PROBLEM OF SUBSTANCE MISUSE AND LACK OF NATIONAL STRATEGY IN KOSOVO

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SUMMARY

The aim of this project was to explore the problem of substance misuse among adolescent town dwellers in Kosovo, as a result of lack of a national strategy related to this problem.

Design: 261 students from 4 secondary schools took part in cross sectional survey performed in October 2005. The survey was carried out in Gjilan town in south-east of Kosovo.

Main results: From all questioned students, 36% smoked cigarettes every day, 12.6% consumed alcohol occasionally and 1.4% consumed all kind of drugs regularly. Girls consumed more cigarettes, whereas boys consumed more alcohol and other drugs. The prevalence of substance misuse was higher among students in their last year of high school attendance. Students in Gjilan continue to smoke, consume alcohol and drugs despite their knowledge about the adverse health consequences of substance misuse, but in the same time, most of them consider information and counselling the best way of substance misuse prevention.

Conclusions: The prevalence and trends of substance misuse among students in our survey indicates that it is time to start acting. It is assumed that results of survey may be a very useful source of information for policy-makers, government and ministry of health in developing and implementing national strategy that would address the most important issues in connection with addiction among adolescents.

Key words: substance misuse, cigarettes, alcohol, illicit drugs, national program

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INTRODUCTION

The substance misuse is now widespread among adolescents and internationally has become a major public health concern. Alcohol and tobacco are by far the most commonly misused substances by young people and result in 95% of morbidity and mortality related to substance misuse in this age group. On the other hand, illicit drugs are much less commonly misused, but they may cause more serious health problems (1).

Data from the European school survey project on alcohol and other drugs (n=103,000 in 2003) showed that regular drinking is common among UK adolescents and has increased among 15 and 16 year olds from 22% in 1995 to 27% in 2003. This rise results partly from an increase (from 20% to 29%) in binge drinking among young females (2). A more recent English school survey of 8,200 schoolchildren aged 11–15 years showed an overall decline in drug misuse from 11% in 2005 to 9% in 2007 but also showed that 4% of 11 year olds had misused illicit drugs, compared with 0% in 1998, when comparable data were first obtained (3). The issue of great concern is experimenting and abuse of drugs among young people.

The world exposes adolescents to serious risks before they have adequate information, skills and experience to avoid or counteract them. Their level of maturity and social status is no match for some challenges, unless they are provided with support, information and access to resources.Without help, the consequences of health risk behaviours in adolescence can be life-threatening and life-long. Nearly two third of premature deaths and one third of the total disease burden in adults can be associated with conditions or behaviours that begin in youth (4).

Developed countries such are Western Europe and North America are making efforts to control this phenomenon. Different centers and surveillance systems are regularly monitoring health risk behaviours in young people (5).

On the other hand, Central and Eastern Europe, among them Kosovo too, have faced big challenges as a result of the political and economic transition. Human health and health system suffered as policy makers struggled with profound structural changes coupled with reduced budgets, lack of appropriately trained staff, and rising poverty levels. There are immediate needs for health system reforms (6).

In this article, the term substance misuse refers to the whole group of substances: tobacco, alcohol, and other drugs.

Substance misuse disorders are potentially treatable and should be managed as chronic, relapsing diseases of complex origin (7).

Misuse of illicit substances by significant numbers of young people has been of concern for at least a generation in Western Europe and North America (8).

A longitudinal study of 9,491 notified teenage opiate addicts indicated that their death rate was 12 times higher than the death

rate in the general population of teenagers; the addicts' deaths were mainly due to accidental poisoning (9).

In Kosovo it is impossible to obtain an objective picture of this problem, due to the lack of epidemiological data.

The proportion of these severe social problems are unknown, but indirect indicators, such as lawful accusation due to drug handling, quantity of confiscated drug, are indicating that the issue is becoming a severe social problem. Despite media reports and many different publications on the prevalence of drug misuse within the region (10, 11), reliable epidemiological data to indicate the extent of this problem are very scarce.

A number of predicting factors have been consistently related to alcohol misuse among adolescents. They include gender, age, school grade, religious behaviour, socioeconomic status, and involvement in extracurricular activities (12).

There are numerous studies describing the predictives of adolescent substance misuse (13–16), but only a few tried to explain the nature of addictive behaviour or possible predictive factors (10, 11, 17, 18).

METHODS

Our study involved all, 4 high schools in the city of Gjilan, comprising students attending the 10th, 11th and 12th grade (age range, 15–19 years).

284 students (about 5% of the total number of students) were requested to fill in an anonymous, multi choice questionnaires. Out of them 261 of students completed the questionairs and 23 (8.1%) with serious inconsistencies in responses to items on substance abuse were excluded from the analyses. The sample consisted of 47.1% girls and 52.9% boys and was similar to gender distribution of high school students.

QUESTIONNAIRES

The instrument included items previously used in GYTS surveys and ESPAD surveys, translated, modified and validated among Kosovar adolescents (2).

We developed a tree multi choice questionnaires; questionnaire about smoking issues (11 questions), questionnaire about alcohol consumption (9 questions) and questionnaire about drug abuse (11 questions). The questionnaires were designed to explore the prevalence of substance misuse among high school students, as well as to assess their attitudes and knowledge about these substances. We tested the understandability of each of them as a whole like in a pilot study, in May 2005 (about 100 examinees). Some questions were modified according to feedback from students.

We also collected general data about the students (school, sex, and study year).

Questions were focused on suspected familial and peer influences on misuse of tobacco, alcohol and other drugs, as well as on selected personal and behavioural characteristics that might be associated with substance abuse.

In order to assess family influences we examined eventual substance abuse in their family and for peer influence, we examined eventual substance abuse by male and female friends and best friends, as well as perceived pressure from peers or somebody else to abuse any substance.

Students were also asked about their way of spending free time, which places provide in their opinion better possibilities for substance abuse, their knowledge about effects on health and strategies of prevention.

Questions on perceived prevalence of adolescent substance abuse and reactions of others to the adolescent's own substance abuse were also included.

Smoking status was determined from student responses to the issue about substance abuse. Students who answered "I abuse any substance" or "I sometimes abuse" were considered substance abusers; those who answered "I have only tried" or "I never tried" were classified as no abusers.

Most questions were multi-choice questions. The questionnaire was anonymous and voluntary.

STATISTICAL ANALYSIS

Statistical analysis was performed with the Statistical Package InStat 3. Descriptive statistics were done using percentages and frequencies. Chi-square test was used to test the statistical relation between individual risk behaviours and socio-economic variables. Relations between way of spending free time, relationship with parents, peer influence and pressure from friends and substance misuse were calculated with the Spearman correlation coefficient. The significance of determination coefficient was tested with Fisher's test.

RESULTS

From all questioned students, 36% smoked cigarettes every day, 12.6% consumed alcohol occasionally and 1.4% consumed all kind of drugs regularly.

Girls consumed more cigarettes (37.4%), whereas boys consumed more alcohol (18.8%) and other drugs (1.4%).

The prevalence of smoking was lowest among 10th class (first year of high school) students (27%), followed by a double increase in prevalence among 12th class students (51.2%) but, differences by gender were not statistically significant.

A significantly higher proportion of boys was misusing alcohol ($p=0.003$) and this proportion increased across study class.

No girl reported misuse of drugs but differences by gender and class were not statistically significant.

More than a half of the students spend free time reading, 34.5% in sport activities and 10.3% in clubs and discotheques. Most students (78.9%) consider that social influence is the main cause for smoking among young people, 12.3% blame family and 8.8% situation in the school. 83% of students believe that cafeteria is the place where young people mostly smoke while 14.2% and 3.4% indicated school and some other places as frequent smoking venues.

Less than 50% of students consider an unemployment and financial problems as the main causes for alcohol misuse, on the other hand 36.0% consider family problems a main problem and 19.2% believe that young people drink mainly to celebrate.

93.9% of students thinks that there are lots of young people misusing illicit drugs in they city and 51.7% of them believes that, in their school some of students, misuses illicit drugs. According to 77.7% of young people illicit drugs are mostly abused in hidden places, while only 1.1% mentioned school. Less then 50% thinks that it is very easy to find almost all kinds of drugs. 75.5% of students have enough information regarding drugs but, 88.9% of them feels the need for more information and data.

Table 1 shows distribution of participants by substance misuse, high school class and gender.

We calculated the statistical relation between substance misuse and knowledge about consequences from substance misuse and way of prevention. We did not found statistically important significance (Table 2) between smoking and level of knowledge about consequences of smoking (χ^2=0.906, p>0.5) and also between smokers and non-smokers and way of prevention from smoking (χ^2=9.172, p>0.05).

There is no statistically significant difference (Table 3) between alcohol consumption and level of knowledge about consequences of alcohol (χ^2=2.177, p>0.5) and neither between alcohol misusers and nonusers and way of prevention of alcohol misuse (χ^2=3.150, p>0.5).

Statistically important significance was found (Table 4) between the drug misuse and level of knowledge about consequence of drugs (χ^2=130.9, p=0.0001) and way of prevention from abusing drugs (χ^2=175.1, p<0.0001). Higher level of knowledge for consequences from drug abuse and way of prevention are inversely associated with frequency of misusing a particular substance.

Most of three graders consider information and counselling as the best way of prevention (38.2%, 40.0%, and 61.3%).

We calculated the Spearman correlation coefficient for these predictive factors: way of spending free time, relationship with parents, peer influence and pressure from friends (Table 5). Our findings demonstrated that peers, families, schools and commu-

Table 1. *Distribution of participants, substance misuse and high school class by gender*

Substance misuse	Boys	Girls	χ^2	Class 10	Class 11	Class 12	χ^2
Cigarette							
No	90 (65.2)	77 (62.6)	χ^2=0.096	65 (73.0)	60 (66.7)	42 (51.2)	χ^2=9.24
Yes	48 (34.8)	46 (37.4)	p=0.756	24 (27.0)	30 (33.3)	40 (48.8)	p=0.010
Alcohol							
No	112 (81.2)	116 (94.3)	χ^2=9.025	80 (89.9)	81 (90.0)	67 (81.7)	χ^2=3.45
Yes	26 (18.8)	7 (5.7)	p=0.003	9 (10.1)	9 (10.0)	15 (18.3)	p=0.178
Drugs							
No	136 (98.6)	123 (100.0)	Fisher test	89 (100)	90 (100)	80 (97.6)	χ^2=4.40
Yes	2 (1.4)	–	p=0.499	–	–	2 (2.4)	p=0.220

Table 2. *Relation between student's attitude, knowledge and smoking*

Attitude and knowledge	Class 10		Class 11		Class 12	
	Smoking					
	No (n=65)	Yes (n=24)	No (n=60)	Yes (n=30)	No (n=42)	Yes (n=40)
Consequence of smoking:						
1. Lung disease	29 (44.6)	11 (45.8)	20 (33.3)	11 (36.7)	11 (26.2)	12 (30.0)
2. Heart disease	2 (3.1)	2 (8.3)	4 (6.7)	2 (6.7)	3 (7.1)	1 (2.5)
3. Harm body	20 (30.8)	6 (25.0)	23 (38.3)	8 (26.7)	20 (47.6)	17 (42.5)
4. Carcinogen	12 (18.5)	4 (16.7)	12 (20.0)	8 (26.7)	8 (19.0)	10 (25.0)
5. I don't know	2 (3.01)	1 (4.2)	1 (1.7)	1 (3.3)	–	–
Prevention:						
1. To increase the price	12 (18.5)	3 (12.5)	11 (18.3)	4 (13.3)	4 (9.5)	5 (12.5)
2. Information and counselling	22 (33.8)	13 (54.2)	22 (36.7)	10 (33.3)	25 (59.5)	11 (27.5)
3. No companionship with smokers	9 (13.8)	4 (16.7)	8 (13.3)	3 (10.0)	4 (9.5)	8 (20.0)
4. Determination	11 (16.9)	4 (16.7)	8 (13.3)	8 (26.7)	1 (2.4)	11 (27.5)
5. Restrictions in public places	11 (16.9)	–	11 (18.3)	5 (16.7)	8 (19.0)	5 (12.5)

Table 3. *Relation between student's attitude, knowledge and alcohol consumption*

Attitude and knowledge	Class 10		Class 11		Class 12	
	Alcohol					
	No (n=80)	Yes (n=9)	No (n=81)	Yes (n=9)	No (n=67)	Yes (n=15)
Consequence of alcohol:						
1. Heart disease	6 (7.5)	–	3 (3.7)	–	–	–
2. Liver disease	5 (6.3)	–	8 (9.9)	1 (11.1)	2 (3.0)	1 (6.7)
3. Brain disease	15 (18.8)	2 (22.2)	16 (19.8)	1 (11.1)	2 (3.0)	3 (20.0)
4. Harm body	42 (52.5)	3 (33.3)	32 (39.5)	2 (22.2)	45 (67.2)	8 (53.3)
5. Domestic violence	8 (10.0)	2 (22.2)	15 (18.5)	2 (22.2)	15 (22.4)	2 (13.3)
6. Car accident	4 (5.0)	2 (22.2)	7 (8.6)	3 (33.3)	3 (4.5)	1 (6.7)
Prevention:						
1. Information and counselling	33 (41.3)	3 (33.3)	17 (21.0)	5 (55.6)	42 (62.7)	3 (20.0)
2. No visiting a clubs e	5 (6.3)	1 (11.1)	7 (8.6)	–	2 (3.0)	4 (26.7)
3. Determination	14 (17.5)	1 (11.1)	15 (18.5)	3 (33.3)	4 (6.0)	4 (26.7)
4. No companionship with alcoholics	19 (23.8)	4 (44.4)	30 (37.0)	–	10 (14.9)	2 (13.3)
5. Restrictions on selling, under 18 year	9 (11.3)	–	12 (14.8)	1 (11.1)	9 (13.4)	2 (13.3)

nities play essential roles in determining individual adolescent health outcomes, including the substance misuse in this case.

There are significant correlations between the way young people spend the free time with misuse of cigarettes ($r=0.181$, $p=0.003$), alcohol ($r=0.282$, $p<0.001$) and drugs ($r=0.165$, $p=0.007$). Substance misuses were less popular among students who spend free time doing sports, education and reading.

Another important predictor was the relationship with parents ($r=0.136$, $p=0.028$ for smoking and $r=0.345$, $p<0.001$ for alcohol). The misuse of these two substances positively correlated with parent's consumption of tobacco and alcohol.

We found positive correlation between negative peer influence and smoking ($r=0.363$, $p<0.001$), alcohol ($r=0.483$, $p<0.001$), drug abuse ($r=0.239$, $p<0.001$).

And we also found positive correlation between pressure from friends and smoking ($r=0.414$, $p<0.001$), alcohol ($r=0.480$, $p<0.001$) and drug abuse ($r=0.257$, $p<0.001$).

The youth find it difficult to stand up to friend pressure when it comes to acceptability. 76.2% of students claime, that they have been offered cigarettes from friends, 34.1% have been offered alcohol and less then 3% of students, say have been offered illicit drugs.

Table 4. *Relation between student's attitude, knowledge and drug abuse*

Attitude and knowledge	Class 10		Class 11		Class 12	
	Drug abuse					
	No (n=89)	Yes (n=0)	No (n=90)	Yes (n=0)	No (n=80)	Yes (n=2)
Consequence of drug abuse:						
1. Cause disease	18 (20.2)	–	16 (17.8)	–	8 (10.0)	–
2. Cause death	18 (20.2)		12 (13.3)	–	2 (2.5)	–
3. I have no reason to take drugs	42 (47.2)	–	45 (50.0)	–	58 (72.5)	–
4. I don't know	11 (12.4)	–	17 (18.9)	–	12 (15.0)	2 (100.0)
Prevention:						
1. Information and counselling	34 (38.2)	–	36 (40.0)	–	49 (61.3)	1 (50.0)
2. Cure	9 (10.1)	–	11 (12.2)	–	10 (12.5)	–
3. No companionship with drug abusers	16 (18.0)	–	19 (21.1)	–	8 (10.0)	–
4. Determination	14 (15.7)	–	12 (13.3)	–	3 (3.8)	1 (50.0)
5. Conviction of drug abusers	5 (5.6)	–	2 (2.2)	–	2 (2.5)	–
6. Conviction of pushers	11 (12.4)	–	10 (11.1)	–	8 (10.0)	–

Table 5. *Spearman correlation coefficient of some of predictive variables and substance misuse*

Predicting factors	Smoking	Alcohol	Drugs
Way of spending free time	r=0.181	r=0.282	r=0.165
	p=0.003	p<0.001	p=0.007
Relationship with parents	r=0.136	r=0.345	N/A
	p=0.028	p<0.001	N/A
Peer influence	r=0.363	r=0.483	r=0.239
	p<0.001	p<0.001	p<0.001
Pressure from friends	r=0.414	r=0.48	r=0.257
	p<0.001	p<0.001	p<0.001

DISCUSSION

Accurate and representative prevalence data on tobacco misuse among children and young adults in Kosovo are not available.

Preliminary pilot research studies conducted in Kosovo in 2001 and 2002 revealed that 47.2% of young people surveyed tried a cigarette for the first time before the age of 18 years.

In a survey done at nine secondary schools in Kosovo, 18.6% of respondents were current smokers (defined as at least 10 cigarettes over a 24 hour period) (19).

In a survey of young people in Kosovo commissioned by UNICEF Kosovo in 2004, 49% of respondents identified smoking as a health risk factor. Over 20% of respondents indicated that they were current smokers (20).

In 2004 the GYTS was conducted for the first time in Kosovo, the target population group were students aged between 13 and 15 and smoking prevalence in that target group was 13%.

Accurate and representative prevalence data on alcohol misuse among children and young adults in Kosovo are not available either.

We recognized the importance of reducing alcohol, tobacco and other drug misuse among youth, where comprehensive approaches are more effective than programs that focus on a single behaviour (21). Tobacco misuse (22), alcohol and drug abuse (23), unsafe driving practices, violent behaviour (24) including attempting suicide (25), unprotected sex (26), poor nutrition (27, 28) and lack of exercise (29, 30) threaten the healthy development of youth into productive adults.

Substance misuse is preventable. If boys and girls reach adulthood without misusing illegal drugs, alcohol or tobacco, they probably will never develop a dependency problem.

Our government and its institutions are not undertaking any serious actions towards this very important issue.

In developed countries, public awareness of the health hazards of smoking has led to increased regulation of the tobacco industry, resulting in restrictions on the advertising and availability of cigarettes and their higher prices. As a result, tobacco companies are aggressively seeking new markets in the developing world (31, 32).

The Kosovo market is quite attractive, because there are almost no legal standards regulating marketing and distribution of tobacco products and smoking is still socially acceptable. Also there is lacking legislation to enforce restrictions on smoking in the workplace and other public places and lack of regulation of the sale of cigarettes to minors. Cigarettes are sold throughout Kosovo in all kinds of shops, even in food and fruit markets. It is of concern seeing a very young people selling the cigarettes in the streets. Kosovo youth has a very easy access to tobacco. The price for tobacco, in Kosovo, is below the international standards as a consequence of inappropriate tax policy.

Age restrictions for purchase of tobacco in one hand and increase in the price of tobacco on the other hand, based on the published documents, decrease the number of tobacco misusing individuals of age 13–24 as well as the number of smoked cigarettes from each of these individuals (33–35).

The sale of alcohol is legal and there are no restrictions on the age of purchaser. Alcohol can be purchased by everybody even by small children.

Youth in Kosovo has a very easy access to alcohol. Another issue of concern, there is no clear identification of the places where sale of alcohol is permitted and also the age limit for the person who can be served alcohol drink in the restaurants and other places.

The price of alcohol is also inversely associated with harmful outcomes, including drink-driving and fatal road crashes among young people (mostly in US studies) and the prevalence of problem drinkers and mortality from liver cirrhosis in the general population (36). The real price of alcohol in the UK has halved since the 1960s; consumption by adults has risen in parallel with increasing affordability and increasing density and opening hours of sales outlets (37).

Prevalence of drug abuse in our study (1.2%) is much lower compared to data in region and in developed world. It is possible that these differences are results of different methodology, especially sampling. We expected higher percentage of this value because there is a believe among people in Kosovo that young people in Gjilan abuse drugs much more than young people in other cities in Kosovo. The future studies should endorse or decline our results. However, we cannot claim that this sample is representative for Kosovo.

In this situation, our government should establish policies, priorities, and objectives for the National substance misuse control program, the goals of which are to reduce substance misuse, manufacturing, and trafficking; drug-related crime and violence; and drug-related health consequences. To achieve these goals, policy-makers, government and ministry of health should develop and implement our own national strategy that addresses the most important priorities in area of substance use among adolescents:

1. Law enforcement, protection of our borders, and international cooperation.

2. Legislation:

There is good evidence that tobacco tax measures, including pricing of cigarettes (38) and alcohol and enforcing (raising) the minimum purchase age, can reduce sales (37). Curb the misuse of tabacco and alcohol.

The of available evidence supports the view that there are particular control measures that are likely to reduce hazardous substance misuse among young people.

It is understandable that state can not influence in the street prices of illicit drugs, but the retail prices of tobacco and alcohol are largely determined by tax policy and are likely to affect young people's demand for these products (39).

3. Prevention, treatment and education:

Developing the programs that focus on promoting academic success for all students, developing positive relationships with peers and adults, providing family support, and increasing family and community engagement, could been effective in reducing risky behaviour. These programs should include school-based health centers and family resource centers where multi-agency services can be coordinated.

4. Researches and statistics (information's):

We identified the needs for developing a standardised school survey questionnaire and to produce a standard survey instrument, which would allow as to collect and to compare data from different cities all over Kosovo and from region.

There are some limitations in the present study that must be taken into account when interpreting the results. First, the sample is non-representative for Kosovo and second, this data apply only to youth of 15–19 year age group, supposing that this group is most suitable in regards of consumption of addictive substances in Kosovo. We do not know at what age do adolescents in Kosovo start experimenting with cigarettes, drugs and alcohol.

Nevertheless these results will make it possible to assess needs, resources, activities and outcomes and would be very useful source of information for policy-makers, government and ministry of health for establishment of a program, budget and guidelines for cooperation among government and local entities.

REFERENCES

1. Bonomo Y, Proimos J. Substance misuse: alcohol, tobacco, inhalants, and other drugs. BMJ. 2005 Apr 2;330(7494):777-80. Erratum in: BMJ. 2005 May 7;330(7499):1052.
2. The ESPAD Report 2003: alcohol and other drug use among students in 35 european countries [Internet]. Stockholm: The Swedish Council for Information on Alcohol and Other Drugs (CAN), The Pompidou Group at the Council of Europe; 2004 [cited 2011 March 9]. Available from: www.sedqa.gov.mt/pdf/information/reports_intl_espad2003.pdf.
3. National Centre for Social Research, National Foundation for Educational Research. Smoking, drinking and drug use among young people in England in 2006: headline figures [Internet]. London: The Information Centre for health and social care, Lifestyle statistics 2007; [updated March 29; cited 2011 March 11]. Available from: http://www.ic.nhs.uk/webfiles/publications/youngpeopledrugmisuse2006/SDD06%20SPN%20v7%20formatted.pdf.
4. Fares J, Raju D. Child labor across the developing world: patterns, correlations and determinants. Background paper for the World Development Report. Washington: World Bank; 2007.
5. Grunbaum JA, Kann L, Kinchen SA, Ross JG, Gowda VR, Collins JL, et al. Youth Risk Behavior Surveillance - National Alternative High School Youth Risk Behavior Survey, United States, 1998. MMWR CDC Surveill Summ. 1999 Oct 29;48(7):1-44.
6. Figueras J, McKee M, Cain J, Lessof S. Health system in transition: learning from experience. Copenhagen: WHO Regional Office for Europe; 2004.
7. National Institute on Drug Abuse (NIDA). NIDA InfoFackts: Understanding drug abuse and addiction [Internet]. Bethesda: NIDA [updated 2011 March; cited 2011 March 15]. Available from: http://www.nida.nih.gov/Infofacts/understand.html.
8. Crome I, Ghodse H, Gilvarry E, McArdle P, editors. Substance misuse and young people. London: Gaskell; 2003.
9. Oyefeso A, Ghodse H, Clancy C, Corkery J, Goldfinch R. Drug abuse-related mortality: a study of teenage addicts over a 20-year period. Soc Psychiatry Psychiatr Epidemiol. 1999 Aug;34(8):437-41.
10. Ljubotina D, Galić J, Jukić V. Prevalence and risk factors of substance use among urban adolescents: questionnaire study. Croat Med J. 2004 Feb;45(1):88-98.
11. Malatestinić D, Mićović V, Kendel G, Baricev-Novaković Z. Assessment of psychological and social factors in adolescents risk behavior: questionnaire study. Croat Med J. 2005 Feb;46(1):81-7.
12. Madarasova Geckova A, van Dijk JP, Honcariv R, Groothoff JW, Post D. Influence of health risk behavior and socio-economic status on health of Slovak adolescents. Croat Med J. 2003 Feb;44(1):41-9.
13. Williams JG, Covington CJ. Predictors of cigarette smoking among adolescents. Psychol Rep. 1997 Apr;80(2):481-2.
14. Hawkins JD, Catalano RF, Miller JY. Risk and protective factors for alkohol and other drug problems in adolescence and early adulthood: implications for substance abuse prevention. Psychol Bull. 1992 Jul;112(1):64-105.
15. Flay BR, Hu FB, Richardson J. Psychosocial predictors of different stages of cigarette smoking among high school students. Prev Med. 1998 Sep-Oct;27(5 Pt 3):A9-18.
16. Myers HF, Taylor S, Alvy KT, Arrington A, Richardson MA. Parental and family predictors of behavior problems in inner-city black children. Am J Community Psychol. 1992 Oct;20(5):557-76.
17. Resnick MD, Bearman PS, Blum RW, Bauman KE, Harris KM, Jones J, et al. Protecting adolescents from harm. Findings from the National Longitudinal Study on Adolescent Health. JAMA. 1997 Sep 10;278(10):823-32.
18. Oksuz E, Malhan S. Socioeconomic factors and health risk behaviors among university students in Turkey: questionnaire study. Croat Med J. 2005 Feb;46(1):66-73.
19. Ramadani N. Tobacco as a dominant risk factor in lung cancer in Kosova. Proceedings of the 12th World Conference on Tobacco or Health; 2003 Aug 3-8; Helsinki.
20. UNICEF Kosovo. Youth in Kosovo: health, education, employment, participation. Pristina: United Nations Children's Fund, Kosovo Office; 2004.
21. National Institute on Drug Abuse. Preventing drug use among children and adolescents: a research-based guide. Bethesda: National Institute on Drug Abuse; 1997.
22. National Institute on Drug Abuse. Drug abuse prevention: what works. Bethesda: National Institute on Drug Abuse; 1997.
23. Satcher D, Powell KE, Mercy JA, Rosenberg ML. Violence prevention is as American as apple pie. Am J Prev Med. 1996 Sep-Oct;12(5 Suppl):v-vi.
24. Preventing tobacco use among young people. A report of the Surgeon General. Executive summary. MMWR Recomm Rep. 1994 Mar 11;43(RR-4):1-10.
25. Kann L, Warren CW, Harris WA, Collins JL, Williams BI, Ross JG, et al. Youth Risk Behavior Surveillance - United States, 1995. MMWR CDC Surveill Summ. 1996 Sep 27;45(4):1-84.
26. U. S. Department of Justice. Uniform crime reports 1997 preliminary annual release. Washington, DS: Federal Bureau of Investigation; 1998.
27. Kann L, Kinchen SA, Williams BI, Ross JG, Lowry R, Hill CV, et al. Youth risk behavior surveillance - United States, 1997. MMWR CDC Surveill Summ. 1998 Aug 14;47(3):1-89.
28. Centers for Disease Control and Prevention (CDC). Trends in sexual risk behaviors among high school students - United States, 1991-1997. MMWR Morb Mortal Wkly Rep. 1998 Sep 18;47(36):749-52.
29. Healthy People 2010 (Group); U. S. Department of Health and Human Services. Healthy people 2010: national health promotion objectives, conference edition, in two volumes. Washington, DC: U.S. Department of Health and Human Services; 2000.
30. Centers for Disease Control and Prevention. Guidelines for school and community programs to promote lifelong physical activity among young people. MMWR Recomm Rep. 1997 Mar 7;46(RR-6):1-36.

31. INFACT. Global aggression: the case for world standards and bold U.S. action challenging Philip Morris and RJR Nabisco, INFACT's 1998 people's annual report. New York: The Apex Press; 1998.
32. World Health Organization. The World health report 1999: making a difference. Geneva: WHO; 1999.
33. Hopkins DP, Briss PA, Ricard CJ, Husten CG, Carande-Kulis VG, Fielding JE; Task Force on Community Preventive Services. Reviews of evidence regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke. Am J Prev Med. 2001 Feb;20(2 Suppl):16-66.
34. U. S. Public Health Service. Office of the Surgeon General. Reducing tobacco use: a report of the surgeon general. Rockville: U. S. Public Health Service. Office of the Surgeon General; 2000.
35. Stead LF, Lancaster T. Interventions for preventing tobacco sales to minors. Cochrane Database Syst Rev. 2005 Jan 25;(1):CD001497.
36. Ludbrook A, Godfrey C, Wyness L, Parrott S, Haw S, Napper M, et al. Effective and cost-effective measures to reduce alcohol misuse in Scotland: a literature review. Edinburgh: Scottish Executive; 2001.
37. Academy of Medical Sciences. Calling time: the nation's drinking as a health issue. London: Academy of Medical Sciences; 2004.
38. Prabhat J, Chaloupka FJ. Curbing the epidemic: governments and the economics of tobacco control. Washington, DC: World Bank; 1999.
39. Ogilvie D, Gruer L, Haw S. Young people's access to tobacco, alcohol, and other drugs. BMJ. 2005 Aug 13;331(7513):393-6.

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