

# Risky Behavior Prevalence Among Ondokuz Mayıs University Students

## Ondokuz Mayıs Üniversitesi Öğrencilerinde Riskli Davranış Prevalansı

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**ABSTRACT Objective:** This study was aimed to determine risky behavior for health in the students of Ondokuz Mayıs University (OMU). **Material and Methods:** In this cross-sectional study, information about socio-demographic characteristics and risky behavior for health was collected from 2050 students, which constitute 85.4% of the total student population, by a questionnaire under supervision; and t test and the chi-square test in independent groups were used in the statistical evaluation. **Results:** Among students attending the study, 1029 (50.2%) were males, 1021 (49.8%) were females, and the mean age was calculated as  $21.1 \pm 1.9$  years. It's found that most of the students (85.9 % and 61.8 %) were not using helmets while riding a bicycle or a motorcycle. They were not fastening seat belts while traveling in a vehicle (25.4%), carried weapons at least once in the previous month (5.2%), involved in physical fight at least once in the previous month (10.0%), smoked and had alcohol in the previous month (%22.9-24.2), insufficiently consumed fruit-vegetables in the last seven days (28.6%); Having sexual intercourse (21.6%) was significantly more frequent in males; insufficient physical exercise in the last seven days (66.4%), and going on a diet to lose weight in the last month (17.9%) were significantly more frequent in female students. **Conclusion:** Research data reveals high prevalence of some health-threatening risky behaviors among university students, and indicates the necessity of effective education programs on road safety, nutrition and health, health effects of smoking, alcohol consumption and other substance abuses, and safe sex/sexually transmitted diseases.

**Key Words:** Adolescent behavior; risk; health; prevalence

**ÖZET Amaç:** Bu çalışma, Ondokuz Mayıs Üniversitesi (OMÜ) öğrencilerinde sağlık açısından riskli davranışların saptanması amacı ile yapılmıştır. **Gereç ve Yöntemler:** Kesitsel tipteki bu çalışmada, evrenin %85.4'ünü oluşturan 2050 öğrencide gözlem altında anket yöntemiyle sosyodemografik özellikler ve sağlık açısından riskli davranışlar hakkındaki bilgiler toplanmış; istatistiksel değerlendirmede bağımsız gruplarda t testi ve ki-kare testi kullanılmıştır. **Bulgular:** Araştırmaya katılan öğrencilerin 1029'u (%50.2) erkek, 1021'i (%49.8) kız olup, yaş ortalamaları  $21.1 \pm 1.9$  yıl olarak hesaplanmıştır. Öğrencilerin çoğunluğunun bisiklet ve motosiklet kullanırken kask takmadığı (%85.9-61.8) belirlenmiştir. Araç içinde emniyet kemeri kullanmama (%25.4), son bir ay içinde en az bir kez silah taşıma (%5.2), son bir yılda en az bir kez fiziksel kavgaya karışma (%10.0), son bir ay boyunca sigara ve alkol tüketimi (%22.9-24.2), son yedi gün içinde hiç meyve yememe (%28.6) ve cinsel ilişkide bulunma (%21.6) erkeklerde anlamlı olarak fazla iken; son 7 gün içinde ter atacak kadar egzersiz yapmama (%66.4) ve son bir ayda kilo vermek için diyet yapma (%17.9) ise kız öğrencilerde anlamlı olarak daha fazla gözlenmiştir. **Sonuç:** Araştırma sonucu elde edilen veriler, öğrencilerde bazı riskli davranış sıklıklarının yüksek olduğunu ve trafik güvenliği, sağlıklı beslenme, sigara, alkol ve diğer bağımlılık yapıcı maddelerin sağlığa zararları, sağlıklı cinsel yaşam ve cinsel yolla bulaşan hastalıklar (CYBH) konularında etkin eğitim programlarının düzenlenmesinin gerekliliğini vurgular niteliktedir.

**Anahtar Kelimeler:** Adolesan davranışı; risk; sağlık; prevalans

The World Health Organization (WHO) defines the ages between 10 and 19 as adolescent, 15-24 as youth, and 10-24 as "young people".<sup>1</sup> While young people in this period have acute and chronic medical problems as in other age groups, a significant number of deaths and disabilities are related with risky behaviors and environment.

Risky behaviors may be defined as those threatening the righteousness of young people and interfering the way for them to be responsible adults. These behaviors are generally listed in six groups: behaviors contributing to accidents with or without intention; smoking; alcohol and other substance use; unintended pregnancies and sexual behaviors contributing to sexually transmitted diseases; unhealthy diet behaviors and physical inactivity. Risky health behaviors are generally acquired during adolescence and their results are reflected on to adulthood and cause important increases in mortality and morbidity.<sup>2</sup> Accidents and suicides as the leading causes of deaths in the adolescent period are closely related to risky behaviors. In addition, cardiovascular diseases and cancers, which are the first two causes of adult mortality, are also closely related to risky attitude and behaviors in the adolescent period, such as smoking, alcohol and other substance use, physical inactivity and an unhealthy diet.<sup>3</sup>

Eighty-five percent of the 1.2 billion young people, comprising one fifth of the world population, live in developing countries.<sup>4</sup> According to the 2007 census data by TUIK (Turkish Statistical Institute), there are 12.397.606 young people between the ages 15 and 24 in Turkey; this accounts for 17.6% of the general population.<sup>5</sup> Adolescents/young people are generally considered as a group who are healthy and who do not need special health services. However, this learning group may perform risk-taking behaviors. Generally, about 40% of deaths in developing countries and 70-80% of deaths in developed countries are predicted to be related with behaviors acquired in this period.<sup>4</sup>

In our country, the studies aiming to find the extent of health-threatening behaviors in adoles-

cents are necessary. This study was performed to determine risky behaviors for health in Ondokuz Mayıs University students.

## MATERIAL AND METHODS

The population of the study was composed of 18.737 under-graduate students at OMU, in the academic years of 2004-2005. The sample size was determined 2401 with 50% prevalence, an alpha of 2%, and 95% confidence interval; it was carried out in the selected faculties using a stratified sampling method according to faculty types affiliated with OMU in June 2005. Students were informed before questionnaire method application and oral consent was obtained. In this period, 2050 students (85.4%) were reached by the questionnaire method under supervision, excluding those who were absent, ill, and those who did not respond to the questionnaire. The questions were based on the Youth Risk Behavior Surveillance (YRBS) questionnaire that the CDC (Center for Disease Control) has used in high school students of USA since 1991 by two years intervals.

In this cross-sectional study, information concerning socio-demographic characteristics and risky behaviors were collected. Furthermore, the declared body weights and lengths of the respondents were used to calculate the Body Mass Index [BMI= Body weight (kg)/length<sup>2</sup> (m)]. BMI values were classified as: <18.5: underweight, 18.5-24.9: normal, 25.0-29.9: overweight and, 30: obese (WHO, 1998).

In statistical analysis, the t test and the chi-square test were used in independent groups. Data were expressed as mean  $\pm$  standard deviation and percentages.

## RESULTS

Among 2050 students included in the study, 1029 (50.2%) were males, 1021 (49.8%) were females, and the mean age was  $21.1 \pm 1.9$  years. Of the students, 98.6% were single; 37.0% lived with friends, 31.5% lived with their families, 31.5% lived in dorms.

Of mothers, 53.8% were primary school graduates and of fathers, 42.7% were high school grad-

uates. It was determined that for mothers “housewife” and for fathers “retired” were the most prevalent professions. The global and gender specific distribution of risky behaviors among OMU-students is given in Table 1(a).

There was no difference according to gender of the students in using no helmets while riding a bicycle or motorcycle, however a significant difference was observed between boys and girls with in terms of not fastening seat belts, riding with a drunk driver, and drunk-driving once in the previous month, which were higher in males ( $p < 0.001$ ). The percentages of carrying weapons in the previous month and getting involved in physical fight at least once in the previous year were significantly higher in males than those of females’ ( $p < 0.001$ ). There was no significant difference with respect to gender for behaviors about suicide attempt ( $p = 0.483$ ).

The percentage of regularly smoking everyday throughout the previous month was 22.9%; the percentages were significantly different in terms of gender and higher in males ( $p < 0.001$ ). The percentage of alcoholic drink users was 24.2%; revealing a significant difference between genders, also higher in males ( $p < 0.001$ ). The age of starting smoking and drinking alcohol was  $16.5 \pm 2.9$  and  $16.2 \pm 3.0$  in males and  $17.7 \pm 2.1$  and  $17.4 \pm 2.8$  in females; significantly younger ages were found in males ( $p < 0.001$ ). The percentages of use of marijuana, inhalant substances, and other substances at least once in a life-time were significantly higher in males ( $p < 0.001$ ,  $p = 0.001$ ,  $p = 0.001$ ).

The percentage of those not eating any fruits or eating less than one fruit daily in the previous seven days was significantly higher in males (33.3%) ( $p < 0.001$ ). There was no gender difference for drinking less than one glass of milk in the previous seven days ( $p = 0.719$ ). The mean lengths of students were  $177.1 \pm 6.7$  cm in males,  $163.4 \pm 5.9$  cm in girls; body weights in males were  $71.9 \pm 9.6$  kg, and in females, the weights were  $54.7 \pm 6.6$  kg on average. With respect to BMI, 77.6% of the students were in normal limits; 18.8% of females were underweight, and 17.8% of males were overweight. The percentage of obesity was 0.7% in to-

tal; 1.3% in males and 0.1% in females. The percentages in females beginning a diet in order to lose weight in the previous month, and exercising to keep actual weight or to lose weight (26.0-33.6%) were significantly higher than the percentages in males ( $p < 0.001$ ).

The rate of physical activity causing sweating more than three times or for more than 20 minutes in the previous seven days (26.7%) was significantly lower in females ( $p < 0.001$ ).

The rate of having a sexual intercourse at least once in a lifetime was 21.6% among the students; significantly higher in males (39.5%) than females (3.8%) ( $p < 0.001$ ). The mean age for the first sexual intercourse was  $18.0 \pm 2.3$  years; males had earlier experiences ( $17.8 \pm 2.1$  years) than females ( $20.3 \pm 2.7$  years) ( $p < 0.001$ ). Results indicated that 45.9% of students had not used a condom during their last sexual intercourse. The percentage of lacking a contraceptive method usage in the last sexual intercourse was 20.8%; however 31.7% of the ones who used a contraceptive method had used ineffective methods like withdrawal method or others. The rate of those who stated that they received training on AIDS was 21.3%.

## DISCUSSION

Behaviors threatening the welfare of youth and that prevent them from being responsible adults are grouped as intentional or nonintentional accidents, smoking, alcohol and other substance use, unintended pregnancies and behaviors leading to sexually transmitted diseases, unhealthy diet behaviour, and physical inactivity, all named as “risky behaviors” for youth. In the last 20 years, with the effect of the results of the studies about this issue, medical, social, political and economical developments are achieved at the adolescent/ young health, however ameliorations about risky behaviors of youth is not at the desired level.<sup>6</sup>

Data of the study are evaluated regarding mortality and morbidity specifications, and discussed according to the risky behavior groups.

### A) BEHAVIORS CONTRIBUTING TO ACCIDENTS INTENTIONALLY OR UNINTENTIONALLY

According to the data of the WHO, causes of fire-arm-related deaths were 31.3% by murders, 49.1% by suicides, and 18.6% by wars.<sup>7</sup> In the USA, 71% of the 10-24 age-group deaths were due to four main reasons: motor vehicle accidents, other unintentional accidents, murders, and suicides.<sup>2</sup> In the USA, the second cause of young deaths in the 15-19 age-group was reported as murders.<sup>8</sup> The rate of deaths in the 15-24 age group was 1.9% of all deaths in 2002; the first three causes of death in this age group were accidents, suicides, and murders by 39.2%.<sup>9</sup>

Among risky behaviors contributing to motor vehicle accidents, the percentage of drunk driving in the study group was lower than 9.9% determined in 2005 in USA by YRBS.<sup>2</sup> According to the results of investigation in USA, the distribution of

risky behaviors in young people has been demonstrated in Table 1(b).

In France, Austria, and Italy, except for some long barrel shotguns, all guns should be recorded.<sup>10</sup> In USA, in some states, guns are freely purchased without a licence, while a licence is mandatory in some other states.<sup>11</sup> Ever since 2004 in our country, people applying for weapon carriage authorization are obliged to have healthcare commission reports.<sup>8</sup> Carrying weapons and getting into physical fight rates in this study are less than Youth Risk Behavior Surveys (YRBS) rates of USA, yet already indicates precautions for the elevation of security provisions, and establishing and application of legal precautions.<sup>2</sup>

In the world, suicides are in the second place as the cause of death (11.1 per 100,000) in the 15-

**TABLE 1:** The distribution of risky behaviors in young people according to the results of investigations in OMU(a) and USA(b).

Behavior	OMU (%) (a)			(b)	YRBS-2005 (%)
	Total (%)	Male (%)	Female (%)	p	
Using no helmets while riding a bicycle	85.9	85.5	86.2	0.697	83.4
Using no helmets while riding a motorcycle	61.8	63.4	60.0	0.144	36.5
Fastening no seat belts while traveling in a vehicle	25.4	31.3	19.5	<0.001	10.2
Rode with a drunk driver at least once in the previous month	5.7	7.9	3.6	<0.001	28.5
Drunk-driving at least once in the previous month	2.2	3.8	0.0	<0.001	9.9
Carrying weapons (gun, knife, rod, etc) at least once in the previous month	5.2	8.7	1.5	<0.001	18.5
Getting involved in physical fight at least once in the previous year	10.0	17.1	2.7	<0.001	35.9
Exposure to physical violence by a girl or boy friend in the previous year	2.6	2.9	2.3	0.501	9.2
Suicide planning in the previous year	4.9	5.5	4.2	0.227	13.0
Suicide attempt at least once in the previous year	1.6	1.8	1.3	0.483	8.4
Suicide attempt requiring treatment in the previous year	1.0	1.1	0.8	0.659	2.3
Abuse of marijuana at least once in life-time	4.0	7.3	0.6	<0.001	38.4
Abuse of cocaine at least once in life-time	0.5	0.8	0.2	0.116	7.6
Abuse of inhalant substances at least once in life-time	1.2	2.1	0.3	0.001	12.4
Abuse of other substances (synthetic drugs, heroin, etc.) at least once in a life-time	1.4	2.3	0.4	0.001	Hallucinogenic drug: 8.5 Heroin: 2.4
Eating fruits or vegetables more than 5 times in the previous week	32.1	26.6	37.4	<0.001	20.1
Going on a diet in order to lose weight in the previous month	17.9	9.7	26.0	<0.001	40.7
Exercising to lose or protect weight in the previous month	27.6	21.6	33.6	<0.001	60.0
Having activities causing sweating more than three times or for more than 20 minutes in the previous seven days	33.6	40.4	26.7	<0.001	68.7
Exercising more than 20 minutes in a body training lesson	20.7	24.4	17.2	<0.001	54.2
Smoking in the previous month	22.9	32.5	13.1	<0.001	23.0
Alcohol consumption in the previous month	24.2	34.7	13.4	<0.001	43.3
Having sexual intercourse at least once throughout the life-time	21.6	39.5	3.8	<0.001	46.8

24 age-group.<sup>11</sup> The 2000 data of the National Center for Health Statistics, CDC, show that suicide is in the third place as the cause in child and adolescent deaths. The suicide rate in the 15-19 age group is higher in males (13.3 in 100.000) and the suicide attempt percentage is higher in females (11%).<sup>13</sup> According to data of WHO, suicide rates in some countries were as follows: 27.7 in 100.000 in Hungary, 11.9 in 100.000 in Canada, and 6.3 in 100.000 in Israel.<sup>14</sup> The suicide rate in our country was 3.5 in 100.000; suicide cases peaked in the 15-24 age-group in females and in the 15-34 age-group in males.<sup>15</sup> In the study of Aksakal et al., 70.0% of Medical Faculty students had drunken-drove vehicles in the previous month, and 3.9% planned suicide attempts once or more in the previous year.<sup>16</sup>

In our study, suicide attempt rate (1.6%) is less than YRBS rate in USA.<sup>2</sup> However, still reduction of interfamily violence, good parent communication, alienation from disciplin methods based on violence and increase in social activities in schools may be suggested.

According to the investigation performed by the commission of Turkish Grand National Assembly, in the last three months of 2006, the percentages of young people declaring that they met physical and sexual violence was 22.8% and 15.8%, respectively; and those declaring that they exerted physical and sexual violence showed a percentage of 35.5% and 11.7%, respectively.<sup>14</sup>

In this study, the rate of exposure to physical violence was 2.6%, while in the study of Yigitalp et al in Dicle University, this rate was 6.2% in females and 7.9% in males.<sup>17</sup> Different results in university students as a socially evolved group may be explained by the effects of environmental factors and pressure.

## B) SMOKING, ALCOHOL AND OTHER SUBSTANCE USE

Among 1.1 billion smokers in the world, 800 million (70-75%) live in developing countries. In these countries, 20% of school age children are daily smokers.<sup>18</sup> According to the YRBS in the USA, 23.0% of students had smoked, 43.3% of students

had consumed alcohol, and 20.2% of students had used cannabis throughout the previous month.<sup>2</sup> In schools of Southwest China, 7.1% of students smoked, 15.2% of students consumed alcohol and 0.1% of students used cannabis; the rates in males were higher than in females.<sup>19</sup> The rate of smoking, the rate of alcohol consumption and the rate of life-time illegal substance use in night academies in Japan were found to be 34.8%, 44.0% and 8.6%, respectively.<sup>20</sup>

According to "The European Tobacco Control Report" of WHO, Turkey is in the tenth row among the most frequently tobacco consuming countries; the rates of smoking being 49.4% in men and 17.6% in women.<sup>21</sup> In Turkey, the frequency of smoking decreases in adults and increases in adolescents.<sup>22</sup>

In nine provinces of Turkey, the percentage of tobacco use, the alcohol consumption rate and the frequency of use for cannabis, inhalant substance, heroin, and ecstasy were 28.0%, 16.9%, 3.0%, 3.0%, 2.5%, and 2.3%, respectively.<sup>23</sup> The same rates in six provinces of Turkey were 17.7%, 19.7%, 4.3%, 4.2%, 3.1%, and 2.0%, respectively. Still use rates were 2.0% for inhalant substance and 1.0% for other substance.<sup>24</sup>

In a study of eight universities in Turkey (n= 3.101), the rate of still smokers was 22.5%, the rate of alcohol consumption was 22.9% and the rate of substance experience was 3% and still use was 0.6%.<sup>25</sup> In İstanbul high school students, the prevalence of life time use of cigarettes was found as 44%, life time use of alcohol was found as 61% and drunkenness at least once during life time was found as 19%.<sup>26</sup> In the study of Aksakal et al., 21.0% of Medical Faculty students had smoked everyday in the previous month and 2.3% of them were found to be substance users.<sup>16</sup>

In ESPAD (The European School Survey Project on Alcohol and Other Drugs) in 2003, the most common cannabis experience was observed in the Czech Republic (44%). Countries where 10 or less students in a hundred used cannabis once throughout their life-time included Sweden, Norway and Turkey; countries with students using these subs-

tances at rates between 30 to 44%, were Belgium, Spain, France, and England. Italy was the leader with 4% for heroin; this was followed by 2% by countries Portugal, Belgium, and France, including our country. Life-time use of ecstasy was 2% or under in Denmark, Greece, Sweden, and Turkey; the most frequent was found to be Czech Republic with 8%. Turkey is one of the 35 countries included in the 2003 ESPAD according to the rate of students smoking more than 40 packs/year and drinking more than 40 glasses.<sup>27</sup>

In the present study, the frequency of smoking (22.9%) was higher in male students than females as in the study of Ertas.<sup>22</sup> In the present study, the rate of alcohol consumption at least once was 45.2% and that of still drinking was 24.2%. The rates of abuse of cannabis, cocaine, inhalant substances and other substances (synthetic drugs, heroin etc.) at least once in life-time were found to be 4.0%, 0.5%, 1.2%, and 1.4%, respectively. All smoking, alcohol consumption and other substance use rates were higher in males; this condition was thought to stem from the dominant role of males in the traditional culture of Turkey. Data of ESPAD show that students were similar according to smoking habits; however, use of alcohol and narcotic substance was found to be less than that in European peers. Improvement in technology, imbalance in the distribution of incomes, and having a young population causes an increasing trend in dependency.<sup>28</sup> Regarding the effect of alcohol and cigarette addiction and their continuity once started, the significance of related education is apparent.

### C) UNHEALTHY DIETARY BEHAVIORS

Recently, many young people have been living on "fast-food", which is rich for fat and salt, while fruit and vegetable consumption is insufficient. In the present study, the rate for eating fruits or vegetables more than five times in the previous week was 52.1%; whereas the study of Kara (17.1%) had higher ratios than YRBS in USA (20.1%).<sup>2,29</sup> It is thought that attending to a university located in a region depending on agriculture had a positive impact on young people. However, 28.6% of young

people had not eaten fruits in the previous week. Therefore, training programs that can positively affect the dietary habits of young people are needed. In YRBS, the rate of overweight was 13.1%, while it was 11% in our study.<sup>2</sup> The cause of low obesity rate (0.7%) may be contributed to the calculation of the BMI according to the values declared by the students, and therefore obesity may be underestimated.

In the present study, the rates for going on a diet in order to lose or protect weight and exercising to lose weight in the previous month (17.9-27.6%) were lower than the values in the study of Kara (34.2-48.1%) and YRBS (40.7-60.0%); in all three groups, the rates in female students were higher.<sup>2,29</sup> Effectiveness of handling education programs about adequate and balanced nutrition may be considered.

### D) PHYSICAL INACTIVITY

Physical activity, nowadays means guarding from various diseases. In YRBS, the rate of activities sufficient to sweat three times, more than 20 minutes each time, in the previous seven days and the rate of exercising more than 20 minutes in a body training lesson were found high (68.7-54.2%).<sup>2</sup> In the present study, the same rates were 33.6-20.7%, respectively and were lower than the values in Kara's study (42.7-44.1%).<sup>29</sup> In all three groups, males showed higher percentages. In our study, it is remarkable that the duration of weekly exercises were insufficient and body training lessons were not used effectively.

According to YRBS in the USA, 21.1% of students spent time on computers for three or more hours' time, and 37.2% by watching television; in both behaviors, the rates of males were higher.<sup>2</sup> In the study of Kara et al., the rate for watching TV more than one hour on average was 72.7%.<sup>29</sup> In the present study, the rate of watching TV less than two hours daily was 48.0%. As is seen in these results, daily watching of TV and durations of computer use were high in youth as a marker of physical inactivity.

To encourage the youth to be more active, it is clear that new policies are necessary to

improve such facilities as transportation, sports, entertainment, campus and city planning. These policies should aim that people can use their bodies more frequently in daily activities. Such type of social activities, also augment communications between youngs and reduce violence tendency.

#### E) UNINTENDED PREGNANCIES AND SEXUAL BEHAVIORS CONTRIBUTING TO SEXUALLY TRANSMITTED DISEASES

The rapidly increasing young population in the world, the shift in sexual activity ages to younger ages, and socio-cultural changes have caused increased reproductive health requirements. Since sexual activities in this period are not generally planned, contraceptive use among young people is rather low and traditional methods are mostly used. About two thirds of 15 million adolescent pregnancies are unplanned pregnancies. Child births between 15 and 19 years of age are associated with twice increased the maternal and fetal mortality rate compared to pregnancies over 20 years of age. Among the 340 million sexually transmitted diseases in the world, one third has been seen in adolescents. Among the 2.4 million new HIV infections every year, about half are seen between 15 and 24 years of age.<sup>4,11,30</sup>

According to the study of Gupta et al., the rate of an active sexual life between 18 and 24 years of age was 68.0% in Kenya, and 43.0% in Zimbabwe.<sup>31</sup> Haggstrom found this percentage as 46.0% in Sweden, and the mean age of first sexual intercourse was 15.<sup>32</sup> According to YRBS 2005 in the USA, it was found that 46.8% of students had sexual relations; the rates in males (Black: 74.6%-Hispanic: 57.6%) was higher than in females (Black: 61.2%-Hispanic: 44.4%). It was stated that 37.2% of sexually active students did not use condoms during sexual intercourse. The percentage of those who received information regarding AIDS/HIV infection at school was 87.9%.<sup>2</sup>

In a study on students of Hacettepe and Dicle Universities, the rates of those who experienced sexual relations were 7% and 9%, respectively (males

13%, females 2%); among those who used contraceptive methods (45.6-29.4%), the most frequent method was condom (40.5-18.1%).<sup>33</sup> In a study performed on the students of eight universities, the rate of experiencing sexual intercourse was 19.0%; this was 31.9% in males and 5.7% in females. The mean age of first sexual intercourse in students was found as 16.9.<sup>25</sup> In a study performed on the students of five universities, the rate of sexual intercourse was 10.9%, the age for the first sexual intercourse was 18 years, and the rate of students using contraceptives was 52.0%. The information levels of students on sexual and reproductive health was found to be good for one in every five students, one in five had sufficient knowledge, and the remaining three were at medium level.<sup>34</sup> In a study of Aksakal et al. on medical faculty students, the rate of sexual intercourse was 25.0%.<sup>16</sup> In a study by Kadioğlu et al, 31.0% of university students had sexual experience (males 46%, females 5%), and the mean age at which a sexual life was begun was 18.<sup>35</sup> In the study of Aras et al. on high school students, the rate of sexual experience was found as 56% in males, and 5.1% in females.<sup>36</sup> Filiz et al. reported that sexual experience among naval academy students was 63.7%.<sup>37</sup>

The result of our study is similar to the above-mentioned studies; the rate of sexual intercourse at least once throughout the life-time was 21.6%; sexual experience was higher and the first sexual experience age was lower among males (39.5%-17.8 ± 2.1) than females (3.8%-20.3 ± 2.7). When compared with other countries, the studies in adolescent/young students showed lower percentages of sexual intercourse; the reason of this is the low rate of female students, and this may be related to the traditions and culture.

In the study of Ates et al on university students, the rate of condom use for contraception was 61.8% in the previous two sexual intercourses; they reported that young people did not perceive the protective effect of condom use for AIDS, and thought that monogamy was more effective than condoms.<sup>38</sup>

According to the Turkey Youth Sexual and Reproductive Health Survey performed in combi-

nation with the Population Association and the United Nations Population Fund (UNFPA), the rate of those who declared that they had a friend with experience in sexual intercourse were 35% in women and 51% in men. According to this study, only 10% of the young people had correct information on HIV/AIDS.<sup>39</sup>

In our study, rate of having sexual intercourse was less than GRDA in USA, but rate of the ones not using condom was higher. Insufficient sexual education in our country may be responsible for this situation. Thus, the rate of declared education about AIDS was determined as 21.3%. In our country, education programs targeting young people about safe sex and sexually transmitted diseases should be organized. In the studies performed in our country on training for HIV/AIDS, the level of education was found to be low; it is thought that reproductive health lessons should be integrated into education programs of all faculties.

### Limitations

The limitations of this study were inaccurate determination of the risky behavior frequency and BMI values as recorded according to the declarations of the students; so overweight individuals may have been underestimated. The extent of underreporting or overreporting of behaviors cannot be determined.

## CONCLUSION

In conclusion, in this study it is found that; most of the students (85.9% and 61.8%) were not using helmets while riding a bicycle or a motorcycle; 25.4 % were not fastening seat belts while traveling in a vehicle; approximately two thirds were not eating fruits or vegetables and exercising regularly, approximately one fourth of them were smoking and drinking alcohol, while one fifth of them had sexual intercourse at least once throughout their lifetime and that proportion was two fifth among males, 10.0% were involved in physical fight at least once in the previous year and 5.2% carried weapons at least once in the previous month.

Taking these findings into consideration, it is thought that it is necessary to organize education programs on road safety, nutrition and health, effects of smoking on health, alcohol consumption and other substance abuses, and safe sex and sexually transmitted diseases.

On the other hand it is necessary to increase the number and the quality of the recreational and sports fields and encourage the students to spare more time for physical exercises and sports.

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## REFERENCES

1. WHO. Young People's Health: A Challenge for Society, Report of a WHO Study Group on Young People and "Health for All by the Year 2000" (Technical Report Series No:731). Geneva: World Health Organization; 1986. p.1-120.
2. Eaton DK, Kann L, Kinchen S, Ross J, Hawkins J, Harris WA, et al. Youth risk behavior surveillance--United States, 2005. *MMWR Surveill Summ* 2006;55(5):1-108.
3. Tenore JL, Sharp LK, Lipsky MS. A national survey of procedural skill requirements in family practice residency programs. *Fam Med* 2001;33(1):28-38.
4. WHO, HUKSAM, UNFPA.[The Definition and Characteristics of Adolescence and Youth]. Akın A, editör. Genç Dostu Cinsel Sağlık Üreme Sağlığı Hizmet Modeli ve İlgili Araştırmaların Sonuçları. 1. Baskı. Ankara: Damla Matbaacılık; 2006, p.1-9.
5. UNDP. Türkiye İnsani Gelişme Raporu. [Youth in Turkey]. Birleşmiş Milletler Kalkınma Programı Türkiye Temsilciliği. Ankara: Desen Ofset AŞ; 2008. p.1-11.
6. Pan American Health Organization. Youth: Choices and Change. Promoting Healthy Behaviors in Adolescents (Scientific and Technical Publication No. 594). Washington, DC: Pan American Health Organization; 2005. p. 390.
7. Özalp E, Soygür H. [The role of psychiatrists in gun licencing]. *Anadolu Psikiyatri Dergisi* 2006;7(suppl.1):28-34.
8. Lubell KM, Vette JB. Suicide and youth violence prevention: the promise of an integrated approach. *Agression and Violence Behavior* 2006;11(2):167-75.
9. Türkiye İstatistik Kurumu, Ölüm İstatistikleri İl ve İlçe Merkezleri 2006, Yayın No: 3130, Ankara: Türkiye İstatistik Kurumu Matbaası, 2008. p.70-87.
10. Akcan A. [Personal Weapons ... The Situation In Other Countries]. *Anadolu Psikiyatri Dergisi* 2006;7(Ek 1):5-9.
11. Hahn RA, Bilukha O, Crosby A, Fullilove MT, Liberman A, Moscicki E, et al. Firearms laws and the reduction of violence: a systematic review. *Am J Prev Med* 2005;28(2 Suppl 1):40-71.

12. Blum RW, Nelson-Mmari K. The health of young people in a global context. *J Adolesc Health* 2004;35(5):402-18.
13. Hatcher-Kay C, King CA. Depression and suicide. *Pediatr Rev* 2003;24(11):363-71.
14. Türkiye Büyük Millet Meclisi, Meclis Araştırması Komisyonu Raporu. [Determination of Violence and Affecting Factors in Students in Secondary Education in Turkey]. 22/5, (10/337, 343,356,357), 2007.
15. Paksoy Subaşı N. [Violence, Causes and Results]. Güler Ç, Akın L, editörler. *Halk Sağlığı Temel Bilgiler*. Ankara: Hacettepe Üniversitesi Hastaneleri Basımevi; 2006. p. 1246-61.
16. Aksakal FN, İlhan MN, Durukan E, Özkan S, Aslan S, Bumin MA. [Risky Behavior Among Medical School Students in Terms of Health]. IX. Ulusal Halk Sağlığı Kongresi Bildiri Kitabı, Ankara: 2004. p.360.
17. Yiğitalp G, Ertem M, Özkaynak V. [Experiences and thoughts of university students about psychological violence]. *TSK Koruyucu Hekimlik Bülteni* 2007;6(2):131-6.
18. Warren CW, Riley L, Asma S, Eriksen MP, Green L, Blanton C, et al. Tobacco use by youth: a surveillance report from the Global Youth Tobacco Survey project. *Bull World Health Organ* 2000;78(7):868-76.
19. Liu Z, Zhou W, Lian Z, Mu Y, Cai Z, Cao J. The use of psychoactive substances among adolescent students in an area in the southwest of China. *Addiction* 2001;96(2):247-50.
20. Shimane T, Wada K. [Substance use among night high school students in Japan]. [Article in Japanese] *Nihon Arukoru Yakubutsu Igakkai Zasshi* 2007;42(3):152-64.
21. WHO Europe. The European Tobacco Control Report, World Health Organization Regional Office for Europe 2007. Bilir N, çeviri ed. Dünya Sağlık Örgütü Türkiye Ofisi; 2007. p. 1-168.
22. Ertas N. Factors associated with stages of cigarette smoking among Turkish youth. *Eur J Public Health* 2007;17(2):155-61.
23. Ogel K, Corapçioğlu A, Sir A, Tamar M, Tot S, Doğan O, et al. [Tobacco, alcohol and substance use prevalence among elementary and secondary school students in nine cities of Turkey]. [Article in Turkish] *Türk Psikiyatri Derg* 2004;15(2):112-8.
24. United Nations Office on Drugs and Crime. [Prevention of Substance Use by Health Services, Education and Community Initiatives in Turkey].-Madde Kullanımı Üzerine Ulusal Değerlendirme Çalışması. Ankara: 2004. p.41-54.
25. Bertan M, Özcebe H, Haznedaroğlu D, Kırçaloğlu N, Bülbül SH. The knowledge of adolescent period and the life style of the first year students in universities. 29. UMEMPS (Orta Doğu ve Akdeniz Ülkeleri Pediatri Dernekleri Birliği) Kongresi Özet Kitabı. İstanbul: 2005. p.55-6.
26. Alikashiçoğlu M, Ercan O. [Substance use in adolescents]. *Türkiye Klinikleri J Pediatr Sci* 2006;2(5):76-83.
27. 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, The Swedish Council for Information on Alcohol and Other Drugs (CAN), The Pompidou Group at the Council of Europe and the authors, Stockholm, Modintryckoffset AB, 2004. p.129-177.
28. Ammerman SD, Neinstein LS. Tobacco. In: Neinstein LS, ed. *Adolescent Health Care: A Practical Care*. 4<sup>th</sup> ed. Philadelphia: Lippincott, Williams & Wilkins; 2002. p.1290-311.
29. Kara B, Hatun Ş, Aydoğan M, Babaoğlu K, Gökalp AS. [Evaluation of the health risk behaviors of high school students in Kocaeli]. *Çocuk Sağlığı ve Hastalıkları Dergisi* 2003; 46(1):30-7.
30. Demir SC, Ürünsak İF. [Adolescent contraception]. *Türkiye Klinikleri J Pediatr Sci* 2006;2 (1):67-70.
31. Gupta N, Mahy M. Sexual initiation among adolescent girls and boys: trends and differentials in sub-Saharan Africa. *Arch Sex Behav* 2003;32(1):41-53.
32. Häggström-Nordin E, Hanson U, Tydén T. Sex behavior among high school students in Sweden: improvement in contraceptive use over time. *J Adolesc Health* 2002;30(4):288-95.
33. Akın A, Özvarış ŞB. Study on the Influential Factors of Sexual and Reproductive Health of Adolescents/Young People in Turkey (Executive Summary), WHO Collaborating Center on RH-Hacettepe University Public Health Department. 1<sup>st</sup> ed. Ankara: 2004. p.42-63.
34. Akın A, Özvarış ŞB, Eroğlu K, Mihçioğur S. Sexual and Reproductive Health of Young People in Universities, Executive Summary of Studies in Five Universities in Turkey. *Turkey Reproductive Health Programme*. Ankara: Yücel Ofset; 2006. p.1-28.
35. Kadoğlu H, Yıldız A, Ercan N, Ergun A. [The views of university students related to sexuality and sexual education]. *STED* 2008;17(3): 32-7.
36. Aras S, Şemin S, Günay T, Orçin E, Özen S. [Sexual Attitudes and Behavioral Characteristics of High School Students]. *Türk Pediatri Arşivi* 2005;40(2):72-82.
37. Filiz TM, Topallı R, Topsever P, Görpelioğlu S. [What do maritime school students in Kocaeli/Turkey know about sexually transmitted diseases? Their sexual behaviour and knowledge]. *Türkiye Klinikleri J Med Sci* 2004; 24(4):345-9.
38. Ateş D, Karahan A, Erbaydar T. [How do the university students perceive safer sex?] *STED* 2005;14(6):130-4.
39. Özcebe H, Unalan T, Turkyılmaz S, Coşkun Y. 2007 Turkey Youth Sexual and Reproductive Health Survey-Summary Report, Population Association and the United Nations Population Fund (UNFPA). 1. Baskı. Ankara: Damla Matbaacılık; 2007. p.18-23.