



Cigarette Smoking and Coping Strategies with Stress in Young Adults of Larestan

Amir Mansouri¹, Esmail Kavi², Seyede Fatemeh Ahmadpoori³, Ehsan Amin¹, Mohammad-Rafi Bazrafshan^{2,*}, Aliyar Piroozi⁴, Mozhgan Jokar⁵ and Fatemeh Zare⁶

¹Department of Paramedical School, Gerash University of Medical Sciences, Gerash, Iran

²Department of Nursing, School of Nursing, Larestan University of Medical Sciences, Larestan, Iran

³Department of Community Health Nursing, Faculty of Nursing and Midwifery, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran

⁴Cellular and Molecular Gerash Research Center, Gerash University of Medical Sciences, Gerash, Iran

⁵Department of Operating Room, School of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran

⁶Student Research Committee, Department and Faculty of Public Health and Safety, Shahid Beheshti University of Medical Sciences, Tehran, Iran

*Corresponding author: Department of Nursing, School of Nursing, Larestan University of Medical Sciences, Larestan, Iran. Tel:+98-7152247110, Fax: +98-7152247111. Email: m.bazrafshan@larums.ac.ir

Received 2018 August 10; Revised 2018 December 09; Accepted 2018 December 11.

Abstract

Background: Stress is a universal phenomenon experienced by all human beings. Stress can result from both positive and negative experiences, and it can have physical, emotional, intellectual, social, and spiritual consequences. Stress and strategies to cope with it are considered as two important factors in smoking.

Objectives: The purpose of this study was to investigate strategies for coping with stress in young adults smokers.

Methods: This descriptive-analytical study was conducted on the male population in Lar city in south of Iran, from 23 October, 2014 to 19 April, 2015. After screening based on the inclusion criteria, 348 smoker males aged 20 to 40 years old, were selected. In order to collect the data, the Farsi version of Ways of Coping Questionnaire (WCQ) was used. Descriptive and analytical statistical tests, such as one way analysis of variance (ANOVA), t-pair, independent t test, Kruskal-Wallis, chi-square, and Pearson correlation coefficient with significance level of $P \leq 0.05$ were used to achieve the study objectives.

Results: The mean age of the samples was 29.53 ± 5.92 years, and they consumed an average of 10.52 ± 1.47 cigarettes per day. In terms of educational level, 39 (11.2%) of the subjects were illiterate and most of them had primary (37.4%) and middle school education (31.6%). The mean score of coping strategies in the problem-focused and the emotion-focused group were 25.30 ± 5.34 and 39.24 ± 11.75 , respectively. There was a statistically significant correlation between the number of cigarettes smoked per day and the type of emotion-focused coping strategies ($r = 0.153$ and $P = 0.003$). There was no significant correlation between the number of cigarettes smoked per day and the problem-focused coping method ($r = -0.065$ and $P = 0.223$).

Conclusions: The results of this study indicate that smokers are more likely to use emotional-focused strategies, and higher education in smokers may lead to increased use of problem-solving strategies. Therefore, it is recommended to encourage awareness and education in urban planning.

Keywords: Coping Strategies, Young Adults, Smoking, Stress

1. Background

Stress is a universal phenomenon and all people experience it. Stress can result from both positive and negative experiences, and it can have physical, emotional, intellectual, social, and spiritual consequences (1). However, according to Kuntsche et al. (2), it is usually a negative emotional state that people try to relieve or cope with, often in unhealthy yet pleasurable ways. Coping strategies for stress are influenced by race, culture, and socio-economic characteristics (3).

Folkman and Lazarus (1984) categorized coping strate-

gies for stress to two categories; problem-focused and emotion-focused coping. People with the problem-focused strategy behave more logically and tend to control the underlying source of stress and this allows the person to have more control over their problem. People with the emotion-focused strategy choose temporary stress relief and transfer it to another situation and this may lead to greater reduction of perceived control (4). Having an effective set of coping skills will increase the sense of self-awareness and self-direction (5). When a person's vulnerability is high, having a non-adaptive behavior cannot respond well to

stress. On the other hand, individuals that have better coping strategies are less likely to be affected by situations that are vulnerable to them. One of the emotion-focused coping strategies is smoking, which reduces the symptoms of stress, yet without addressing the main source of stress (6). Conklin and Perkins (7) along with Steuber and Danner (8) in their studies found that smoking increases the risk of depression and cannot reduce negative mood.

People under stress are more likely to smoke cigarettes, which is considered an unhealthy behavior. Stress plays an important role in starting to cigarette smoking; it also has a role in increasing consumption and leads to less effort for the cessation smoking (9, 10). It seems that one of the reasons for smokers' tendency to have smoked while having stress is the presence of nicotine in the cigarette, which can reduce stress, even if it has a temporary effect (11). However, it was found that stress relief can occur even before the first puff (12) and even when the cigarettes contain no nicotine. Therefore, the effect for smoking might be linked to psychological dependence, not the presence of nicotine (13). Some studies have even shown that nicotine can cause anxiety symptoms or make them worse. In a meta-analysis study that examined the effects of nicotine in smokers and non-smokers indicated that nicotine decreased relaxation and increased tension/jitteriness for both smokers and non-smokers (14). According to the World Health Organization (WHO) reports, the tobacco epidemic is one of the biggest public health threats the world has ever faced, leading to preventable cancers and disabilities, and killing more than seven million people per year (15). In Iran, male smokers have a much greater frequency than female smokers. This could be linked to many different issues, such as culture and social issues. Smoking is considered an improper behavior among Iranian females. In this way, it may be one of the reasons that females do not report cigarette habits (16). In Iran, smoking cigarette is more common among young and middle-aged people. There are no reports of the prevalence of smoking in Lar. However, based on a study done by Ahmadi et al. (17) on the prevalence of cigarette smoking in Shiraz, capital of Fars province and a city near Lar (south of Iran), the mean age of smokers was 41.8, and the mean age of smoking initiation was 21.3 years old. A few studies have focused on stress coping strategies in smokers, while it is necessary to study different aspects of smokers' methods to adapt with stress. Therefore, this study was designed to identify stress coping strategies in smokers, to be used for health planning in the future.

2. Objectives

The aim of the current study was to investigate coping strategies with stress among young adult smokers in

Lar city. The importance of this study can be summarized in the following cases: Stress coping strategies in smokers, the relationship between smoking and stress, and the negative effects of stress and cigarettes on health. Consequently, it could be said that according to the relationship between stress and smoking, as well as the impact of these two factors on the health of individuals, it is very important for coping strategies against stress to be investigated in smoker individuals.

3. Methods

This study was a descriptive-analytical study (from 23rd of October 2014 to 19th of April 2015) in Lar city, in the south of Iran. At first, the researchers received introduction letters from the Gerash University of Medical Sciences with ethics code IR.GERUMS.REC.1393.1069 and then introduced themselves to the municipality office. Given the size and distribution of the population of Lar city and the division of this city to two major sections, six districts with multi-stage cluster randomization method were randomly selected from each section and a total of 12 districts were selected from both sections. According to the size of the sample, from each district, 29 individuals and 323 samples in the total formula for calculating sample size should be included in the study. Considering the probability of sample loss, a total of 348 people were selected as samples. By choosing the random sampling method, the researchers attempted to reduce the selection bias.

In this study, according to previous studies (18), the prevalence (p), the maximum acceptable error (d), and the significant level (α) were at 0.03, 0.05, and 0.05 respectively. The researchers themselves visited the houses that were located in the selected districts. The study samples were selected among individuals, who had the inclusion criteria of the study. By submitting their introduction letter and explaining the research process for families, subjects were allowed to enter the homes. The inclusion criteria were male gender, age of 20 to 40 years old, smoking at least one cigarette per day, having sensory and cognitive ability to understand the questions, completion of the questionnaire independently, and obtaining verbal informed consent of the samples to participate in the study. Exclusion criteria were having sensory and cognitive problems, such as serious vision or memory problems, experience of extremely stressful events, such as divorce, the death of loved ones, and severe illness in the last six months.

In describing different statuses of smoking, the definition proposed by WHO was used. According to WHO's smoking and tobacco use policy, a daily smoker is someone, who smokes any tobacco product, such as cigarette,

at least once a day (19). Based on the above definition and the results of other studies (16, 17), and cultural considerations, samples were selected from male smokers between the ages of 20 to 40. Then, the aim and method of the study, anonymity, and confidentiality of the data were explained to them and after receiving verbal consent and informed consent, questionnaires were given to them for completion. Each questionnaire was completed during 15 to 20 minutes, and researchers during this time visited other homes, and then went back and collected the questionnaires.

The questionnaire used in this study was divided to two parts. The first part was related to the demographic data of the samples. The second part was the Farsi version of Ways of Coping Questionnaire (WCQ). In the study of Padyab et al. (20), the face and content validity of the Farsi version of WCQ were acceptable. Testing reliability of the questionnaire for internal consistency, using Cronbach's coefficient alpha, a value of 0.88 was obtained. In the study of Zarei and Asadi (21), Cronbach's alpha coefficient of WCQ was 0.82. This questionnaire included 66 items and eight coping strategies. Problem-focused coping strategies included social support, accountability, problem solving and re-training, and emotion-focused coping strategies included four features of coping, avoiding, controlling, and avoiding escape. In response to this test, participants could select four options; "I did not" with a score of (0), "I've done a bit" with a score of (1), "most of the times I did" with points (2), "every time I did with a score of (3). By collecting these scores in each strategy, his score in that strategy was determined in the current study. (A) If the score was between 0 and 66, the level of use of coping style in a person was low, (B) If the score was between 66 and 110, the level of using the coping style was moderate, (C): If the score was 110, then the level of coping style in a person was high.

Data was analyzed using the Pearson correlation coefficient for coping strategies with stress, based on the level of education and ANOVA for correlation of coping scales and the average number of cigarettes smoked per day and mean in terms of coping strategies based on the level of education. The Kolmogorov-Smirnov test was used to evaluate the normality of the data. Data analysis was performed using the SPSS software version 16.0. Significant values for all tests were 0.05.

4. Results

The mean age of the samples was 29.53 ± 5.92 years, and the average number of cigarettes that were smoked by the samples per day was 10.52 ± 1.47 . In terms of educational level: Thirty-nine (11.2%) of the samples were il-

literate, 130 (37.4%) attended primary school, 110 (31.6%) attended middle school, 55 (15.8%) had diploma degree, and 14 (4%) had a university education.

According to table 1, all subscale of problem-focused had a negative and significant correlation with cigarettes used per day, but a total score of problem-focused scale had not significant correlation. The total score and all subscale of emotion-focused except self-controlling had a direct and significant correlation (P value < 0.05).

As it can be seen from table 2, the mean of the two coping strategies (problem-focused and emotion-focused) were different and this difference was statistically significant (P value < 0.05).

As it can be seen from Table 3, the results of LSD test showed that the relationship between the problem-focused coping strategy and the level of education related to the level of university education was significant (P value < 0.05). As shown in the table above, the use of problem-focused coping strategy in smokers with a university education was more than smokers with other levels of education. Moreover, the significance of the relationship between the emotion-focused coping strategy and the level of education was related to the mean difference between the level of illiterate, primary school, middle school, and diploma education (P value < 0.05). Also, from the above table, it is clear that people who were illiterate, and had primary and middle school level of education were more likely to use emotion-focused coping strategies than those with diploma level education.

5. Discussion

According to the results of the study, young adult male smokers are more likely to use emotion-focused coping strategies than problem-focused coping strategies. This result is consistent with the study of "Stress coping strategies of drug and alcohol addicted patients in Latvia" by Sudraba et al. (22). In the current study, the overall score of using emotion-focused strategy was more than problem-focused strategy. This result has been reported in several studies. In a study conducted by Altunay et al. (23) on smokers with psoriasis, it was found that they are less likely to seek social support, which is one of the problem-focused strategies. A similar result has also been reported among opioid addicts (24). Of course, in some studies, the positive effect of emotion-focused strategy on increasing stress adaptation has been indicated (25). For example, nurses working in the acute surgery ward used emotion-focused strategies more than problem-focused strategies to reduce their job stress (26). The interpretation and effect of stress experienced by each individual, depends on various factors,

Table 1. Correlation of Coping Scales and the Average Number of Cigarettes Smoked Per Day

	Coping Strategies									
	Problem-Focused				Total Score	Emotion-Focused				Total Score
	Seeking Social Support	Accepting Responsibility	Plan Full Problem Solving	Positive Reappraisal		Confronting	Distancing	Self-Controlling	Escape-Avoidance	
Mean and standard deviation	5.99 ± 1.69	5.56 ± 1.28	6.50 ± 1.51	7.39 ± 1.74	25.30 ± 5.34	8.45 ± 1.77	9.17 ± 1.59	10.76 ± 2	7.13 ± 1.74	39.24 ± 11.75
Correlation coefficient	-0.489	-0.357	-0.261	-0.272	-0.065	0.407	0.501	0.044	0.580	0.157
Significance level	0 < 001	0 < 001	0 < 001	0 < 001	0.223	0 < 001	0 < 001	0.409	0 < 001	0.003

Table 2. Comparison of Mean in Terms of Coping Strategies Based on the Level of Education

Education Level	Emotion-Focused		Problem-Focused	
	Mean ± SD	P Value	Mean ± SD	P Value
Illiterate	43.02 ± 12.48	0.024	24.66 ± 5.14	< 0.001
Primary school	40.65 ± 13.65		25.36 ± 5.18	
Middle school	39.16 ± 9.63		25.45 ± 4.20	
Diploma degree	32.87 ± 8.62		24.23 ± 7.56	
University education	41.14 ± 7.15		29.42 ± 2.92	

such as gender, personality traits, cultural factors, past experiences, and environmental characteristics, and these can also play a role in choosing how to deal with stress (27). A study indicated that task-focused coping, which is a method of problem-focused strategies, was used equally by both genders. It should be mentioned that emotion-focused coping was used more by women. Furthermore, the results of this study showed that task-focused coping is used more by persons with low external focus, high self-esteem, and low anxiety and depression (28).

In general, the results of most studies have identified that the emotion-focused strategy is the most important mediator of the relationship between stress and disease (29). The emotion-focused strategy is known as a short-term strategy, yet in the long term it can inhibit psychological adaptation and cause psychiatric disorders, such as depression (6, 30). Findings of the present study are consistent with the results of other studies

According to Lazarus (31), cognitive skills are used to solve the problems. People, who use cognitive skills, usually obtain psychological satisfaction because they find proper solutions to the problem. Moreover, identifying the source of stress is done properly and stress can be eval-

uated in the best way. Consequently, it can increase self-esteem and improve the mood of people, which means improving the mental health of individuals, yet decreasing anxiety (6, 32). In the contrary, the use of emotion-focused strategies prevents individuals from effectively and directly confronting the problem. Therefore, it will reduce their ability to solve the problem. This situation disrupts the integration of the thinking process and causes emotional distress. It causes a reduction in the correct identification of stress source and ability to control stress. Consequently, this process can influence mental health negatively. Based on the above data, depending on how people use effective or ineffective stress coping strategies, different mental health conditions can be created for them (6, 30, 32). Also, the results of this study show that high level of education in smokers makes it possible to use more problem-solving strategies. In the survey of Justus et al. (33) with the title "The role played by education in the decision to smoke and tobacco consumption intensity" on 36 000 Brazilians in partnership with WHO, they found that higher levels of education are associated with a lower probability of smoking and lower number of cigarettes smoked daily. In addition, Saito et al. (34), regarding the relationship between education and indoor smoking found that, for both fathers and mothers, who smoked, years of education was significantly negatively associated with indoor smoking behaviors. Therefore, the importance of this study is to show that smokers use emotional-focused and less effective strategies in coping with stress, and, on the other hand, their high level of education makes it possible to use more effective strategies to cope with stress. Recognizing stress coping strategies in these vulnerable people helps authorities in planning.

5.1. Conclusion

The results of this study indicate that smokers are more likely to use emotional-focused strategies, and higher education in smokers, leads to increased use of problem-

Table 3. Post Hoc Test Results Regarding the Coping Strategies with Stress Based on the Level of Education

Coping Strategies	Education (i)	Education (j)	Mean Difference (I - J)	Standard Error	Significance Level	95% Confidence Interval		
						Bound Down	Upper Bound	
Problem-focused	Illiterate	Primary school	-0.69487	0.96545	0.472	-2.5938	1.2041	
		Middle school	-0.78788	0.98550	0.425	-2.7263	1.1505	
		Diploma	0.43030	1.10699	0.698	-1.7470	2.6076	
		University	-4.76190	1.64753	0.004	-8.0024	-1.5214	
	Primary school	Middle school	-0.09301	0.68506	0.892	-1.4405	1.2544	
		Diploma	1.12517	0.85060	0.187	-0.5479	2.7982	
		University	-4.06703	1.48743	0.007	-6.9927	-1.1414	
	Middle school	Diploma	1.21818	0.87329	0.169	-0.4995	2.9358	
		University	-3.97403	1.50052	0.008	-6.9254	-1.0226	
	Diploma	University	-5.19221	1.58296	0.001	-8.3057	-2.0787	
	Emotion-focused	Illiterate	Primary school	-2.37179	2.08599	0.256	-6.4747	1.7311
			Middle school	3.86200	2.12930	0.071	-0.3261	8.0510
Diploma			10.15291	2.39179	0.000	5.4485	14.8573	
University			1.88278	3.55970	0.579	-5.1188	8.8844	
Primary school		Middle school	1.49021	1.48016	0.315	-1.4211	4.4015	
		Diploma	7.78112	1.83783	0.000	4.1663	11.3960	
		University	-0.48901	3.21379	0.879	-6.8102	5.8322	
Middle school		Diploma	6.29091	1.88685	0.001	2.5797	10.0022	
		University	-1.97922	3.24207	0.542	-8.3561	4.3976	
Diploma		University	-8.27013	3.42020	0.016	-14.9973	-1.5429	

solving strategies, which is a coping strategy suitable for coping with stress. Given that sampling was done in such a way that the results can be generalized to the entire society, it can be said that smokers of young ages of Lar (20 - 40) do not have a high level of education, so it is encouraged to promote awareness and education, to promote first level prevention for the community and second-level prevention in smokers. Also, paying attention to training programs on problem-solving skills for coping with stress is required.

5.2. Study Limitation

This study had a number of limitations, first, given the large number of smokers, it could be said that the sample considered in this study was rather modest. Nevertheless, the sample was sufficient to determine the status of the mechanism of coping in smokers. Moreover, the sample size in this study was based on similar studies and statistical formulas. Second, limited data could be counted as the weakest point of this study (representative sample). The reason is that only 20 to 40-year-old male smokers, who were from one city, were selected as the study sam-

ples. This can influence the generalizability of the results. Third, in this study cigarette smokers were the case group and other methods of smoking were not investigated, such as hookah. Fourth, both smokers and nonsmokers individuals employed coping strategies. It should be mentioned that lack of comparison in coping strategies of smokers with those of nonsmokers could be counted as weak points of this study. Fifth, the cross-sectional study design could be pointed as another limitation of this study. No causal link can be demonstrated between smoking and stress. It is difficult to remark whether stress leads to smoking or vice versa. Nevertheless, the purpose was not to demonstrate causality, and this study was a survey on using coping strategies in smoker individuals.

Acknowledgments

The researchers appreciate the participants of this study.

Footnotes

Authors' Contribution: Mohammad-Rafi Bazrafshan developed the study design, drafted the manuscript and took the lead in writing the manuscript; Amir Mansouri, Esmaeil Kavi, Mozghan Jokar, Seyede Fatemeh Ahmadpoori and Ehsan Amin revised the manuscript. Fatemeh Zare collected the data and carried out the implementation. Aliyar Pirooz supervised the findings of this work and contributed to the interpretation of the results. All authors provided critical feedback and helped shape the research.

Conflict of Interests: There was no conflict of interest.

Ethical Considerations: Researchers received introduction letters from the Gerash University of Medical Sciences with ethics code IR.GERUMS.REC.1393.1069.

Funding/Support: This study was financially supported by Gerash University of Medical Sciences.

References

- Hughes SJ. Kozier and Erb's fundamentals of nursing: Concepts, process and practice. *Nurs Educ Pract.* 2012;**12**(2). e12. doi: [10.1016/j.nepr.2011.09.002](https://doi.org/10.1016/j.nepr.2011.09.002).
- Kuntsche E, Knibbe R, Gmel G, Engels R. Why do young people drink? A review of drinking motives. *Clin Psychol Rev.* 2005;**25**(7):841-61. doi: [10.1016/j.cpr.2005.06.002](https://doi.org/10.1016/j.cpr.2005.06.002). [PubMed: [16095785](https://pubmed.ncbi.nlm.nih.gov/16095785/)].
- Roohafza H, Sadeghi M, Shirani S, Bahonar A, Mackie M, Sarafzadegan N. Association of socioeconomic status and life-style factors with coping strategies in Isfahan Healthy Heart Program, Iran. *Croat Med J.* 2009;**50**(4):380-6. doi: [10.3325/cmj.2009.50.380](https://doi.org/10.3325/cmj.2009.50.380). [PubMed: [19673038](https://pubmed.ncbi.nlm.nih.gov/19673038/)]. [PubMed Central: [PMC2728387](https://pubmed.ncbi.nlm.nih.gov/PMC2728387/)].
- Nolen-Hoeksema S, Fredrickson B, Loftus GR, Lutz C. *Introduction to psychology*. Cengage Learning; 2014.
- Nezu AM, D'Zurilla TJ. *Problem-solving therapy: A positive approach to clinical intervention*. Springer Publishing Company; 2006.
- Bazrafshan MR, Jahangir F, Mansouri A, Kashfi SH. Coping strategies in people attempting suicide. *Int J High Risk Behav Addict.* 2014;**3**(1). e16265. doi: [10.5812/ijhrba.16265](https://doi.org/10.5812/ijhrba.16265). [PubMed: [24971300](https://pubmed.ncbi.nlm.nih.gov/24971300/)]. [PubMed Central: [PMC4070193](https://pubmed.ncbi.nlm.nih.gov/PMC4070193/)].
- Conklin CA, Perkins KA. Subjective and reinforcing effects of smoking during negative mood induction. *J Abnorm Psychol.* 2005;**114**(1):153-64. doi: [10.1037/0021-843X.114.1.153](https://doi.org/10.1037/0021-843X.114.1.153). [PubMed: [15709822](https://pubmed.ncbi.nlm.nih.gov/15709822/)].
- Steuber TL, Danner F. Adolescent smoking and depression: Which comes first? *Addict Behav.* 2006;**31**(1):133-6. doi: [10.1016/j.addbeh.2005.04.010](https://doi.org/10.1016/j.addbeh.2005.04.010). [PubMed: [15922514](https://pubmed.ncbi.nlm.nih.gov/15922514/)].
- Byrne DG, Mazanov J. Adolescent stress and future smoking behaviour: A prospective investigation. *J Psychosom Res.* 2003;**54**(4):313-21. doi: [10.1016/S0022-3999\(02\)00411-7](https://doi.org/10.1016/S0022-3999(02)00411-7). [PubMed: [12670608](https://pubmed.ncbi.nlm.nih.gov/12670608/)].
- Finkelstein DM, Kubzansky LD, Goodman E. Social status, stress, and adolescent smoking. *J Adolesc Health.* 2006;**39**(5):678-85. doi: [10.1016/j.jadohealth.2006.04.011](https://doi.org/10.1016/j.jadohealth.2006.04.011). [PubMed: [17046504](https://pubmed.ncbi.nlm.nih.gov/17046504/)].
- Henningfield JE, Cohen C, Pickworth WB. Psychopharmacology of nicotine. *Nicotine Addiction Prim Manag.* 1993;24-45.
- Moghaddam NG, Ferguson E. Smoking, mood regulation, and personality: An event-sampling exploration of potential models and moderation. *J Pers.* 2007;**75**(3):451-78. doi: [10.1111/j.1467-6494.2007.00445.x](https://doi.org/10.1111/j.1467-6494.2007.00445.x). [PubMed: [17489888](https://pubmed.ncbi.nlm.nih.gov/17489888/)].
- Perkins KA, Ciccocioppo M, Conklin CA, Milanak ME, Grottenthaler A, Sayette MA. Mood influences on acute smoking responses are independent of nicotine intake and dose expectancy. *J Abnorm Psychol.* 2008;**117**(1):79-93. doi: [10.1037/0021-843X.117.1.79](https://doi.org/10.1037/0021-843X.117.1.79). [PubMed: [18266487](https://pubmed.ncbi.nlm.nih.gov/18266487/)].
- Kalman D, Smith SS. Does nicotine do what we think it does? A meta-analytic review of the subjective effects of nicotine in nasal spray and intravenous studies with smokers and nonsmokers. *Nicotine Tob Res.* 2005;**7**(3):317-33. doi: [10.1080/14622200500125385](https://doi.org/10.1080/14622200500125385). [PubMed: [16085500](https://pubmed.ncbi.nlm.nih.gov/16085500/)].
- World Health Organization. *Tobacco. Fact Sheet No 339, 2013*. WHO; 2011, [cited 2015 May 5]. Available from: <http://www.who.int/mediacentre/factsheets/fs339/en/>.
- Moosazadeh M, Ziaaddini H, Mirzazadeh A, Ashrafi-Asgarabad A, Haghdoost AA. Meta-analysis of smoking prevalence in Iran. *Addict Health.* 2013;**5**(3-4):140-53. [PubMed: [24494171](https://pubmed.ncbi.nlm.nih.gov/24494171/)]. [PubMed Central: [PMC3905476](https://pubmed.ncbi.nlm.nih.gov/PMC3905476/)].
- Ahmadi J, Khalili H, Jooybar R, Namazi N, Mohammadagaei P. Prevalence of cigarette smoking in Iran. *Psychol Rep.* 2001;**89**(2):339-41. doi: [10.2466/pr0.2001.89.2.339](https://doi.org/10.2466/pr0.2001.89.2.339). [PubMed: [11783559](https://pubmed.ncbi.nlm.nih.gov/11783559/)].
- Ebrahimi H, Sahebighag MH, Ghofranipour F, Sadegh Tabrizi J. Initiation and continuation of smoking in Iran: A qualitative content analysis. *Int J Community Based Nurs Midwifery.* 2014;**2**(4):220-30. [PubMed: [25349865](https://pubmed.ncbi.nlm.nih.gov/25349865/)]. [PubMed Central: [PMC4201210](https://pubmed.ncbi.nlm.nih.gov/PMC4201210/)].
- Taylor AL, Bettcher DW. WHO framework convention on tobacco control: A global "good" for public health. *Bull World Health Organ.* 2000;**78**(7):920-9. [PubMed: [10994266](https://pubmed.ncbi.nlm.nih.gov/10994266/)]. [PubMed Central: [PMC2560796](https://pubmed.ncbi.nlm.nih.gov/PMC2560796/)].
- Padyab M, Ghazinour M, Richter J. Factor structure of the Farsi version of the Ways of Coping Questionnaire. *J Appl Soc Psychol.* 2012;**42**(8):2006-18. doi: [10.1111/j.1559-1816.2012.00928.x](https://doi.org/10.1111/j.1559-1816.2012.00928.x).
- Zarei S, Asadi Z. The comparison of personality characteristics and coping styles in addicted and non-addicted adolescents. *Res Addict.* 2012;**5**(20):87-104.
- Sudraba V, Millere A, Deklava L, Millere E, Zumente Z, Circenis K, et al. Stress coping strategies of drug and alcohol addicted patients in Latvia. *Proced Soc Behav Sci.* 2015;**205**:632-6. doi: [10.1016/j.sbspro.2015.09.099](https://doi.org/10.1016/j.sbspro.2015.09.099).
- Altunay I, Doner N, Mercan S, Demirci GT. Stress coping mechanisms in smoking psoriasis. *Dermatol Sin.* 2013;**31**(3):130-3. doi: [10.1016/j.dsi.2013.02.001](https://doi.org/10.1016/j.dsi.2013.02.001).
- Taziki S, Saghafi S, Mousavi S, Modanloo M, Behnampour N. Is opioid dependency related to coping strategies? *Afr J Psychiatr (South Africa).* 2015;**18**(1).
- Yeung NC, Lu Q, Wong CC, Huynh HC. The roles of needs satisfaction, cognitive appraisals, and coping strategies in promoting post-traumatic growth: A stress and coping perspective. *Psychol Trauma.* 2016;**8**(3):284-92. doi: [10.1037/tra0000091](https://doi.org/10.1037/tra0000091). [PubMed: [26460492](https://pubmed.ncbi.nlm.nih.gov/26460492/)].
- Wang W, Kong AW, Chair SY. Relationship between job stress level and coping strategies used by Hong Kong nurses working in an acute surgical unit. *Appl Nurs Res.* 2011;**24**(4):238-43. doi: [10.1016/j.apnr.2009.09.003](https://doi.org/10.1016/j.apnr.2009.09.003). [PubMed: [20974076](https://pubmed.ncbi.nlm.nih.gov/20974076/)].
- Alhija FNA. Teacher stress and coping: The role of personal and job characteristics. *Proced Soc Behav Sci.* 2015;**185**:374-80. doi: [10.1016/j.sbspro.2015.03.415](https://doi.org/10.1016/j.sbspro.2015.03.415).
- Leandro PG, Castillo MD. Coping with stress and its relationship with personality dimensions, anxiety, and depression. *Proced Soc Behav Sci.* 2010;**5**:1562-73. doi: [10.1016/j.sbspro.2010.07.326](https://doi.org/10.1016/j.sbspro.2010.07.326).
- Parkerson HA, Kehler MD, Sharpe D, Hadjstavropoulos HD. Coping with multiple sclerosis scale: Reconsideration of the factorial structure. *Int J MS Care.* 2016;**18**(4):192-200. doi: [10.7224/1537-2073.2015-031](https://doi.org/10.7224/1537-2073.2015-031). [PubMed: [27551244](https://pubmed.ncbi.nlm.nih.gov/27551244/)]. [PubMed Central: [PMC4984791](https://pubmed.ncbi.nlm.nih.gov/PMC4984791/)].
- Bazrafshan MR, Sharif F, Molazem Z, Mani A. Exploring the risk factors contributing to suicide attempt among adolescents: A qualitative study. *Iran J Nurs Midwifery Res.* 2016;**21**(1):93-9. doi: [10.4103/1735-9066.174747](https://doi.org/10.4103/1735-9066.174747). [PubMed: [26985229](https://pubmed.ncbi.nlm.nih.gov/26985229/)]. [PubMed Central: [PMC4776568](https://pubmed.ncbi.nlm.nih.gov/PMC4776568/)].
- Lazarus RS. Coping theory and research: Past, present, and future. *Fifty years of the research and theory of RS Lazarus: An analysis of historical and perennial issues.* 1993:366-88.

32. Carver CS, Pozo C, Harris SD, Noriega V, Scheier MF, Robinson DS, et al. How coping mediates the effect of optimism on distress: A study of women with early stage breast cancer. *J Pers Soc Psychol.* 1993;**65**(2):375–90. doi: [10.1037/0022-3514.65.2.375](https://doi.org/10.1037/0022-3514.65.2.375). [PubMed: [8366426](https://pubmed.ncbi.nlm.nih.gov/8366426/)].
33. Justus M, Sant'Anna EG, Davanzo ES, Moreira GC. The role played by education in the decision to smoke and tobacco consumption intensity: Evidence from Brazil. *Inst Econ.* 2018.
34. Saito J, Shibanuma A, Yasuoka J, Kondo N, Takagi D, Jimba M. Education and indoor smoking among parents who smoke: The mediating role of perceived social norms of smoking. *BMC Public Health.* 2018;**18**(1):211. doi: [10.1186/s12889-018-5082-9](https://doi.org/10.1186/s12889-018-5082-9). [PubMed: [29394912](https://pubmed.ncbi.nlm.nih.gov/29394912/)]. [PubMed Central: [PMC5797366](https://pubmed.ncbi.nlm.nih.gov/PMC5797366/)].