

Review

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Investigating the relationship between high-risk behaviors and mental health in adolescents in Rabor city, Iran

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Abstract

Objectives: High-risk behaviors (HRBs) represent significant health threats for adolescents and significantly affect adolescents' mental health. Adolescents often engage in risky behaviors. The present study was conducted to investigate the relationship between high-risk behaviors (HRBs) and mental health in adolescents in Rabor.

Content: The present study was a cross-sectional analytical study that was performed on 334 girl and boy students aged 12–18 years in Rabor city in 2021. In this study, adolescents answered high risk behaviors and mental health questionnaires. Data were analyzed using SPSS-26 software and the spearman correlation coefficient and linear regression analysis (univariate and multivariate analysis) were used to analyze the data.

Summary and Outlook: In this study, the mean age was 15.25 ± 1.78 . The findings indicate that smoking and hookah use were higher in boys than girls. Among the demographic variables, age and level of education had a positive and significant relationship with HRBs and

mental health ($p < 0.05$). The mean score of total mental health for all subjects was 12.83 ± 10.82 . The variables of age, sex, marital status of parents, the number of children in the family, educational level, smoking, hookah, and alcohol have been determined as influential and facilitating factors in HRBs of adolescents. Father's literacy was considered as a facilitator and age variables, alcohol consumption and parents' marital status were considered as deterrents to mental health. The present study showed that the male gender is one of the risk factors for alcohol, smoking and other substances, the tendency to high-risk sexual behaviors, depression, and suicide in adolescents. Among the determinants of the tendency to HRBs in adolescents, psychological variables are of particular importance at the individual, social, and family levels. Good mental health can improve quality of life, while poor mental health can make it worse.

Keywords: adolescents; high-risk behaviors; Iran; mental health.

Introduction

Adolescence refers to the period when a person passes from childhood to adulthood. In terms of time, this period is from 12 to 18 years old which almost coincides with the onset of puberty and is accompanied by physical and psychological changes [1, 2]. Approximately 17% of the world's population and 16.34% of Iran's population are in adolescence [3, 4]. HRBs significantly affect adolescents' physical and mental health and are an important public health problem [5–7]. HRBs are involved in activities that provide physical or mental harm to adolescents and other members of the community [8–10]. The distribution and prevalence of HRBs vary based on race, ethnicity, gender, age, and different regions of the world [9, 10]. Predisposing factors for HRBs include factors such as the search for emotion, fear of inadequacy, the need to strengthen male

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identity, peer pressure, and the reflection of imagination [11, 12]. Adolescents often engage in risky behaviors such as smoking, drinking alcohol, drug use, suicide attempts, aggression, arguing, violence, high-risk sexual behaviors, and early unprotected sexual activity [13]. Adolescents are usually looking for new experiences and intense emotions and enjoy having intense emotions [1]. High-risk sexual behaviors are one of these behaviors that lead to physical risks and psychosocial injuries [14]. Some previous studies have shown that sex has been on the rise among adolescents [15]. Initiating first sex before the age of 18, commercial sex, alcohol-related sexual activity, unprotected sex, and sex with multiple sexual partners are all considered high-risk sexual behaviors. These behaviors are the main causes of unwanted pregnancies, HIV infection and other sexually transmitted diseases, which are known as serious health problems among adolescents and young people [3, 16, 17]. Adolescent substance abuse usually begins with alcohol and smoking and is described as a gateway to substance abuse [18, 19]. On the other hand, over the past few years, psychosocial problems in adolescents have been increasing [20]. National surveys of adults in the United States report that half of all adult mental disorders begin around the age of 14, in early adolescence [21]. Mental health, especially for children and adolescents, has been neglected worldwide. Mental health disorders such as mood disorders such as depression, psychosis, anxiety disorders, emotional and behavioral problems, and eating disorders such as anorexia nervosa affect about 10–20% of children worldwide and are predictors of mental health disorders in adulthood [22]. Previous studies have shown that adolescents with better mental health are more physically healthy, show more positive social behaviors, and engage in less risky behaviors. In contrast, adolescents with mental health problems such as depression are more likely to engage in risky behaviors [23]. In the fields of physical, mental and public health, prevention is recognized as an important strategy [24].

Given that the adolescent population plays an important and undeniable role in society and HRBs significantly affect the physical and mental health of adolescents. Therefore, prevention, control and management of HRBs and improving the mental health of adolescents can promote and maintain the physical and mental health of adolescents and society. This study aimed to investigate the relationship between HRBs and mental health in adolescents in Rabor.

Material and methods

The present study was a cross-sectional analytical study that was performed on adolescents in Rabor city in 2021. The statistical population of the present study consisted of 2,429 male and female students aged 12–18 years in Rabor city in the academic year of 2021. The sample size was determined as 334 subjects (167 girls and 167 boys) based on the Morgan table (Morgan and Krejcie sample selection formula). Data were collected over a period of 2 months (October 7–December 6). Our research methodology was as follows. The researcher went to houses in different areas of Rabor every day at 9 o'clock. After self-introduction, she explained the aims of the research. Questionnaires were given to the adolescents who met the inclusion criteria and were willing to participate in the research. Written permission was obtained from parents to complete the questionnaires. Sampling continued in different areas of Rabor city until reaching the desired sample size. The questionnaires were completed self-reported and about 10 min were given to each person to fill out the questionnaire. Inclusion criteria in the present study were being 12–18 years old, willing to participate in the study, having a normal state of consciousness, lacking a history of mental illness, and living in the Rabor city. Exclusion criteria consisted of students who were not in the age range of 12–18 years, i.e., and who has recently suffered a stroke or brain diseases that affect their nerves and psyche.

Instruments

Participant's characteristics

Demographic questions included the number of children in the family, father's literacy level, mother's literacy level, parent's marital status, father's job, mother's job, income level of parents, and history of addiction in the immediate family.

High-risk behavior questionnaire

The Questionnaire has been designed based on the questionnaire provided by the Center for High-Risk Behavior Prevention (Disease Control Center, 2008). This is a standard questionnaire that has been standardized in different populations in Iran.

The questionnaire consists of 42 items, the first three of which are related to demographic information (gender, age and educational level). Items 4–12 are related to aggressive behaviors (in or out of school) in the last month and the last 12 months. Items 13–16 are related to running away (from school or home). Items 17–21 are related to having a relationship with the opposite sex (friendship or sex). Items 22–26 are related to suicide ideation and attempts in the last 12 months. Items 27–39 are related to smoking, hookah use

and alcohol consumption (last month, last 12 months, during life and desire to use in the future). Items 40–42 are related to smoking throughout life, in the last 12 months and in the last month. The questionnaire is scored through the Likert scale, in which the options were scored as (0-1-2-3) depending on the item. The maximum score of the subject was 69. In terms of runaway (from school or home) the minimum score was 0 and the maximum was 28. In terms of relationship with the opposite sex (items 17 and 20) the minimum score was 0 and the maximum 2. In terms of suicide ideation and attempt (items 23, 22 and 24) the minimum was 0 and the maximum 3. In terms of smoking, hookah use and alcohol consumption (items 27, 31 and 35) the minimum score was 0 and the maximum 3. Finally, the total score of the questionnaire for the HRB was 0 at minimum and 105 at maximum.

The mental health questionnaire (MHQ)

MHQ was developed by Goldberg and Hiller in 1979. The range of scores of the total questions of the mental health questionnaire was from 0 to 84, so the higher the person's score, the poorer mental health indicates. By using this questionnaire, the possibility of a mental disorder in a person can be determined. This questionnaire has 28 items and four subscales.

Each of these four subscales contains seven questions. Questions 1–7 are related to the scale of physical symptoms and general health status. Questions 8–14 are related to the Anxiety Scale, questions 15–21 are related to the Social Dysfunction Scale, and questions 22–28 are related to the Depression Scale. This questionnaire is standard and has been standardized in different populations in Iran. In one study, this questionnaire was measured simultaneously with a parallel test MHQ the correlation coefficient of the two tests was 55 and the correlation coefficients between the subtests of this questionnaire with a total score between 0.72 and 0.87, which indicates its high validity.

Statistical analysis

The data were collected through questionnaires of adolescents' high-risk behaviors and mental health. Statistical analysis was performed in SPSS version 26 statistical software. The data were analyzed using the chi-square test,

regression analysis, and one-way analysis of variance (one-way ANOVA).

Findings

334 adolescents participated in this study, among whom 167 (50%) were girls and 167 (50%) were boys. The average age group in this study is 15.25 ± 1.78 . The number of adolescent boys in three levels of education of tenth, eleventh and twelfth grades is more than girls. Also, 70% of parents had an income of fewer than four million tomans. About 63% of fathers were self-employed and about 80% of mothers were housewives. The average number of children in the family was 3.64 ± 1.90 . The table below shows the characteristics of the participating adolescents by gender (Table 1).

Due to the non-normality of the data, non-parametric methods were used to examine the relationship between variables. The total mental health score for all subjects was 12.82 ± 10.82 . Considering that lower scores in mental health indicate better mental health. The data in Table 1 shows the optimal mental health of the adolescents of Rabor city.

The Spearman correlation coefficient between mental health domains and demographic variables shows that age $r=0.209$ and educational level $r=0.189$ have a positive and significant relationship with mental health ($p\text{-value}<0.05$), which indicates that the older the age and educational level, the more unfavorable the mental health status of the person. Also, the Spearman correlation coefficient between high-risk behavioral domains and demographic variables shows that the age $r=0.315$ and level of education $r=0.329$ has a positive and significant relationship with HRB ($p\text{-value}<0.05$), indicating that the higher the age and level of education, the higher the increase in the risk behaviors of the individual (Table 2).

The following table shows the results of univariate and multivariate analysis to examine the factors affecting adolescents' mental health and HBR of adolescents (Table 3). The variables of age, parental marital status, alcohol consumption and father literacy have been identified as influential factors in adolescents' mental health. Fathers' literacy as a facilitator and age variables, alcohol consumption and parents' marital status are considered deterrents to mental health. Also, the variables of age, sex, marital status of parents, the number of children in the family, educational level, smoking, hookah and alcohol

Table 1: Demographic characteristics of adolescents in Rabor city by gender.

Variable	Levels	Boys n=167	Girls n=167	Total
Marital status of parents	Married	154 (92.2)	161 (96.4)	315 (94.4)
	Divorced abandoned	6 (3.6)	2 (1.2)	8 (2.4)
	Widowed deceased	8 (4.2)	4 (2.4)	11 (3.3)
Educational levels	Seventh	18 (10.8)	24 (14.4)	42 (12.6)
	Eighth	26 (15.6)	45 (26.9)	71 (21.3)
	Ninth	27 (16.2)	38 (22.8)	65 (19.5)
	Tenth	21 (12.6)	15 (9.0)	36 (10.8)
	Eleventh	35 (21.0)	14 (8.4)	49 (14.7)
	Twelfth	40 (24.0)	31 (18.6)	71 (21.3)
Father's education level	Illiterate	42 (23.4)	39 (25.1)	81 (24.3)
	High school	55 (22.2)	37 (32.9)	92 (27.5)
	Diploma	53 (31.7)	55 (32.9)	108 (32.3)
	University degree	17 (10.2)	36 (21.6)	53 (15.9)
Mother's education level	Illiterate	53 (31.7)	43 (25.7)	96 (28.7)
	High school	55 (32.9)	36 (21.6)	91 (27.2)
	Diploma	37 (22.2)	57 (34.1)	94 (28.1)
	University degree	22 (13.2)	31 (18.6)	53 (15.9)
Parents' income	Less than 2 million tomans	78 (46.7)	68 (40.7)	146 (43.7)
	2 to 4 million tomans	42 (25.1)	46 (27.5)	88 (26.3)
	4 to 6 million tomans	21 (12.6)	18 (10.8)	39 (11.7)
	More than 6 million tomans	26 (15.6)	35 (21.0)	61 (18.3)
	Father's job	Employed	14 (8.6)	5 (3.0)
Father's job	Housewife	7 (4.3)	7 (4.2)	14 (4.2)
	Public sector	20 (12.3)	40 (24.0)	60 (18.0)
	Private sector	5 (3.1)	2 (1.2)	7 (2.1)
	Self employed	108 (66.3)	102 (61.1)	210 (62.9)
	Retired	9 (5.5)	11 (6.6)	20 (6.0)
	Mother's job	Employed	13 (7.8)	7 (4.2)
Mother's job	Housewife	134 (80.2)	133 (79.6)	267 (79.9)

Table 1: (continued)

Variable	Levels	Boys n=167	Girls n=167	Total
Family history of mental disorders	Public sector	13 (7.8)	21 (12.6)	34 (10.2)
	Private sector	0 (0)	0 (0)	0 (0)
	Self employed	5 (3.0)	5 (3.0)	10 (3.0)
	Retired	2 (1.2)	1 (0.6)	3 (0.9)
Family history of addiction	Yes	14 (8.5)	12 (7.5)	26 (7.8)
	No	151 (91.5)	154 (92.8)	305 (91.2)
Smoking	Yes	61 (38.9)	71 (46.4)	132 (42.6)
	No	96 (61.1)	82 (53.6)	178 (57.4)
Hookah consumption	Yes	23 (13.8)	14 (14.4)	47 (14.1)
	No	144 (86.2)	143 (85.6)	287 (85.9)
Alcohol consumption	Yes	34 (20.4)	11 (6.6)	45 (13.5)
	No	133 (79.6)	156 (93.4)	289 (86.5)
Quantitative variables	Mean	22 (13.2)	2 (1.2)	24 (7.2)
	Standard deviation	145 (86.8)	165 (98.8)	310 (92.8)
Age	15.25	1.78	12	19
Number of children in family	3.64	1.90	1	13

have been determined as influential and facilitating factors in the HBRs of adolescents.

Discussion

HRBs and mental health are the most important health-related topics in adolescence. The aim of this study was to investigate the relationship between HRBs and mental health in adolescents in Rabor city in 2021. The present study showed that the male gender is one of the risk factors for HRBs in adolescents. Another study conducted in Iran, stated that gender is a factor influencing high-risk behavior [25]. Various studies have pointed to the role of the male gender in the more prevalence of high-risk behaviors in adolescents such as alcohol, smoking [25] and other substances [26], the tendency to high-risk sexual behaviors [27], depression and suicide [28]. Also, the variables of age, sex, marital status of parents, the number of children in the

Table 2: Spearman correlation coefficient between areas of mental health and areas of HRB in adolescents.

Variable	Depression	Social performance	Anxiety and insomnia	Physical health	Aggressive behaviors	Thought and suicide attempt	Escape	Relationship with the opposite sex
Depression	–	–	–	–	–	–	–	–
Social performance	^a 0.391	–	–	–	–	–	–	–
Anxiety and insomnia	^a 0.286	^a 0.286	–	–	–	–	–	–
Physical health	^a 0.266	^a 0.305	^a 0.648	–	–	–	–	–
Aggressive behaviors	^a 0.224	^a 0.121	^a 0.120	0.102	–	–	–	–
Thought and suicide attempt	^a 0.215	^a 0.176	^a 0.277	^a 0.256	^a 0.126	–	–	–
Escape	^a 0.181	0.011	0.045	0.049	^a 0.353	^a 0.205	–	–
Relationship with the opposite sex	^a 0.282	^a 0.158	^a 0.180	^a 0.185	^a 0.248	^a 0.289	^a 0.197	–
Smoking/Hookah/Alcohol	^a 0.190	^a 0.124	^a 0.131	^a 0.155	^a 0.199	^a 0.217	^a 0.221	^a 0.267

^ap-value<0.05.

family, educational level, smoking, hookah and alcohol have been determined as influential and facilitating factors in the HRBs of adolescents.

The results of the spearman correlation coefficient showed that mental health has a significant relationship with all variables except escape. Given that a lower mental health score indicates a more favorable health status, it can be said that the higher the risk behaviors (except escape) in adolescents, the worse their health status.

Based on the result of this study, age has a positive and significant relationship with HRBs. In a way, the higher the age and level of education, causes the higher the increase in the risk behaviors of the adolescents. Afzali et al. also stated in their research that there was an association between personality traits and substance abuse in an age-related manner [29]. Young et al. study also showed that older age predictive of initiation of high-risk behaviors in adolescents [30]. The probable reason that HRBs increase with age may be due to broader social relationships, greater influence from peers, and less adolescent control by parents. It can be said that the family environment in adolescence is less attractive than the peer environment. At this age, which is the age of adolescent identification, adolescents turn away from the family environment. Also, our results demonstrate that level of education has a positive and significant relationship with HRBs. The results of the study of Mohammad Hosseini et al. showed that there is a negative and significant relationship between academic engagement and its components (empowerment, commitment and absorption) with HRBs in adolescents [31]. The probable reason that in the present study, HRBs in the

individual increased with increasing educational level could be due to wider social relationships, increased opportunities for personal independence, opportunities for competition, and less control of adolescents by parents. Educated people, on the other hand, are creative, innovative, curious, and extroverted, and have a higher IQ, which contributes to risk behaviors.

The present study showed that the variables of father's literacy as a facilitator and age variables, alcohol consumption and parents' marital status are considered as deterrents to mental health.

In the present study, the results showed that father literacy has been identified as influential factor in adolescents' mental health. A study by Jensen et al. to investigate the effect of parental education on mental health status in youth showed that regardless of ethnicity, increasing parental education was associated with a decrease in mental health status [32].

The current findings demonstrate that age and educational level have a positive and significant relationship with mental health which indicates that the older the age and educational level, the more unfavorable the mental health status of the person. In line with our study, findings Brännlund et al. showed that poor mental health in childhood was negatively related to academic achievement [33]. A possible reason could be that in Iranian society adolescents do not hope to find a job after graduation, they feel, studying moment by moment in fruitless academic years. They have just wasted their time. This increases the feeling of hopelessness and depression among adolescents and threatens their mental health.

Table 3: (continued)

Variable	Levels	Univariate analysis				Multivariate analysis ^a			
		Mental health		HRB		Mental health		HRB	
		Coefficients (95% CI)	p- Value	Coefficients (95% CI)	p- Value	Coefficients (95% CI) ^b	p- Value	Coefficient (95% CI) ^c	p- Value
Father literacy	Illiterate	-2.78 (-6.51,0.95)	0.144	1.07 (-0.27,2.42)	0.117	-4.63 (-8.15,-1.10)	0.01	-	-
	High school	-3.98 (-7.63,-0.34)	0.032	-0.51 (-1.83,0.79)	0.439	-4.52 (-7.93,-1.10)	0.009	-	-
	Diploma	-4.79 (-8.34,-1.25)	0.008	-0.20 (-1.48,1.07)	0.748	-5.45 (-8.79,-2.12)	0.001	-	-
	University (Reference)								
Mother literacy	Illiterate	-3.46 (-7.04,-0.11)	0.001	0.49 (-0.80,1.79)	0.455	-	-	-	-
	High school	-4.63 (-8.24,-1.01)	0.012	1.22 (-0.09,2.53)	0.068	-	-	-	-
	Ploma	-6.94 (-10.53,-3.35)	<0.001	-0.56 (-1.87,0.73)	0.392	-	-	-	-
	University (reference)								
Family history of mental disorders	Yes (reference)		-		-		-		-
	No	-0.71(-5.07,3.63)	0.746	-0.72 (-2.29,0.85)	0.368	-	-	-	-
Family history of addiction	No	-2.27 (-4.55,0.009)	0.051	-2.27 (-4.55,0.009)	0.051	-	-	-	-
	Yes (reference)								
Smoking	Yes	2.97 (-0.36,6.31)	0.081	3.35 (2.19,4.51)	<0.001			1.94 (0.90,2.98)	0.001>
	No (reference)								
Hookah consumption	Yes	6.67 (3.33,10.01)	<0.001	5.45 (4.36,6.53)	<0.001			2.80 (1.63,3.97)	<0.001
	No (reference)								
Consumption of alcohol	Yes	11.68 (7.34,16.01)	<0.001	6.79 (5.33,8.24)	<0.001	11.69 (7.43,15.94)	<0.001	3.92 (2.47,5.43)	<0.001
	No (reference)								
Age		1.06 (0.41,1.70)	0.001	0.427 (0.19,0.65)	0.001	0.80 (0.18,1.41)	0.01	0.31 (0.16,1.14)	0.008
Number of children in the family		0.32 (-0.29,0.94)	0.300	0.427 (-0.24,0.64)	<0.001	-	-	0.66 (0.13,1.48)	<0.001

^aSelected variables in multivariate analysis were selected using linear regression model and backward method (p-value<0.2); ^bAmong all the variables included in the univariate analysis, adjustments were made for the variables of age, marital status, father literacy and alcohol consumption; ^cAmong all the variables included in the univariate analysis, the variables were adjusted for age, number of children, marital status of parents, grade, parents' income level, smoking, physical health, exercise and health, history of mental disorders and history of addiction.

The current findings demonstrate that the mean score of mental health was higher in adolescents of families with a history of addiction. In other words, their mental health status was more unfavorable. Etemadi et al. Their results showed that adolescents from addicted families with external control sources and adolescents from non-addicted families with internal control sources had the lowest and highest mental health, respectively [34]. Uzun &

Kelleci study also showed that adolescents with a history of substance abuse in themselves or students had people around them who were substance users either used, had low self-efficacy in protecting against substance abuse [35]. Probably a factor as to why they're doing so poorly – is that they live in an environment of stress, turmoil, arguments, financial problems, changing emotions, and insufficient affection. On the other hand, children of addicted parents

are more exposed to physical, sexual, emotional and neglectful abuse, because the priority of addicted parents is to provide consumables and meet the basic needs of their children is not very important for them.

Our results show that the more risk behaviors in adolescents, the more unfavorable their health status. Shah-raki et al. Conducted a study to investigate the relationship between mental health and family relationships and HRB among 10th grade female high school students in Zahedan province in Iran, the results showed that a quarter of the students in this study had moderate to severe mental health problems. They also reported that there was a significant relationship between mental health, family behaviors, relationship with the opposite sex, nighttime sleep, parental abuse, and high-risk student behaviors [36]. Zhou et al. assessed risk behaviors and mental health in juvenile offenders. They showed that juvenile delinquents have a high rate of mental and behavioral disorders [37]. Also, mental health problems can cause stress and anxiety. These feelings can lead to HRBs in some cases and if not managed [30].

The findings suggest that mental health was poorer in adolescents who drank hookah and alcohol. Emerson's study of 11–15-year-olds with mental disabilities found that smoking was closely linked to adolescents' experience of poverty and mental health [38]. In this regard, various studies have shown the destructive effect of alcohol use on mental health [39, 40]. The probable reason that in the present study, mental health in adolescents who consumed hookah and alcohol was more unfavorable could be due to the use of alcohol with destructive effects such as high-risk sexual behaviors, substance use, criminal behaviors, violence, academic failure is associated with mood disorders and injuries, and these factors affect a person's mental health. On the other hand, excessive alcohol consumption can have devastating effects on the brain and thus provide the basis for mental disorders.

Among the limitations of the present study was that the cross-sectional study, ignorance of the precedence and latency of variables made it impossible to determine cause-and-effect relationships. Due to the lack of cooperation of the Education Headquarters in Rabor city and also the lack of access to adolescents due to Covid-19 disease in the present study, we had to collect data through the convenience sampling method. In this study, a questionnaire was used, and as a result, some subjects may have refused to provide the true answers and given untrue ones. Providing sufficient information and reassurance to the subjects about the principle of confidentiality and confidentiality helped the provision of honest answers.

The following points represent the strength of our study. We studied adolescents of both boys and girls. our assessment included multiple high-risk behaviors, and our study was conducted throughout adolescence (ages 12–18) not in a limited period of adolescence.

Conclusions

The present study showed that the male gender is one of the risk factors for alcohol, smoking and other substances, the tendency to high-risk sexual behaviors, depression and suicide in adolescents. Among the determinants of tendency to HRBs in adolescents, psychological variables are of particular importance at the individual, social and family levels. Considering that lower scores in mental health indicate better mental health. Our data show the optimal mental health of the adolescents of Rabor city. In general, the results can be interpreted as meaning that mental health and high-risk behaviors can have two-way effects on each other. Adolescents with better mental health are physically healthier, show more positive social behaviors, and engage in less risky behaviors. In contrast, adolescents with mental health problems such as depression are more likely to engage in risky behaviors. Adolescents with mental health problems are prone to antisocial behaviors such as drug and alcohol abuse, physical conflict, and vandalism that reflect their mental health status and repressed emotions. Good mental health can improve quality of life, while poor mental health can make it worse. Therefore, planning to prevent, control and manage high-risk behaviors based on demographic factors is recommended. In this regard, plans for the creation of campaigns in schools and health networks to enhance awareness, skills to say no, problem solving, communication skills and promotion of a preventative culture, enhancing health-oriented activities including exercise are recommended.

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literature search and interpretation of results. Arash Farvahari, literature search, analysis and interpretation of results. Somayeh Alizadeh, literature search, and drafting the manuscript and interpretation of results. All the authors read and approved the final manuscript.

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Ethical approval: The study was according to the guidelines of the Declaration of Helsinki and approved by the ethics committee of Kerman University of Medical Sciences with the ID code of IR.KMU.REC.1400.077. Informed consent was obtained from all the study participants.

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