



Risk-taking behaviors of the Tehran city; Iranian college students in 2018

Mohammad Hossein Vaziri¹, Abbas Shamsalini², Ali Khani Jeihooni³, Fatemeh Shirinkam², Nasim Mirzaii⁴, Kobra Noori¹, Parisa Kasraei⁵, Fardin Mehrabian⁵, Abolfazl Atashpoosh⁶, Fatemeh Mohammadkhah^{1,2*}

¹Student Research Committee, School of Public Health and Safety, Shahid Beheshti University of Medical Sciences, Tehran, Iran

²Nursing Care Research Center, Health Research Institute, Babol University of Medical Sciences, Babol, Iran

³Department of Public Health, School of Health, Shiraz University of Medical Sciences, Shiraz, Iran

⁴Department of Public Health, Firoozabad Branch, Islamic Azad University, Firoozabad, Iran

⁵Department of Health Education and Promotion, School of Health, Research Center of Health and Environment, Guilan University of Medical Sciences, Guilan, Iran

⁶Department of Psychology, Lahijan Branch, Islamic Azad University, Lahijan, Iran

Abstract

Background and aims: High-risk behaviors among different strata are one of the most severe health threats in recent years. This study aimed to investigate the frequency of high-risk behaviors among college students in Iran.

Methods: This study was a cross-sectional study with 144 new students in Tehran City, Iran, performed in 2018 using random sampling. The data collection tools included questions on demographic variables and Youth Risk Behavior Survey (YRBS) questionnaire. Students completed the questionnaire. The data were analyzed using SPSS 24 and descriptive tests.

Results: In this study, all students were in their first year of university. The results showed that 66% of students were girls and 34% were boys. 6.9% and 9% of students did not wear helmets when riding motorcycles or sitting in the driver's seat, respectively. Also, threatened and beaten once with a weapon such as a knife or a stick and physically assaulted or beaten once were seen in 9% and 3.6% of students, respectively. 9.7% had taken money from their parents or others once without permission.

Conclusion: Based on the findings, many participants engage in high-risk behaviors that endanger their health; Therefore, designing and improving health programs and strategies is essential to reduce the risks and factors that cause high-risk behaviors.

Keywords: Behavioral risk factor surveillance system, Risk, Students, Adolescent behavior, Young adult, Risk assessment, Risk-taking, Unsafe sex, Alcohol drinking in college

*Corresponding Author:

Fatemeh Mohammadkhah,
Email: mohamadkhahfatemeh@yahoo.com

Received: August 7, 2022

Accepted: December 5, 2022

Published: December 30, 2022

Introduction

High-risk behaviors among different strata are one of the most severe health threats in recent years. For example, it is estimated that by 2030, tobacco-related illnesses and deaths will reach 10 million people yearly (1).

Behaviors that endanger the health and well-being of society, especially adolescents and young people, are called risky behavior (2).

The high-risk behavior among Iranian university students is divided into six categories: Cigarette smoking, hookah smoking, alcohol use, illicit drug use, extramarital sexual activities, and physical violence (3).

Risk-taking is common among adolescents and will lead to adverse consequences (4).

Adolescence is a crucial period in every person's life due to the formation of behavioral patterns that affect the whole life (2,5). Risky behaviors are the leading cause of death in adults and youth (2). Health-related risk behaviors (HRBs) are common among young people (6).

The adolescent high school students of the US expressed

suicidal ideation during the past 12 months, made a suicide plan, attempted suicide at least once during the past 12 months, had alcohol at least once during their lifetime, and had at least one drink of alcohol during the past 30 days (17.7%, 14.6%, 8.6%, 63.2%, and 32.8%, respectively) (7). In Baiden et al study, about 75% of adolescent college students in Brazil who had an average of fewer than eight nights' sleep (8) had alcohol abuse (9).

College students with alcohol use before driving was 39.2% (10). 15.8% of students aged 13-19 had illicit drug use (11). 71% of Brazilian college students had sexual practice without condom use (12). Gender is one of the influencing factors in committing risky behaviors (13)

Lima et al estimated the prevalence of risky behaviors related to personal safety with 902 academic students. The rate of not using seat belts was drawn as 34.7%, and that of alcohol associated with the vehicle direction was 39.6% (14).

On the other hand, HRB is common among the young people of Iran. Tendency to the opposite sex, sexual

relationship and behavior, alcohol consumption, smoking, and use of narcotics and psychotropic substances are the most common high-risk behaviors among adolescents in Tehran (15). Research also shows that the prevalence of HRB in college students is high (16).

In Iran, the study of HRB and identifying the prevalence of HRB and especially substance use and its etiology, especially among adolescents, is essential (17).

The results of a systematic review by Sedighian Bidgoly and Mahmady show an increasing trend of such behaviors among students (18). Given that most of the population of the country is young and most of them are studying in schools and universities, and also considering that students are among the most active and intelligent sections of society, the occurrence of high-risk behaviors in these people can have many adverse effects (19, 20). Unsafe sex (4%), alcohol (7%), lack of contraception (2%), iron deficiency (3%), and illicit drug use (2%) are the main risk factors for incident disability-adjusted life-years (DALYs) in 10-24-year-old population (21). The Youth Risk Behavior Survey (YRBS) assesses health risk behaviors (22).

Accordingly, the main question of the present study is to what extent new students engage in high-risk behaviors. The study aimed to investigate the frequency of high-risk behaviors among college students in Iran.

Materials and Methods

This cross-sectional study was done with new students of Tehran, Iran in the 2017-2018 academic year. The required number of samples was calculated at 144 with a population of 230 people and using Cochran's formula and the 5 % error.

$$n = \frac{\frac{z^2 pq}{d^2}}{1 + \frac{1}{N} \left(\frac{z^2 pq}{d^2} - 1 \right)}$$

The inclusion criterion in this study was being enrolled and studying in the first year of college. Exclusion criterion was lack of completing more than two-thirds of the questionnaires.

The sampling method in this study was random sampling. Thus, after estimating the sample size, several classes were randomly selected. The required samples were selected from the selected classes in the final stage. The instrument used in this study was a standard questionnaire for monitoring adolescents' high-risk behavior that did not need to be evaluated for validity and reliability due to its standard nature.

1-The monitoring adolescents' high-risk behavior questionnaire:

The questionnaire assesses adolescents' high-risk behaviors, including safety, violence, suicide, and lack of physical activity. The Centers for Disease Control and Prevention (CDC) developed this questionnaire in 1980s (2,23-25).

After obtaining permission from the Vice Chancellor for

Research and having a letter of introduction, we referred to the faculties and, with the coordination of the faculty officials, entered the classrooms. In the present study, ethical considerations were fully observed. All students and researchers were informed about the study's objectives during the study. The questionnaires were completed anonymously and their information was kept confidential. Also, before starting the work, the consent form was prepared, and participants were asked to complete and sign the form after studying. Then questionnaires were distributed among all new students and collected about 20 minutes later. Descriptive statistics, such as the frequency and percentage, were used to analyse the data. All data from the research were analyzed using SPSS 19 using descriptive statistics, including mean, percentage, and frequency.

Results

A total of 144 people were included in this study, all of whom were studying in their first year of university, as mentioned in Table 1.

6.9% of students did not wear helmets when riding a motorcycle [frequency: rarely (27, 18.8%), sometimes (54, 37.5%), most of the time (26, 18.1%), have not ridden a motorcycle (23, 6%), mean (standard deviation) = 3.32(1.320)]. 9% of students did not wear seat belts when sitting in the driver's seat. 3.5% of students had ridden at least once in a vehicle whose driver had previously consumed alcohol [frequency: never (121, 84%), 1 time (5, 3.5%), 2-3 times (5, 3.5%), 4-5 times (2, 1.4%), mean (standard deviation) = 1.15 (0.528)]. The frequency of HRB related to using vehicles in students is mentioned in Table 2.

6.9% of students have carried a cold weapon in 1 time

Table 1. The demographic characteristics of students (n=144)

Demographic characteristics	No. (%)	Category	Mean (SD)
Monthly income	Not at all	16 (11.1)	
	Somewhat	87 (60.4)	2.17 (0.607)
	Completely	41 (28.5)	
	Employee	44 (30.6)	
Father's job	Student	2 (1.4)	
	Worker	11 (7.6)	3.82 (2.064)
	Jobless	5(5.3)	
	Retired	43 (29.9)	
	Other	39 (27.1)	
Mother's job	Employee	25 (17.4)	
	Student	1 (0.7)	
	Worker	17 (11.8)	3.94 (1.672)
	Jobless	49 (34)	
Gender	Retired	18 (12.5)	
	Other	34 (23.6)	
	Female	95 (66)	1.34 (0.475)
	Male	49 (34)	

[frequency: Never (111, 77.1%), 1 time (10, 6.9%), 2-3 times (11, 7.9%), 4-5 times (8, 5.6%), 6 times and more (4, 2.8%), mean (standard deviation) = 1.54 (1.273)]. 4.9% of students had not left home, school, or work once at least once [frequency: Never (127, 88.2%), 1 time (7, 4.9%), 2-3 times (9, 6.3%), 4-5 times (1, 0.7%), Mean (standard deviation) = 1.20 (0.61)]. The prevalence of high-risk behaviors associated with carrying a cold weapon and firearms, lack of security, and physical conflict among students is shown in Table 3.

8.3% of students had been intentionally beaten or injured by a friend of the opposite sex in the last 12 months [frequency: yes (12, 8.3%), no (132, 91.7%), mean (SD) = 1.92(0.2720)]. 4.9% of students had sexual intercourse with someone by force [frequency: yes (7 = 4.9%), no (137, 95.1%), mean (SD), 1.95 (0.216)]. The prevalence of high-risk behaviors associated with carrying a cold weapon and Firearms, lack of security, and physical conflict among students are mentioned in Table 4.

Discussion

We surveyed 144 college first-year students at the Shahid Beheshti University of Medical Sciences to investigate the current risk-taking behaviors in Tehran, Iran. We expected that the young first-year students might frequently be involved in risky behaviors because they were less likely to be under parental supervision than before. However, 6.9% of students did not wear helmets when riding a motorcycle. This rate was 36% in the study of Puratmaja et al (26) and in the study of risk behaviors among Thailand students, it was 75% (23).

The average rate of use of helmets in the present study was low, which is consistent with the study's results of Marzban et al (27). On the other hand, 9% of students did not wear seat belts when sitting in the driver's front seat. This rate was 14.7% in the study of Esmailzadeh et al (28). The leading cause of death due to accidents in Iran is not wearing a seat belt. (28). Besides preventing death, seat belts reduce the severity of crimes and injuries (29).

However, the culture of wearing seat belts has yet to be institutionalized among the people, especially adolescents, who will be the future drivers of society. It seems that the implementation of training classes and even the inclusion of concepts related to the correct driving culture in the textbooks can cause contribute to decreasing health risks, disability, high treatment costs, accidents, and disability, changing attitudes and subsequently creating the proper behavior (27).

In this study, 3.5% of students boarded a vehicle at least once whose driver had previously consumed alcohol. In the study of Arria et al, 25% of young adults boarded a vehicle at least once whose driver had previously consumed alcohol (30).

Given that Iranians are Muslims and the use of alcohol is forbidden in Islam, the reason seems to be that Iranian drivers consume less alcohol than Los Angeles drivers. 6.9% of students had cold weapons [such as a knife and

Table 2. The prevalence of HRB related to the use of vehicles by students in Tehran, Iran, 2018 (n=144)

Variable	Category	No. (%)	Mean (standard deviation)
Do you use a seat belt when sitting in the front seat of a car?	Never	121 (84)	(0.617)1.24
	Rarely	13(9)	
	Sometimes	8 (5.6)	
	Most of the time	2 (1.4)	
How many times in the last 30 days have you consumed alcohol before you started driving?	Never	106 (73.6)	1.55 (0.083)
	1 Time	15 (10.4)	
	2-3 Times	12 (8.3)	
	4-5 Times	4 (2.8)	
How many times have you driven in the last 30 days despite not having a driving license?	6 Times and more	7 (4.9)	1.51 (1.051)
	Never	111 (77.1)	
	1 Time	9 (6.3)	
	2-3 Times	13 (9)	
During the last 30 days, when you got in a car, a bicycle, motorcycle a motorcycle, how many times did you turn or pull over?	4-5 Times	6 (4.2)	1.20 (0.61)
	6 Times and more	5 (3.5)	
	Never		
	1 Time		

Table 3. Prevalence of high-risk behaviors associated with carrying a cold weapon and firearms, lack of security, and physical conflict among students in Tehran, Iran (n=144)

Variable	Category	No. (%)	Mean (SD)
How many times in the last 30 days have you been threatened and beaten with a weapon such as a knife or a stick?	Never	(81.9) 118	1.55 (0.083)
	1 Time	13 (9)	
	2-3 Times	6 (4.2)	
	4-5 Times	4 (2.8)	
How often have you been physically assaulted or beaten in the last 12 months?	6 Times and more	2 (1.4)	1.20 (0.61)
	12 Times and more	1 (0.7)	
	Never	132 (91.7)	
	1 Time	9 (6.3)	
How often in the last 12 months has your physical contact led you to visit a doctor or hospital?	4-5 Times	1 (0.7)	1.25 (0.7620)
	6-7 Times and more	2 (1.4)	
	Never	123 (85.3)	
	1 Time	15 (10.4)	
How many times did you take their money without the permission of your parents or others during the last 12 months?	2-3 Times	4 (2.8)	1.90 (0.297)
	4-5 Times	1 (0.7)	
	6 Times and more	1 (0.70)	
	1 Time	14 (9.7)	
	Never	130 (90.3)	

stick at least once in the past 30 days]. This rate was 54.47% in the study of Marzban et al In the present study, 3.6% of students had been physically assaulted or beaten once in the last 12 months. This rate was 38.94% in Marzban and colleagues' study (27). In this study, 66% of students

Table 4. Prevalence of high-risk behaviors associated with carrying a cold weapon and firearms, lack of security, and physical conflict among students in Tehran, Iran 2018 (n=144)

Variable	Category	No. (%)	Mean (SD)
Have you been bullied at school in the past 12 months?	Yes	42 (29.2)	1.71 (0.4560)
	No	102 (70.8)	
During the last 12 months, have you felt any sadness or despair for at least two weeks that prevented you from doing some of your work?	Yes	15 (10.4)	1.90 (0.940)
	No	129 (89.6)	
Have you thought about designing a suicide plan in the last 12 months?	Yes	16 (11.1)	1.89 (0.99)
	No	128 (88.9)	
Have you seriously considered suicide in the last 12 months?	No	133 (92.4)	1.16 (0.622)
	Yes	11 (7.7)	
	Never	23 (16)	
How many times have you committed suicide in the last 12 months?	1 Time	120 (83.3)	1.85 (0.380)
	2 -3 Times	1 (0.7)	

were girls and 34% were boys. However, in Marzban and colleagues' study, half of the participants (50%) were boys and the other half (50%) were girls. One of the reasons for the difference between the statistics of carrying a cold weapon in the two studies could be the difference in the number of boys and girls studied as girls are more likely to be influenced by parental factors. Also, personality traits associated with high-risk behaviors in boys, such as rebellion, non-traditional values, and lack of emphasis on progress will lead to higher rates of carrying a cold weapon among them. 4.9% of students left home, school, or work at least once during the last 30 days due to insecurity. Half of community college students were living in insecure houses, and 13-14% were homeless (31).

Running away from home means being away from home for 24 hours or more without parent's knowledge or against their will. In this condition, the person finds the current situation so complicated that he/she prefers to move towards a vague and dark future than to stay. He/she is aware that his/her action is against the norms and values of the family and society. However, according to his/her intellectual philosophy, he/she does not experience resistance in himself/herself, faces various dangers, such as prostitution and multiple exploits, which can indicate the existence of dysfunction in the family or other institutions of society, deserving appropriate planning and measures. 9% of participants were threatened and beaten with a weapon [such as a knife or stick]. This rate was 5.4 in Saka et al study (32).

In Kusoom et al study on carrying a weapon and physical fighting, it was found that most were male students (23). In general, young people and adolescents take this dangerous action by imitating friendship groups. By carrying a cold weapon, they somehow seek their superiority in case of a conflict. However, using any cold weapon is very clumsy and hasty. If it is done intentionally and intends to defeat the opponent, it will have destructive consequences. These include being influenced by peers, social culture, showing off to intimidate friends, gaining false power, misrepresenting adult offenders or some family members, and trying to seek revenge. Parents' inattention to their

children's behaviors can be considered as a reason for the inappropriate use of a cold weapon. 10.4% of students had a physical encounter once in the last 12 months that led to a referring to the doctor or hospital. This rate was 14.9% in Saka et al study (32).

Physical encounter rate was 5.5% in the study of college students in Thailand (23). Young people and adolescents are excited because of their age characteristics, and this excitement causes them to commit crimes. Also, Adolescents may engage in physical conflict for a variety of reasons: Lack of conflict resolution skills, inability to communicate appropriately, failures, consumption of substances, and negative emotions and excitements, all of which can cause controversy in interpersonal relationships and possibly physical conflict, and trigger suicidal ideation. 9.7% took money from their parents or others without their permission once in the last 12 months. 29.2% of students have been bullied at school for 12 months. In the study communities with the highest poverty rates, desperation and poverty can drive girls and boys ages 13-18 to steal (33).

One of the reasons for stealing in adolescents can be their desire for excitement. Teenagers are at an age range to enjoy the excitement. The excitement of doing so usually triggers behaviors such as stealing. 10.4% of students had felt sad and frustrated for at least two weeks in the last 12 months, so they had stopped doing some of their work. This rate is 29.5% in students in Saka et al study (32).

11.1% of students had considered designing a suicide plan in the last 12 months. This rate was 31.3% in the study of Becker et al (34). 7.7% had seriously considered suicide for the past 12 months. This rate was 8.6% in the study of school students in the US (2) and 16% in Saka et al study (32). 0.7% of students had committed suicide at least 2 to 3 times in the last 12 months. The frequency of suicide attempts among Chinese adolescents was 2.94% (35).

This difference in figures can be due to differences in the study population, research setting, and the involvement of other families, and social, cultural, and environmental factors for the occurrence of mental disorders in the population of the above-cited studies.

Limitations and strengths of the study

The limitations of this study were that its cross-sectional design and self-reporting. Thus, it will only be generalizable to some students with different cultures. Since the statistical population and the sample of the present study were students of Tehran City, Iran universities, it is recommended that studies with the same subject be conducted on students in other cities. The differences in cultural factors should also be examined.

The present study should also be done with other age groups. Interventional studies are recommended to increase students' psychological competence. It is recommended that the current research be implemented and followed as a plan so that the final result will pave the way for officials to prevent the spread of HRB. The small sample size and data collection methods were other limitations of this study. The main strength of the present research is understanding the extent new students engage in HRB, such as violence, substance abuse, and high-risk sexual behaviors, as well as what factors are involved in these behaviors?

Conclusion

In our study, 6.9% of students have had a cold weapon [such as a knife and stick] at least once in the past 30 days. 4.9% of students have not left home, school, or work at least once in the past 30 days. 9% of students have been threatened and beaten with a [such as knife and stick] at least once in the past 30 days. 3.6% of students have been physically assaulted or beaten at least once during the last 12 months. 10.4% of students have had once physical contact that has led to a visit to the doctor or hospital during the previous 12 months. 9.7% took money from their parents or others without their permission at least once during the last 12 months); it is, therefore, necessary that, in addition to monitoring high-risk behaviors, educational, preventive, and therapeutic measures be taken at the individual, school, and family levels.

Acknowledgments

This article was derived from a research project approved by the student committee in Tehran City, Iran. As a result of this, the researchers thank from participants in this study.

Authors' Contribution

Conceptualization: Fatemeh Mohammadkhah, Mohammad Hossein Vaziri, Abbas Shamsalinia.

Data curation: Fatemeh Mohammadkhah, Ali Khani Jeihooni, Fatemeh Shirinkam.

Formal analysis: Fatemeh Mohammadkhah, Nasim Mirzaii, Kobra Noori.

Funding acquisition: Fatemeh Mohammadkhah, Parisa Kasmaei, Fardin Mehrabian.

Investigation: Fatemeh Mohammadkhah, Abolfazl Atashpoosh.

Methodology: Fatemeh Mohammadkhah, Mohammad Hossein Vaziri, Abbas Shamsalinia.

Project administration: Fatemeh Mohammadkhah, Ali Khani Jeihooni, Fatemeh Shirinkam.

Supervision: Fatemeh Mohammadkhah, Nasim Mirzaii, Kobra Noori.

Resources: Fatemeh Mohammadkhah, Parisa Kasmaei, Fardin

Mehrabian.

Software: Fatemeh Mohammadkhah, Ali Khani Jeihooni, Fatemeh Shirinkam.

Validation: Fatemeh Mohammadkhah, Abolfazl Atashpoosh.

Visualization: Fatemeh Mohammadkhah, Abolfazl Atashpoosh.

Writing—original draft: Fatemeh Mohammadkhah, Abbas Shamsalinia, Mohammad Hossein Vaziri, Ali Khani Jeihooni.

Writing—review & editing: Fatemeh Mohammadkhah, Abbas Shamsalinia, Ali Khani Jeihooni, Fatemeh Shirinkam.

Competing Interests

There is no conflict of interest.

Ethical Approval

In this study, ethical considerations included obtaining permission from the Ethics Committee of Tehran City, Iran (IR.SBMU.RETECH.REC.1396.874) and obtaining written consent from the participants.

References

- Slusky RI. Decreasing high-risk behavior in teens. A theater program empowers students to reach out to their peers. *Healthc Exec.* 2004;19(1):48-9.
- Kann L, McManus T, Harris WA, Shanklin SL, Flint KH, Hawkins J, et al. Youth risk behavior surveillance - United States, 2015. *MMWR Surveill Summ.* 2016;65(6):1-174. doi: [10.15585/mmwr.ss6506a1](https://doi.org/10.15585/mmwr.ss6506a1).
- Afrashteh S, Ghaem H, Abbasi-Ghahramanloo A, Tabatabaee HR. Clustering and combining pattern of high-risk behaviors among Iranian university students: a latent class analysis. *J Res Health Sci.* 2017;17(4):e00398.
- Lindberg LD, Boggess S, Williams S. *Multiple Threats: The Co-Occurrence of Teen Health Risk Behaviors.* Washington, DC: Urban Institute; 2000.
- Hassan F, El-Defrawi MH. Smoking among students of Suez Canal University. *Egypt J Psychiatr.* 1996;9:49-60.
- Fry-Bowers EK. Children's, youth's, and families' health risk behaviors and problems are identified and addressed. In: Betz C, Krajicek M, Craft-Rosenberg M, eds. *Guidelines for Nursing Excellence in the Care of Children, Youth, and Families.* Springer Publishing Company; 2017. p. 309.
- Baiden P, Mengo C, Boateng GO, Small E. Investigating the association between age at first alcohol use and suicidal ideation among high school students: evidence from the youth risk behavior surveillance system. *J Affect Disord.* 2019;242:60-7. doi: [10.1016/j.jad.2018.08.078](https://doi.org/10.1016/j.jad.2018.08.078).
- Galland BC, Gray AR, Penno J, Smith C, Lobb C, Taylor RW. Gender differences in sleep hygiene practices and sleep quality in New Zealand adolescents aged 15 to 17 years. *Sleep Health.* 2017;3(2):77-83. doi: [10.1016/j.sleh.2017.02.001](https://doi.org/10.1016/j.sleh.2017.02.001).
- Campos LL, Isensee DC, Rucker TC, Botton ER. Condutas de saúde de universitários ingressantes e concluintes de cursos da área da saúde [Health conducts of university students and graduates of courses in the health area]. *Rev Bras Pesq Saude.* 2016;18(2):17-25. doi: [10.21722/rbps.v18i2.15080](https://doi.org/10.21722/rbps.v18i2.15080).
- Mesquita Filho M, de Carvalho CR, de Paula Garcia E. [Factors associated with traffic accidents among university students]. *Cienc Saude.* 2017;10(2):62-70. doi: [10.15448/1983-652x.2017.2.24205](https://doi.org/10.15448/1983-652x.2017.2.24205).
- dos Santos Raposo JC, de Queiroz Costa AC, de Melo Valença PA, Zarzar PM, da Silva Diniz A, et al. Binge drinking and illicit drug use among adolescent students. *Rev Saude Publica.* 2017;51:1-7. doi: [10.11606/s1518-8787.2017051006863](https://doi.org/10.11606/s1518-8787.2017051006863).
- de Araujo JL, de Oliveira JG, Alchieri JC, de Medeiros Pereira AK, do Nascimento EG, de Vasconcelos RB. [Knowledge and sexual behavior of university students facing vulnerability to HIV/AIDS]. *Rev Baiana Saude Publica.* 2013;37(3):702-24. doi: [10.22278/2318-2660.2013.v37.n3.a614](https://doi.org/10.22278/2318-2660.2013.v37.n3.a614).
- Mola R, Araújo RC, Oliveira JV, Cunha SB, Souza GF, Ribeiro

- LP, et al. Association between the number of sexual partners and alcohol consumption among schoolchildren. *J Pediatr (Rio J)*. 2017;93(2):192-9. doi: [10.1016/j.jpmed.2016.05.003](https://doi.org/10.1016/j.jpmed.2016.05.003).
14. Lima CAG, de Fatima de Matos Maia M, de Valeria de Sousa B, Tolentino TM, Brito MFS, de Pinho L, et al. Comportamento de risco relacionado à segurança pessoal em jovens universitários do norte de Minas Gerais. *Revista Portuguesa de Ciências do Desporto*. 2017.
 15. Mohammadzadeh Ebrahimi A, Rahimi Pordanjani T, Khorasaninia A. The role of brain-behavioral systems in predicting risky behaviors of high school students in Bojnourd. *J North Khorasan Univ Med Sci*. 2015;7(1):175-88. doi: [10.29252/jnkums.7.1.175](https://doi.org/10.29252/jnkums.7.1.175). [Persian].
 16. Mohammadpoorasl A, Ghahramanloo AA, Allahverdipour H. Risk-taking behaviors and subgrouping of college students: a latent class analysis. *Am J Mens Health*. 2013;7(6):475-81. doi: [10.1177/1557988313483540](https://doi.org/10.1177/1557988313483540).
 17. Badrian M, Shakour M, Keshvari M, Badrian H. Evaluation of the high risk behaviors of isfahan male first year male high school students from their teachers' view point during 2009-10. *Community Health J*. 2017;4(3):1-9. [Persian].
 18. Sedighian Bidgoly A, Mahmady A. High-risk behaviors of students and reflections on its medicalization. *Socio-Cultural Strategy*. 2018;28(7):95-122. [Persian].
 19. Fielder RL, Carey KB, Carey MP. Hookah, cigarette, and marijuana use: a prospective study of smoking behaviors among first-year college women. *Addict Behav*. 2013;38(11):2729-35. doi: [10.1016/j.addbeh.2013.07.006](https://doi.org/10.1016/j.addbeh.2013.07.006).
 20. Ameri Z, Mirzakhani F, Nabipour AR, Khanjani N, Sullman MJM. The relationship between religion and risky behaviors among Iranian university students. *J Relig Health*. 2017;56(6):2010-22. doi: [10.1007/s10943-016-0337-1](https://doi.org/10.1007/s10943-016-0337-1).
 21. Gore FM, Bloem PJ, Patton GC, Ferguson J, Joseph V, Coffey C, et al. Global burden of disease in young people aged 10-24 years: a systematic analysis. *Lancet*. 2011;377(9783):2093-102. doi: [10.1016/s0140-6736\(11\)60512-6](https://doi.org/10.1016/s0140-6736(11)60512-6).
 22. Demissie Z, Everett Jones S, Clayton HB, King BA. Adolescent risk behaviors and use of electronic vapor products and cigarettes. *Pediatrics*. 2017;139(2):e20162921. doi: [10.1542/peds.2016-2921](https://doi.org/10.1542/peds.2016-2921).
 23. Kusoom W. Health behaviors and health risk behaviors among vocational students: case study of vocational college in Nakornratchasima province Thailand. *J Adv Health Med Sci*. 2016;2(3):96-102.
 24. Teixeira M. [YRBS-C: Translation, Cross-Cultural Adaptation and Psychometric Properties] [thesis]. Londrina, PR: Universidade Estadual de Londrina; 2009.
 25. Price JH, Khubchandani J. Latina adolescents health risk behaviors and suicidal ideation and suicide attempts: results from the National Youth Risk Behavior Survey 2001-2013. *J Immigr Minor Health*. 2017;19(3):533-42. doi: [10.1007/s10903-016-0445-8](https://doi.org/10.1007/s10903-016-0445-8).
 26. Puratmaja Y, Handayani L, Sunardi KS. Factors associated with motorcycle risk behavior in Thai university students, Khon Kaen. *Int J Eval Res Educ*. 2017;6(4):270-6.
 27. Marzban A, Barzegaran M, Ayasi M, Marzban H, Delavari S, Rahmanian V. Prevalence of high risk behaviors in high school students of Qom, 2016. *Pars J Med Sci*. 2018;16(3):44-51. doi: [10.52547/jmj.16.3.44](https://doi.org/10.52547/jmj.16.3.44). [Persian].
 28. Esmailzadeh H, Asadi M, Miri N, Keramatkar M. Prevalence of high risk behaviors among high school students of Qazvin in 2012. *Iran J Epidemiol*. 2014;10(3):75-82. [Persian].
 29. Høye A. How would increasing seat belt use affect the number of killed or seriously injured light vehicle occupants? *Accid Anal Prev*. 2016;88:175-86. doi: [10.1016/j.aap.2015.12.022](https://doi.org/10.1016/j.aap.2015.12.022).
 30. Arria AM, Caldeira KM, Bugbee BA, Vincent KB, O'Grady KE. Energy drink use patterns among young adults: associations with drunk driving. *Alcohol Clin Exp Res*. 2016;40(11):2456-66. doi: [10.1111/acer.13229](https://doi.org/10.1111/acer.13229).
 31. Goldrick-Rab S, Richardson J, Hernandez A. Hungry and Homeless in College: Results from a National Study of Basic Needs Insecurity in Higher Education. Association for Challenge Course Technology (ACCT); 2017.
 32. Saka SM, Fagaragan A, Gerard K, Afaga L, Lindstrom W. Results of the 2015 Hawai'i State and Counties Youth Risk Behavior Surveys (YRBS) and Cross-Year and National Comparisons. Curriculum Research & Development Group (CRDG); 2016. p. 1-240.
 33. Popkin SJ, Scott MM, Galvez M. Impossible Choices. Washington, DC: The Urban Institute; 2016. p. 22.
 34. Becker SP, Dvorsky MR, Holdaway AS, Luebke AM. Sleep problems and suicidal behaviors in college students. *J Psychiatr Res*. 2018;99:122-8. doi: [10.1016/j.jpsychires.2018.01.009](https://doi.org/10.1016/j.jpsychires.2018.01.009).
 35. Hu J, Dong Y, Chen X, Liu Y, Ma D, Liu X, et al. Prevalence of suicide attempts among Chinese adolescents: a meta-analysis of cross-sectional studies. *Compr Psychiatry*. 2015;61:78-89. doi: [10.1016/j.comppsy.2015.05.001](https://doi.org/10.1016/j.comppsy.2015.05.001).

Cite this article as: Vaziri MH, Shamsalinia A, Khani Jeihooni A, Shirinkam F, Mirzaei N, Noori K, et al. Risk-taking behaviors of the Tehran city; Iranian college students in 2018. *Journal of Multidisciplinary Care*. 2022;11(4):178-183. doi: [10.34172/jmdc.2022.91](https://doi.org/10.34172/jmdc.2022.91).