcohol less often and in lower amounts than men. However, over time, the changing social role of women and the lessening of social taboos have led to a rise in the frequency and level of alcohol consumption among women. The significance of binge drinking among European young women is increasing [21]. Results from national surveys of adolescents and young adults show that alcohol use is common among both young men and women. Data from the Monitoring the Future Survey show that the gender gap is closing [22]. Alcohol use is the primary contributor to the leading causes of adolescent death (ie, motor-vehicle crashes, homicide, and suicide) in the United States [23]. Alcohol misuse disorders in adolescents are a risk factor for suicide attempts [24] and are associated with the following psychiatric con-

ditions: mood disorders, particularly depression; anxiety disorders; attention-deficit/hyperactivity disorder (ADHD); conduct disorders; bulimia; and schizophrenia [25]. Alcohol misuse is also associated with physical health problems including hormonal disorders, sleep disturbance and dental and other oral abnormalities [26]. Moreover, it is more difficult for young people than adults to cope with the effects of alcohol, physically and emotionally. Therefore, drinking can have a negative effect on a young person's school work, social life and personal relationships, as well as their general health [27]. In Italy, men drink on average twice as much as women do; women are more occasional consumers than men (2007), even though the gap between males and females is lower in adolescents (2011) [28]. According to the studies carried out by the Osservatorio Permanente sui Giovani e l'Alcool over the years, the rates of both regular and occasional consumers (in 2011) among 13–24 years old were 70% in males and 64% in females. The rate of alcohol consumption is particularly low among preadolescents (13–15 years old), only the 39% being drinkers. Nevertheless, the prevalence of young drinkers rises up to 70% in > 16 years old age. Moreover, the rates of regular assumption are 9.5% for 13–15 years old children, and 49.3% for 16–19 years old adolescents [27]. According to the WHO's report [1, 10], the European Region has the highest proportion of both current and heavy drinkers among adolescents. Regarding gender, there are more 'current drinkers' among male adolescents than among female adolescents, in all WHO regions. Moreover, there are about three times more young males than females who engage in HED. According to a recent survey, 14% of 15 and 16 years old in the United Kingdom have been drunk 20 times or more during the last 12 months and 50% have been drunk at least twice [29]. Moreover, our study is consistent with an Italian study on alcohol consumption among high schools students from 10 Italian towns, showing that alcohol usage was greater among males than females and among 13th graders (aged 18–

19) with respect to 9th graders (aged 14–15) [30]. In addition, our findings are consistent with national and European statistics emphasizing beer as the preferred and most widespread alcoholic beverage among 16-20 year-old Italian adolescents [6, 31]. Indeed, in our research, most respondents preferred ('every day' or 'once a week') beer over wine (28.1% vs 9.6%), even if wine drinking is deeply rooted in the Italian culture and is taking place among young drinkers [32]. With regard to cannabis usage, our data are in agreement with previous studies showing the large prevalence of adolescent drug use in Europe [33] and in Italy [9] with greater vulnerability of boys compared to girls [9, 34]. Cannabis is commonly regarded as an innocuous drug and lifetime and regular use have increased in most developed countries. Additionally, cannabis is the most commonly used illicit substance among adolescents and young adults. Initiation into cannabis use typically begins in adolescence, as youths aged 12–17 constitute about two thirds of the new cannabis users [35]. Approximately, 14% of adolescent-onset cannabis users develops cannabis dependence, a rate roughly twice that reported for adult-onset user [36]. In a recent review of the literature on the cannabis consumption among adolescents, Rubino and Parolaro have highlighted that heavy cannabis consumption in adolescence may induce subtle changes in the adult brain circuits resulting in altered emotional and cognitive performance. In vulnerable individuals, pubertal cannabinoid administration may even act as a risk factor for (inducing) enhanced behavioural disturbances related to schizophrenia. Moreover, in a specific 'time window' like the adolescence, cannabis use might ultimately lead to enhanced vulnerability in some individuals for the use of more harmful drugs of abuse [37]. In our study, almost all adolescents were unaware of the mental, physical and social effects of the psychoactive substances. With regards to drugs-facilitated sexual assault, in our study most students (77.3%) recognized a linking between alcohol and/or drugs and the DFSA phenomenon,

while 12,7% was a victim or a witness of a DFSA event. Alcohol-facilitated sexual assault occurs when alcohol is used to alter an individual's ability to consent to sexual activity. The most frequently detected drug in victims of drug-facilitated sexual assault is alcohol. Adolescence is a high-risk period for sexual assault; about one third of rape victims in the United States reports rape during this stage of human development [38]. The National Crime Victim Survey (2000) noted that female adolescents aged 16-19 are four times more likely than the general population to report sexual assault, rape, and attempted rape [39]. Generally, approximately half of all sexual assaults are associated with either the perpetrator's alcohol consumption, the victim's alcohol consumption, or both [40]. However, research on adolescent acquaintance assault (i.e., involving physical contact) is scarce [18]. The few studies based on sexual assault victims seeking treatment suggest that alcohol use among victims or perpetrators occurs in approximately half of all cases of sexual assault among adolescent victims [41, 42]. A study found that 15–23% of assault cases involved the victim being drugged or drunk, with an increase in percentage for older adolescents [43]. In a national sample of 1.763 adolescent girls McCauley et al. found that 11.8% of girls experienced at least one form of sexual assault and 2.1% experienced incapacitated/drug-alcohol facilitated sexual assault [38]. Sexual assault in adolescents is associated with increased risk of post-traumatic stress disorder, major depression, and substance use/abuse disorders [38, 44].

Strengths and Limitations

Our study presents some limits. First, as in most observational studies, all data were obtained through self-reports, therefore inaccurate recall or under-reporting may affect our results. Second, students with poor school attendance were likely underrepresented in this sample, because the administration of the survey took place during school hours. Third, the study was carried out only in one city in Italy; therefore, the results cannot represent

the entire country's adolescent drinking prevalence and patterns. With regards to DFSA, the number of questions about sexual assault in the study was limited. As in the research of McCauley et al. [38], we were able to ask younger adolescents only about other unknown forms of sexual assault instead of asking explicitly about oral sex or sexual intercourse. With regards to alcohol and drugs consumption, a limitation of this study concerned the educational variable. According to different studies, there is an inverse relationship between parental involvement in the children's education and adolescents' probability alcohol consumption [45, 46]. In the same way, our study lacks of an in-depth analysis on the relationships between perceived income insufficiency, parents' status, school characteristics, cigarettes smoking [30] and alcohol/drugs usage and knowledge of DFSA among participants [13, 18]. Future research should attempt to address these limits. Despite these limits, the results of our study have some implications for drugs and alcohol abuse among Italian adolescents, as this study is the first on the prevalence and knowledge of DFSA conducted among adolescents in Italy, to the best of our knowledge.

Implications for research

Alcohol consumption remains a serious problem among Italian adolescents. According to the Italian legal framework on alcohol (Law n. 151/2001), children and adolescents must be protected from the consequences of alcoholic beverages abuse. Moreover, according to the 1st Italian National Alcohol and Health Plan (2007-2009), it is necessary to

protect children and young people from pressures to drink and to reduce the share of consumers among children under 18. Therefore, the recent Italian Law n.189/2012 provides the ban to sell alcohol to < 18 years old age. A WHO Resolution, established that 'by the year 2015 in all countries per capita alcohol consumption should not increase or exceed 6 litres per annum, and should be close to zero under 15-year-old'. From the studies reviewed, alcohol marketing (media exposure and commercial communications) increases the likelihood that adolescents will start to use alcohol and to drink more if they are already using alcohol [47]. Therefore, policy makers should address this issue promptly. Nevertheless (in our opinion) law measures are not sufficient (indeed, media messages about cigarettes and cannabis smoking are often contradictory) [48, 49]. For this reason, prevention measures and counseling approaches in school are needed in order to implement a successful alcohol strategy. Therefore, intervention programmes in the media, in families and in schools, should primarily encourage moderate alcohol use and focus on the physical, mental and social risks related to alcohol abuse. Further prevention programmes should take into consideration age and gender differences [50]. Our results show that specific public health programmes in Italian schools might improve the knowledge of negative effects of smoking and alcohol/drugs usage among young people. An increase in the awareness on the consequences of alcohol and drugs consumption might also lead to a better prevention of the DFSA phenomenon.

References

1. World Health Organization. WHO global status report on alcohol 2004 [Internet]. Geneva: World Health Organization; 2004 [cited 2016 Apr 15]. Available from: http://www.who.int/substance_abuse/publications/global_status_report_2004_overview.pdf.
2. Danielsson AK, Wennberg P, Hibell B, Romelsjö A. Alcohol use, heavy episodic drinking and subsequent problems among adolescents in 23 European countries: does the prevention paradox apply? *Addiction*. 2012;107(1):71-80. <http://dx.doi.org/10.1111/j.1360-0443.2011.03537.x>.
3. Tsoumakas K, Tanaka M, Petsios K, Fildis G, Gkoutzivelakis A, Pavlopoulou I. Alcohol drinking habits and negative experiences among adolescents in Greece. *Open J Pediatr*. 2014;4: 222-230. <http://dx.doi.org/10.4236/ojped.2014.43029>.
4. American Academy of Pediatrics. Policy statement. Alcohol use by youth and adolescents: a pediatric concern. *Pediatrics*. 2010;125(5):1078-1087. <http://dx.doi.org/10.1542/peds.2010-0438>.
5. Hibell B, Andersson B, Bjarnason T, Ahlström S, Balakireva O, Kokkevi A, et al. The ESPAD report 2003: alcohol and other drug use among students in 35 European countries, Swedish Council for Information on Alcohol and Other Drugs. Stockholm: ESPAD; 2004.
6. ESPAD, Italy. European monitoring Centre for drugs and drug addiction. The ESPAD validity study in four countries in 2013 [Internet]. Luxembourg: Publications Office of the European Union; 2015 [cited 2016 Apr 15]. Available from: <http://www.espad.org/italy>.
7. WHO Report. Management of substance use. Cannabis [Internet]. Geneva: WHO; 2016 [cited 2016 Apr 15]. Available from: http://www.who.int/substance_abuse/facts/cannabis/en/.
8. Michaud PA, Berchtold A, Jeannin A, Chossis I, Suris JC. Secular trends in legal and illegal substance use among 16 to 20 year old adolescents in Switzerland. *Swiss Med Wkly*. 2006;136(19-20):318-326.
9. Molinaro S, Siciliano V, Curzio O, Denoth F, Salvadori S, Mariani F. Illegal substance use among Italian high school students: trends over 11 years (1999–2009). *PLoS One*. 2011;6(6):e20482. doi: 10.1371/journal.pone.0020482.
10. WHO Europe. Alcohol and interpersonal violence. Policy briefing [Internet]. Rome: WHO European Centre for Environment and Health; 2005 [cited 2016 Apr 15]. Available from: http://www.euro.who.int/__data/assets/pdf_file/0004/98806/E87347.pdf.
11. Payne-James J, Busuttill A, Smock W, editors. Forensic medicine clinical and pathological aspects. Cambridge: Cambridge University Press; 2003.
12. Payne-James J, Rogers D. Drug-facilitated sexual assault, “ladettes” and alcohol. *J R Soc Med* 2002;95(7):326-327.
13. Hall JA, Moore CBT. Drug facilitated sexual assault—a review. *J Forensic Leg Med*. 2008;15(5):291-297.
14. Olszewski D. Sexual assault facilitated by drugs or alcohol. Brussels: European Monitoring Centre for Drugs and Drug Addiction; 2008 [cited 2016 Apr 15]. Available from: http://www.emcdda.europa.eu/attachements.cfm/att_50544_EN_TDS_sexual_assault.pdf.
15. Kaysen D, Neighbor SC, Martell J, Fossos N, Larimer ME. Incapacitated rape and alcohol use: a prospective analysis. *Addict Behav*. 2006;31(10):1820-1832.
16. Koss MP, Gidycz CA, Wisniewski N. The scope of rape: incidence and prevalence of sexual aggression and victimization in a national sample of higher education students. *J Consult Clin Psychol*. 1987;55(2):162-170.
17. Lawyer S, Resnick H, Bakanic V, Burkett T, Kilpatrick D. Forcible, drug-facilitated, and incapacitated rape and sexual assault among undergraduate women. *J Am Coll Health*. 2010;58(5):453-460. doi: 10.1080/07448480903540515.
18. Young A, Grey M, Abbey A, Boyd CJ, McCabe SE. Alcohol-related sexual assault victimization among adolescents: prevalence, characteristics, and correlates. *J Stud Alcohol Drugs*. 2008;69(1):39-48.
19. EU Kids On-line questionnaire [Internet]. London: The London Economics and Political Sciences [update

- ted 2016 May 21; cited 2016 Apr 15]. Available from: <http://www.lse.ac.uk/media@lse/research/EUKidsOnline/Home.aspx>.
20. World Health Organization Collaborative Cross-National Survey. Health Behaviour in School-Aged Children questionnaire [Internet]. North Haugh, United Kingdom: HBSC International Coordinating Centre. University of St Andrews, Medical and Biological Sciences Building; 2016 [updated 2016 Oct 13 cited 2016 Oct 28]. Available from: <http://www.hbsc.org>.
 21. Bloomfield K, Grittner U, Kramer S, Gmel G. Social inequalities in alcohol consumption and alcohol-related problems in the study countries of the EU concerted action "Gender, culture and alcohol problems: a multi-national study". *Alcohol Alcohol Suppl.* 2006;41(1):26–36.
 22. Johnston LD, O'Malley PM, Bachman JG. Monitoring the future: national survey results on drug use, 1975–2001: Volume I. Secondary School Students. NIH Pub. No. 02–5106. Bethesda, MD: National Institute on Drug Abuse; 2002.
 23. National Institute on Alcohol Abuse and Alcoholism. Underage drinking: a major public health challenge [Internet]. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism Publications; 2003 Apr [cited 2016 Apr 15]. Available from: <http://pubs.niaaa.nih.gov/publications/aa59.htm>.
 24. Windle M. Suicidal behaviors and alcohol use among adolescents: a developmental psychopathology perspective. *Alcohol Clin Exp Res.* 2004;28(5 suppl):29S–37S.
 25. Simkin D. Adolescent substance use disorders and comorbidity. *Pediatr Clin North Am.* 2002;49(2):463–477.
 26. Clark DB, Lynch KG, Donovan JE, Block GD. Health problems in adolescents with alcohol use disorders: self-report, liver injury, and physical examination findings and correlates. *Alcohol Clin Exp Res.* 2001;25(9):1350–1359.
 27. Makela K, Mustonen H. Relationships of drinking behaviour, gender and age with reported negative and positive experiences related to drinking. *Addiction.* 2000;95(5):727–36.
 28. Report IFC-CNR. Consumo di bevande alcoliche dei giovani in Italia dal 2000 ad oggi: una revisione sistematica [Internet]. Roma: Osservatorio Permanente sui Giovani e l'Alcool; 2015 [cited 2016 Apr 15]. Available from: <http://www.alco.net>. Italian.
 29. Statistics on Alcohol. England 2015 [Internet]. London, UK: Health and Social Care Information Centre; 2015 Jun 25. Available from: <http://content.digital.nhs.uk/catalogue/pub17712/alc-eng-2015-rep.pdf>.
 30. Donato F, Monarca S, Chiesa R, Feretti D, Modolo MA, Nardi G. Patterns and covariates of alcohol drinking among high school students in 10 towns in Italy: a cross sectional study. *Drug Alcohol Depend.* 1995;37(1):59–69. doi10.1016/0376-8716(94)01053-N.
 31. De Santi A, Zuccaro P, Filippini F, Minutillo A, Guerra R, editors. La promozione della salute nelle scuole. Prevenzione degli incidenti stradali e domestici. Rapporti ISTISAN 10/3 [Internet]. Roma: Istituto Superiore di Sanità. 2010 [cited 2016 Apr 15]. Available from: <http://www.iss.it/binary/publ/cont/103web.pdf>. Italian.
 32. Bonino S, Cattellino E. Adolescence in Italy. In: Jeffrey JA, editors. *Adolescent psychology around the world*. New York: Psychology Press; 2012.
 33. De Preux E, Dubois-Arber F, Zobel F. Current trends in illegal drug use and drug related health problems in Switzerland. *Swiss Med Wkly.* 2004;134(21-22):313–321.
 34. Kokkevi A, Richardson C, Florescu S, Kuzman M, Stergar E. Psychosocial correlates of substance use in adolescence: a cross-national study in six European countries. *Drug Alcohol Depend.* 2007;86(1):67–74.
 35. Substance Abuse and Mental Health Services Administration. Center for Behavioral Health Statistics and Quality. Results from the 2013 National Survey on Drug Use and Health: National Findings, Office of Applied Studies, NSDUH Series H-25 [Internet]. Rockville, MD: U.S. Department of Health and Human Services; 2014 Sep [cited 2016 Apr 15]. Available from: <http://www.samhsa.gov/data/sites/default/files/NSDUHresultsPDFWHTML2013/Web/NSDUHresults2013.pdf>.
 36. Chen CY, Anthony JC. Possible age-associated bias in reporting of clinical features of drug dependence: epidemiological evidence on adolescent-onset marijuana use. *Addiction.* 2003;98(1):71–82.

37. Rubino T, Parolaro D. Long lasting consequences of cannabis exposure in adolescence. *Mol Cell Endocrinol.* 2008;286(1-2 Suppl 1):S108-S113. doi:10.1016/j.mce.2008.02.003.
38. McCauley JL, Conoscenti LM, Ruggiero KJ, Resnick HS, Saunders BE, Kilpatrick DG. Prevalence and correlates of drug/alcohol-facilitated and incapacitated sexual assault in a nationally representative sample of adolescents girls. *J Clin Child Adolesc Psychol.* 2009;38(2):295-300. doi:10.1080/15374410802698453.
39. Harner H. Sexual violence and adolescents. VAWnet, a project of the National Resource Center on Domestic Violence/Pennsylvania Coalition Against Domestic Violence [Internet]. Harrisburg, PA: National Resource Center on Domestic Violence [cited 2016 Apr 15]. Available from <http://www.vawnet.org>.
40. Abbey A, Zawacki T, Buck PO, Clinton AM, Mc Auslan P. Sexual assault and alcohol consumption: what do we know about their relationship and what types of research are still needed? *Aggress Violent Behav.* 2004;9(3):271-303. doi:10.1016/S1359-1789(03)00011-9.
41. Seifert SA. Substance use and sexual assault. *Subst Use Misuse.* 1999;34(6):935-945.
42. Muram D, Hostetler BR, Jones CE, Speck PM. Adolescent victims of sexual assault. *J Adolesc Health.* 1995;17(6):372-375.
43. Ageton SS. Sexual assault among adolescents. Lexington, MA: Lexington Books; 1983.
44. Kilpatrick D, Ruggiero KJ, Acierno R, Saunders BE, Resnick HS, Best CL. Violence and risk of PTSD, major depression, substance abuse/dependence, and comorbidity: results from the National Survey of Adolescents. *J Consult Clin Psychol.* 2003;71(4):692-700.
45. Trinidad DR, Chou CP, Unger JB, Johnson CA, Li Y. Family harmony as a protective factor against adolescent tobacco and alcohol use in Wuhan, China. *Subst Use Misuse.* 2003;38(8):1159-1171.
46. Newman K, Harrison L, Dashiff C, Davies S. Relationships between parenting styles and risk behaviors in adolescent health: an integrative literature review. *Rev Lat Am Enfermagem.* 2008;16(1):142-150.
47. Scafato E. Alcohol. Age limits. The Italian experience. Proceedings of CNAPA meeting [Internet]. Luxembourg: UE; 2012 [cited 2016 Apr 15]. Available from: <http://www.ec.europa.eu>.
48. Charrier L, Berchiolla P, Galeone D, Spizzichino L, Borraccino A, Lemma P, et al. Smoking habits among Italian adolescents: what has changed in the last decade? *Biomed Res Int.* 2014;2014:287139. doi:10.1155/2014/287139.
49. Grant I, Atkinson JH, Gouaux B, Wilsey B. Medical marijuana: clearing away the smoke. *Open Neurol J.* 2012;6:18-25. doi: 10.2174/1874205x01206010018.
50. Graziano F, Bina M, Giannotta F, Ciairano S. Drinking motives and alcoholic beverage preferences among Italian adolescents. *J Adolesc.* 2012;35(4):823-831.