Brief Report

Epidemiology and Etiology of High-risk Behaviors Among Male and Female Students in Qom

Khosro Rashid [iD] [1, *]

[1]Department of Psychology, Faculty of Humanities and Social Sciences, University of Mazandaran, Babolsar, Iran

[*]*Corresponding author*: Department of Psychology, Faculty of Humanities and Social Sciences, University of Mazandaran, Babolsar, Iran. Email: khosrorashid@yahoo.com

Abstract

Background: High-risk behaviors are among the most frequent behaviors in adolescents compared to other age ranges.

Objectives: The epidemiology and etiology of high-risk behaviors among high school girls and boys in Qom were the aim of this study.

Materials and Methods: This survey research was carried out using the Rashid Questionnaire (2015). The questionnaire was given to 1000 middle and high school students in 8 schools (4 boys' and 4 girls' schools) in the south and north (two from each area) of Qom in 2015.

Results: Feeling deeply sad and hopeless 43.7%, experience of Hookah smoking 43.2%, feeling hurt outdoors 26.5%, the experience of cigarette smoking 26.4%, physical fight out of home 22%, having sex with one's own free will 20.7%, having suicidal thoughts 19.9%, planning for suicide 17.7%, experience of alcohol consumption 16.8%, forced sex 14.5%, and attempted suicide in the last 12 months 12.8% were the most common high-risk behaviors among adolescents, respectively. Meanwhile, the mean of high-risk behaviors in boys was higher than girls. Moreover, among the 15 psychosocial factors studied, four factors of peer pressure, poor religious beliefs, feelings of emptiness, and antisociality had the highest potential to predict their high-risk behavior

Conclusions: The total range of some high-risk behaviors among the sample in Qom is at a dangerous rate and needs more attention.

Keywords: High-Risk Behavior, Drug Users, Sex, Violence, Psychosocial Factors

1. Background

Despite all positive changes in adolescents, they have not yet reached full maturity (1), and this causes a significant increase in risk-taking behaviors (2) which have adverse effects on overall growth and well-being (3). They also include behaviors that endanger the health and well-being of adolescents and others and have various negative effects (4). According to Asiseh et al. the high-risk behaviors that adolescents are most commonly involved in include alcohol consumption, smoking, and high-risk sex (5). Ysseldyk et al. refer to high-risk behaviors as problem behavior syndrome and consider high-risk behaviors to include smoking, drug and alcohol use, dangerous driving, and early sexual intercourse (6), which can all contribute to an unhealthy lifestyle for their future (7).

Neuroscience research has shown that the frontal lobes of the frontal cortex (responsible for impulse control, planning, and judgment) do not fully develop until the ages of about 23 to 24 years old (8). This immaturity leads to poor decision-making and increases teenagers' tendency to engage in risky behaviors (9).

Adolescence is usually a period of experimentation, exploration, and risk-taking (10), which can lead to some behavioral problems.

Moreover, meta-analysis research shows that adolescents with depressive symptoms are more likely to engage in risky behaviors than non-depressed adolescents (11). One of the possible reasons is that having social relationships results in increasing self-esteem, improving individual and social well-being, increasing problem-solving ability, and strengthening moral commitments, which is among the effective factors in coping with stress and tension in adolescence (12) which could decrease the range of risky behaviors.

In addition to the risk of potential problems, being healthy and living a healthy life is insignificant in the

world of adolescents because teenagers do not have a very good understanding of their vulnerability in various fields (13).

According to Burk, teenagers explain the possibility of high-risk behavior in two dimensions: Risk perception (a person's perception of their ability to deal with risk) and acceptable risk (the amount of profit that the risk brings for the individual) (14). In other words, each person evaluates high-risk behavior in terms of its usefulness or costs (15). However, the point is that adolescents usually have a low-risk perception, consider their abilities high, and assume they are invulnerable (14).

Moreover, if a high-risk behavior occurs early in life, it can persist to later stages of adulthood and put people at risk for acute and long-term consequences (16). These issues make the epidemiology of high-risk behaviors important in different countries such as Iran, where they are becoming more and more widespread (17, 18). The growth of risky behaviors among adolescents has various individual and social consequences, making it necessary to address them and their etiology.

2. Objectives

This study investigates the extent to which adolescent middle school and high school girls and boys in Qom city engage in high-risk behaviors such as drug abuse, violence, and sexual behavior. It also explores the most important psychosocial factors related to these behaviors.

3. Materials and Methods

3.1. Objectives

This study was a descriptive correlational study. The statistical population of the study included all middle school and high school adolescent girls and boys in Qom in the academic year 2015-16. A total sample of 1000 subjects was equally selected from middle school and high school girls and boys and completed the research questionnaire if they were willing to. Nevertheless, because 22 questionnaires were distorted, 978 questionnaires were analyzed at the end.

3.2. Research Tool

Data collection of the epidemiology section of high-risk behaviors in this study was done using Rashid High-Risk Behaviors Questionnaire (2015). This questionnaire is modeled based on the national version of the American High-Risk Behavior Questionnaire, and it is designed according to the culture of Iran. The validity of the questionnaire was well estimated using the content validity method, and the reliability of the tool was 0.81 using Cronbach Alpha. Since the study was funded by Qom Welfare Administration, its ethical approval was obtained from its committee (contract number 728/93/30107).

4. Results

Findings on the demographic characteristics of the samples show that 48.9% were girls and 51.1% were boys. Ethnically, 40.5 percent were Azeri, 29.3 percent were Pars, 18 percent were unanswered, 5.2 percent were Afghan, 1.8 percent were Lor, 1.5 percent were Kurd, and 3.6 percent were other ethnicities.

According to the data presented in Table 1, the most common high-risk behaviors of adolescents in Qom (total girls and boys) were feelings of sadness and hopelessness almost every day for two weeks or more (in a row that s/he stopped doing some usual activities) in the last 12 months with 43.7% and experience of Hookah smoking 43.2%.

According to the data presented in Table 2, the four factors of peer pressure, religious belief, emptiness, and antisocial behavior can highly predict high-risk behavior. These four factors predict 20.4% of high-risk behaviors in the studied adolescents.

Moreover, based on the data, the prevalence of high-risk behaviors among boys was significantly higher than among girls (sig. 0.021).

5. Discussion

Adolescence is usually a period of experimentation, exploration, and risk-taking (10), which can lead to some behavioral problems. In this study, the most common high-risk behaviors among boys and girls middle school and high school students in Qom are presented in Table 1, respectively, and include feelings of extreme sadness and hopeless almost every day for two weeks or more (in a row that s/he stopped doing some usual activities) in the last 12 months with 43.7%, experience of Hookah smoking 43%, threats or injuries with knives and knuckle-duster in the last month with 26.5%, experience of cigarette smoking 26.3%, physical fight out of home in the last 12 months with 22%, experience of sexual intercourse with one's own free will 20.7%, suicidal thoughts in the last 12 months 19.9%, planning to commit suicide in the last 12 months with 17.7%, experience of alcohol consumption with 16.8%, experience of forced unwanted sex with 14.5%, suicide attempt in the last 12 months with 12.8%, being threatened or injured with knives or knuckle-duster in the last month with 11.8%, having a knife and knuckle-duster with 10.2%, and physical fight leading to injury/treatment in the last 12 months with 9.6%.

Table 2. The Most Important Predictors of Overall High-risk Behavior

Factors	Correlation	Coefficient of Determination	Modified Coefficient
Peer pressure	0.379	0.144	0.140
Peer pressure, religious beliefs	0.434	0.188	0.181
Peer pressure, religious beliefs, feelings of emptiness	0.452	0.204	0.194
Peer pressure, religious beliefs, feelings of emptiness, being antisocial	0.466	0.217	0.204

According to the obtained data, high-risk behaviors such as drug abuse (alcohol, cigarettes, and Hookah), violence, and sexual behaviors are very common among high school boys and girls students in the city of Qom. Several points seem significant in comparing the findings of this study with a study conducted by the Centers for Disease Control and Prevention in the United States in 2011 (3). First, Hookah smoking, a form of drug abuse prevalent in our culture, is not seen in the United States and is therefore not evaluated in studies. Also, the most common high-risk behaviors in that country were sexual experience in one year and three months before the research (47.4 and 33.7%, respectively), alcohol consumption in the month before the research 38.7%, physical fights 32.8%, marijuana consumption 23.1%, and cigarette smoking 18.1%. These statistics for high school students in Tehran (18), respectively, included Hookah smoking at about 50% and then cigarette smoking about 35%, sexual intercourse by one's own will 30%, physical fights 28%, drug abuse (except Hookah, alcohol, and cigarettes) 28%, and alcohol consumption about 27%. Therefore, except for the intense sadness and hopelessness, which is very high among the students of Qom, they are at a lower level regarding Hookah and cigarette smoking. Of course, in Qom, the level of threat or injury with a knife or knuckle duster is higher than in Tehran (18). Adolescents with depressive symptoms are more likely to engage in risky behaviors than non-depressed adolescents (11).

5.1. Conclusions

In general, the mutual effect of individual and social factors in the emergence and development of risky behaviors is significant in adolescents. Reducing each of these behaviors requires long-term and short-term micro and macro planning at the individual and social levels and their implementation from the early years of students entering the educational environment.

Footnotes

Authors' Contribution: The manuscript has just one author.

References

1. Guzman MRT, Pohlmeier LA. *High-risk behaviors in youth*. 2014. Available from: https://extensionpublications.unl.edu/assets/pdf/g1715.pdf.

2. Berenbaum SA, Beltz AM, Corley R. The importance of puberty for adolescent development: conceptualization and measurement. *Adv Child Dev Behav*. 2015;**48**:53–92. [PubMed ID: 25735941]. https://doi.org/10.1016/bs.acdb.2014.11.002.

3. Centers for Disease Control and Prevention. *Youth risk behavior survey data summary & trends report 2007–2017*. 2020. Available from: https://calio.dspacedirect.org/handle/11212/4876.

4. Tull MT, Weiss NH, Adams CE, Gratz KL. The contribution of emotion regulation difficulties to risky sexual behavior within a sample of patients in residential substance abuse treatment. *Addict Behav*. 2012;**37**(10):1084–92. [PubMed Central ID: 22658304]. [PubMed Central ID: PMC3389211]. https://doi.org/10.1016/j.addbeh.2012.05.001.

5. Asiseh F, Owusu A, Quaicoe O. An analysis of family dynamics on high school adolescent risky behaviors in Ghana. *J Child Adolesc Subst Abuse*. 2017;**26**(5):425–31. https://doi.org/10.1080/1067828x.2017.1322019.

6. Ysseldyk R, Matheson K, Anisman H. Religiosity as identity: Toward an understanding of religion from a social identity perspective. *Pers Soc Psychol Rev*. 2010;**14**(1):60–71. [PubMed ID: 20089847]. https://doi.org/10.1177/1088868309349693.

7. Lafreniere KD, Menna R, Cramer KM. Rebelliousness, effortful control, and risky behavior: Metamotivational and temperamental predictors of risk-taking in older adolescents. *J Motiv Emot Pers*. 2013;**1**. https://doi.org/10.12689/jmep.2013.103.

8. Selekman MD. *Working with high-risk adolescents: An individualized family therapy approach*. Guilford Publications; 2017.

9. Hendarmin LA, Risahmawati R, Arsyad AP, Mardjikoen B, Fadhilah M, Ekayanti F, et al. Smoking, vaping behavior, and the experience of depressive symptoms among High school students in Jakarta, Indonesia. *Int J High Risk Behav Addict*. 2023;**12**(1). https://doi.org/10.5812/ijhrba-133660.

10. Mollaei B, Ahmadi K, Yousefi E. Risk and protective factors of high-risk sexual behaviors in young people: A systematic review. *Int J High Risk Behav Addict*. 2023;**12**(1). https://doi.org/10.5812/ijhrba-131119.

11. Pozuelo JR, Desborough L, Stein A, Cipriani A. Systematic review and meta-analysis: Depressive symptoms and risky behaviors among adolescents in low- and middle-income countries. *J Am Acad Child Adolesc Psychiatry*. 2022;**61**(2):255–76. [PubMed ID: 34015483]. https://doi.org/10.1016/j.jaac.2021.05.005.

12. Rahmani M, Qasemi V, Hashemeian Far A. [The relationship between loneliness and high-risk behaviors among adolescents of Bojnourd]. *J Health Dev*. 2017;**5**(4):313–23. Persian.

13. Baumgartner SE, Valkenburg PM, Peter J. Assessing causality in the relationship between adolescents' risky sexual online behavior and their perceptions of this behavior. *J Youth Adolesc*. 2010;**39**(10):1226–39. [PubMed ID: 20177962]. [PubMed Central ID: PMC2917006]. https://doi.org/10.1007/s10964-010-9512-y.

14. Burke L. *[Developmental psychology from adolescence to the end of life]. Translated by Seyed Mohammadi Y*. Tehran, Iran: Arasbaran Publishing; 2014. Persian.

15. Herrero-Fernández D, Macía-Guerrero P, Silvano-Chaparro L, Merino L, Jenchura EC. Risky behavior in young adult pedestrians: Personality determinants, correlates with risk perception, and gender differences. *Transportation Research Part F: Traffic Psychology and Behaviour*. 2016;**36**:14–24. https://doi.org/10.1016/j.trf.2015.11.007.

16. Kaplan DL, Jones EJ, Olson EC, Yunzal-Butler CB. Early age of first sex and health risk in an urban adolescent population. *J Sch Health*. 2013;**83**(5):350–6. [PubMed ID: 23517003]. https://doi.org/10.1111/josh.12038.

17. 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. Persian.

18. Rashid K. [Epidemiology of high-risk behaviors among Tehran adolescent girls and boys]. *Social Welfare*. 2015;**15**(57):31–55. Persian.

Table 1. Frequency Distribution and Prevalence of High-risk Behaviors by Region and Gender

| | South Areas Group | | | | North Areas Group | | | | Girls and Boys | | | | Total | |
| | Girl | | Boy | | Girl | | Boy | | Girl | | Boy | | | |
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Carry knife or knuckle-duster (30 days)	41 (16.9)	202 (83.1)	11 (4.5)	231 (95.5)	32 (12.5)	223 (87.5)	15 (6.5)	216 (93.5)	73 (14.7)	425 (85.3)	26 (5.5)	447 (94.5)	99 (10.2)	872 (89.8)
Felt would be hurt outdoors (30 days)	55 (22.5)	189 (77.5)	55 (22.6)	188 (77.4)	74 (28.9)	182 (71.1)	76 (32)	157 (68)	129 (25.8)	371 (74.2)	129 (27.2)	345 (72.8)	258 (26.5)	716 (73.5)
Being threatened or injured with a knife or knuckle-duster (30 days)	47 (19.3)	197 (80.7)	12 (4.9)	232 (95.1)	47 (18.4)	209 (81.6)	9 (3.9)	223 (96.1)	94 (18.8)	406 (81.2)	21 (4.4)	455 (95.6)	115 (11.8)	861 (88.2)
Physical fight out of home (12 mo)	50 (20.5)	194 (79.5)	23 (9.4)	221 (90.6)	115 (45.1)	140 (54.9)	26 (11.3)	205 (88.7)	165 (33.1)	334 (66.9)	49 (10.3)	426 (89.7)	214 (22)	760 (78)
Physical fight leading to injury/treatment (12 mo)	40 (16.6)	201 (83.4)	10 (4.1)	234 (95.9)	37 (14.5)	219 (85.5)	6 (2.6)	223 (97.4)	77 (15.5)	420 (84.5)	16 (3.4)	457 (96.6)	93 (9.6)	877 (90.4)
Severe sadness and hopelessness for two weeks or more (12 mo)	76 (32.2)	160 (67.8)	111 (45.9)	131 (54.1)	107 (42.6)	144 (57.4)	121 (54.8)	100 (45.2)	183 (37.6)	304 (62.4)	232 (50.1)	231 (49.9)	415 (43.7)	535 (56.3)
Thinking of committing suicide (12 mo)	50 (20.8)	190 (79.2)	50 (20.5)	194 (79.5)	35 (13.8)	218 (86.2)	57 (25.2)	169 (74.8)	85 (17.2)	408 (82.8)	107 (22.8)	363 (77.2)	192 (19.9)	771 (80.1)
Suicide planning (12 mo)	46 (19.3)	192 (80.7)	37 (15.4)	203 (84.6)	33 (13.1)	219 (86.9)	54 (23.6)	175 (76.4)	79 (16.1)	411 (83.9)	91 (19.4)	378 (80.6)	170 (17.7)	789 (82.3)
Attempting suicide (12 mo)	33 (14)	203 (86)	30 (12.4)	211 (87.6)	26 (10.5)	221 (89.5)	33 (14.4)	196 (85.6)	59 (12.2)	424 (87.8)	63 (13.4)	407 (86.6)	122 (12.8)	831 (87.2)
Forced unwanted sexual intercourse (so far)	48 (20.8)	183 (79.2)	28 (11.6)	213 (88.4)	21 (8.5)	227 (91.5)	40 (17.5)	188 (82.5)	69 (14.4)	410 (85.6)	68 (14.5)	401 (85.5)	137 (14.5)	811 (85.5)
Sexual intercourse on their own will (so far)	44 (22.2)	154 (77.8)	23 (10.2)	203 (89.8)	64 (29)	157 (71)	45 (22)	160 (78)	108 (25.8)	311 (74.2)	68 (15.8)	363 (84.2)	176 (20.7)	674 (79.3)
Smoking cigarettes so far (even one or two puffs)	60 (25.1)	179 (74.9)	40 (16.5)	202 (83.5)	104 (40.9)	150 (59.1)	50 (21.6)	181 (78.4)	164 (33.3)	329 (66.7)	90 (19)	383 (81)	254 (26.4)	712 (73.6)
Hookah smoking (so far)	98 (45.6)	117 (54.4)	90 (39.1)	140 (60.9)	129 (52.9)	115 (47.1)	74 (33.6)	145 (66.4)	227 (49.5)	232 (50.5)	164 (36.4)	285 (63.6)	391 (43.2)	517 (56.8)
Drinking alcohol (so far)	50 (22.4)	173 (77.6)	22 (9.2)	216 (90.8)	62 (25.6)	180 (74.4)	21 (9.7)	196 (90.3)	112 (24.1)	353 (75.9)	43 (9.5)	412 (90.5)	155 (16.8)	765 (83.2)
Using marijuana (grass) (so far)	13 (6.1)	201 (93.9)	2 (0.9)	229 (99.1)	12 (5.2)	221 (94.8)	5 (2.2)	220 (97.8)	25 (5.6)	422 (94.4)	7 (1.5)	449 (98.5)	32 (3.5)	871 (96.5)
Using opium (so far)	20 (9.2)	197 (90.8)	6 (2.6)	224 (97.4)	13 (5.6)	220 (94.4)	2 (0.9)	222 (99.1)	33 (7.3)	417 (92.7)	8 (1.8)	446 (98.2)	41 (4.5)	863 (95.5)
Using cocaine (so far)	22 (10)	197 (90)	2 (0.9)	227 (99.1)	5 (2.1)	228 (97.9)	3 (1.3)	220 (98.7)	27 (6)	425 (94)	5 (1.1)	447 (98.9)	32 (3.5)	872 (96.5)
Using heroin (so far)	20 (9.1)	199 (90.9)	0 (0)	227 (100)	5 (2.2)	227 (97.8)	4 (1.8)	220 (98.2)	25 (5.5)	426 (94.5)	4 (0.9)	447 (99.1)	29 (3.2)	873 (96.8)
Using crack (so far)	15 (6.9)	203 (93.1)	3 (1.3)	225 (98.7)	4 (1.8)	229 (98.2)	3 (1.3)	221 (98.7)	19 (4.2)	432 (95.8)	6 (1.3)	446 (98.7)	25 (2.8)	878 (97.2)
Using crystal (so far)	15 (6.9)	201 (93.1)	3 (1.3)	225 (98.7)	5 (2.2)	227 (97.8)	3 (1.3)	222 (98.7)	20 (4.5)	428 (95.5)	6 (1.3)	447 (98.7)	26 (2.9)	875 (97.1)
Using methadone (so far)	18 (8.3)	198 (91.7)	2 (0.9)	226 (99.1)	7 (3)	226 (97)	4 (1.8)	220 (98.2)	25 (5.6)	424 (94.4)	6 (1.3)	446 (98.7)	31 (3.4)	870 (96.6)
Using ecstasy pills (so far)	15 (6.9)	203 (93.1)	9 (3.9)	221 (96.1)	7 (3)	226 (97)	5 (2.2)	220 (97.8)	22 (4.9)	429 (95.1)	14 (3.1)	441 (96.9)	36 (4)	870 (96)
Using other kinds of drugs (so far)	18 (8.3)	198 (91.7)	2 (0.9)	224 (99.1)	10 (4.3)	222 (95.7)	6 (2.7)	219 (97.3)	28 (6.2)	420 (93.8)	18 (1.8)	443 (98.2)	36 (4)	863 (96)