Research Paper: Nicotine Dependency and Its Relationship With Emotional Intelligence Among Male Smoker Employees

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ABSTRACT

Background: Smoking is one of the most common causes of mortality in the world. Emotional intelligence is the adapting ability to respond to the environment and people appropriately. It plays an important role in various aspects of life such as facing stressful situations and consequently, smoking. This study aimed to investigate the relationship between nicotine dependency and emotional intelligence among male smokers.

Methods: This study was conducted on 350 male smokers working at Urmia University of Medical Sciences. The study tools were Cyberia Shrink emotional intelligence questionnaire and Fagerstrom nicotine dependence test.

Results: The Mean±SD of nicotine dependency and emotional intelligence were 3.33±2.31 (ranged from 0-10), and 110.26±16.24 (ranged from 33-165), respectively. Overall, the results showed a significant reverse relationship between emotional intelligence and its dimensions with nicotine dependency. Individuals with higher emotional intelligence had a lower degree of nicotine dependency.

Conclusion: Emotional intelligence acts as a guard against harmful behaviors such as smoking. Nicotine dependency can be reduced by teaching emotional intelligence skills.

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Introduction

Cigarette smoking is one of the biggest health threats because of its high mortality and morbidity. Smoking has a major contributing role in the development of health problems such as cancers, cardiovascular diseases, and other chronic diseases [1, 2]. However, it is one of the most important preventable causes of disability and premature death [3, 4]. The World Health Organization (WHO) estimates that if the current cigarette smoking trend continues, the annual deaths from tobacco-related diseases will rise from 5 million in 2000 to 10 million in 2020 [5]. Tobacco addiction is a chronic condition that is the leading cause of early mortality in nearly half a million people in the United States. So far, it has been the most common preventable cause of mortality worldwide [5, 6]. Cigarette is the dominant form of tobacco and is of great concern because of its nicotine dependency. Generally, dependence is a set of cognitive, behavioral, and physiological symptoms that makes a person continue consuming an abusive disorder, while aware of its adverse consequences. The person smokes for relaxation or pleasure and gets accustomed to it. Nicotine dependency features include compulsive usage, increase resistance to its effects, and the development of a withdrawal syndrome during sudden cessation [7, 8].

Many factors, including social factors, play a critical role in smoking; however, these factors may act through the psychological processes. One of the psychological factors that can play a role in cigarette smoking is emotional intelligence [9, 10]. Emotional intelligence is a set of abilities (verbal and non-verbal) that enables people to produce, recognize, express, appreciate, and evaluate their feelings and those of others. It helps individuals in thinking and taking action in adaptation to environmental demands and pressures. It is also considered one of the most important predictors of success in life [11-13].

Those with low emotional intelligence have less perceptive of their feelings regarding smoking. Thus, they are less capable of expressing negative responses to cigarettes. However, those with high emotional intelligence can refuse cigarettes because they have perceived their emotions regarding smoke. The more perceptive they are, the more they have self-confidence in responding negatively to smoking and harming a social situation [13].

Emotional intelligence is a way by which people adapt themselves to life's challenges and control their emotions more effectively to succeed in life. Besides, emotional intelligence is a set of acquisitive skills that can be upgraded with increasing age and raising experience. Therefore, teaching emotional intelligence skills, in thought and practice, along with successful adaptation to the demands and environmental pressures, can strengthen individuals and reduce the incidence of high-risk behaviors such as smoking and nicotine dependency [14-18].

Trinidad et al. studied the protective effect of emotional intelligence on psychosocial smoking risk factors on 416 students in Los Angeles in 2004. Their results showed that emotional intelligence protected against cigarette smoking. Particularly, people with high emotional intelligence scores, are more sensitive to negative behaviors such as smoking. However, people with low emotional intelligence, prefer to smoke in order to cope with negative emotions [10].

A study on 740 students of Jiroft universities, in the South of Iran, showed that emotional intelligence and smoking had a negative and inverse relationship. In other words, higher scores in the emotional intelligence questionnaire were associated with lower levels of smoking and intention to smoke, because people with high emotional intelligence could deal with difficulties and solve their problems [9].

Considering the high smoking prevalence in the West Azerbaijan Province (14% vs. 11% for the whole country) and among men [19], this study aimed to investigate the status of emotional intelligence and its impact on nicotine dependency in Urmia, especially among the employees of the Urmia University of Medical Sciences.

Methods

This study was analytical research on 350 male personnel smokers of Urmia University of Medical Sciences selected by a purposive and accessible sampling method in 2016. To identify and access the smoker employees, all units were searched whether there were any smokers observed in those offices or not (if the smokers were not at their work at that time, the questionnaires were delivered to their colleagues). In the next stage, the research objectives were explained and the participants were asked to voluntarily participate in the research. The participants were assured that the information would remain confidential and they could leave the study at any stage of the research.

To achieve the study goals, the demographic characteristics questionnaire, the Fagerstrom test for nicotine dependence, and the Cyberia Shrink standard questionnaire for emotional intelligence were used.

Fagerstrom test for nicotine dependence:

This test is widely used to measure the level of nicotine dependency. This is a short scale with 6 options ranging from 0 to 10. The low level of dependency score is between 0 and 3, the moderate level between 4 and 6, and the high level between 7 and 10 [20-22]. Its Cronbach alpha was found 0.85 in previous studies. Other researches have reported it as r=0.90 and r=0.94 [20-22]. Azizi et al. researched on 118 participants, and calculated its Cronbach alpha as 0.83 [23].

Cyberia Shrink emotional intelligence questionnaire

This questionnaire consists of 33 questions [24]. It is designed to assess 5 areas of emotional intelligence, including self-motivation, self-awareness, self-control, empathy, and social skills. This questionnaire is rated based on a 5-point Likert-type scale [25, 26]. The total scores of this questionnaire ranged 33-165. This questionnaire was translated and standardized by Mansouri in Iran [27]. The reliability of this test using the Cronbach alpha was reported more than 80%. The validity of this questionnaire has also been examined in the form of concurrent validity and construct validity through internal consistency and convergent/divergent factor analysis [27]. The reliability of this questionnaire was calculated by double-summing and Cronbach alpha, and the coefficients were 0.94% and 0.81%, respectively [24].

To collect data, after receiving the ethical approval and coordinating with the head of each department, male smoker employees were identified and selected by a purposive and accessible sampling method.

The collected data was analyzed in SPSS v. 16. Descriptive statistics (frequency, percentage, mean, standard deviation, minimum, and maximum) were used to describe the data and independent t test and ANOVA were used to compare the means. Besides, to determine the relationship between emotional intelligence and nicotine dependency, we used the Pearson correlation test. The significance level in this study was set at P<0.05.

First, the research team received ethical approval. Then, the coordination with the head of each department was made. The participants were provided with the necessary explanations and assured that their information would remain confidential. Besides, they were informed that they could leave the study at any stage of the research.

Results

A total of 350 male smokers participated in this study and the demographic characteristics of the participants are listed in Tables 1 and 2. The findings indicate that the mean and standard deviation of emotional intelligence score among male smoker employees of Urmia University of Medical Sciences is 110.26±16.24. Besides, self-awareness had the highest mean (29.32±4.69) while social skills had the lowest mean among the dimensions of emotional intelligence (19.82±3.83). The nicotine dependency had also the Mean±SD of 3.33±2.31. Based on the Pearson correlation test, there was a significant and reverse correlation between emotional intelligence scores and nicotine dependency (r=-0.316, P<0.001, n=350). Also, there was a significant difference between the scores of emotional intelligence dimensions and nicotine dependency (Table 3). The statistical analysis of demographic variables is presented in Tables 1 and 2.

Table 1. The descriptive and test statistics of nicotine dependency and emotional intelligence scores with respect to demographic characteristics

Variables		No. (%)	Mean±SD	Sig.*	Mean±SD	Sig.*
Age (y)	Less than 30	70 (22.0)	2.46±3.50	P=0.835 F=0.287	110.01±15.85	P=0.929 F=0.151
	Between 30-40	145 (41.4)	2.28±3.21		15.25±110.37	
	Between 41-50	90 (25.7)	2.27±3.38		18.33±109.35	
	More than 50	38 (10.9)	2.31±3.34		15.94±110.42	

Variables		No. (%)	Mean±SD	Sig.*	Mean±SD	Sig.*
Marital status	Married	304 (86.9)	2.32±3.39	p=0.472 F=0.753	16.24±110.13	p=0.684 F=0.380
	Single	44 (12.6)	2.27±2.97		16.31±110.65	
	Divorced	2 (0.5)	0.70±2.50		21.21±120.00	
Number of children	Without any children	77 (22.0)	2.26±3.01	P=0.064 F=2.104	16.76±111.77	P=0.164 F=1.583
	One child	94 (26.8)	2.46±3.45		15.16±109.93	
	Two children	135 (38.6)	2.18±3.33		15.73±109.45	
	Three children	31 (8.9)	2.04±3.58		18.34±111.87	
	Four children	12 (3.4)	2.99±3.33		19.10±111.33	
	Five children	1 (0.3)	10.00		69.00	
Education	Less than high school diploma	53 (15.1)	2.35±4.01	P=0.111 F=1.891	17.36± 109.39	P=0.566 F=0.738
	High school diploma	96 (27.4)	2.49±3.44		16.06± 108.30	
	Associate degree	63 (18.0)	2.08±3.30		15.40± 111.87	
	Bachelor	113 (32.3)	2.22±3.01		16.53± 111.58	
	Master degree and more	25 (7.2)	2.36±3.00		15.55± 109.56	
Duration of smoking	Between 1-10 years	132 (37.7)	2.26±3.00	P=0.183 F=1.628	14.56±111.32	P=0.251 F=1.373
	Between 10-20 years	119 (34.1)	2.29±3.46		14.64±110.44	
	Between 20-30 years	67 (19.1)	2.26±3.53		14.18±110.40	
	More than 30 years	32 (9.1)	2.62±3.81		23.59±104.87	
Age of smoking start	Under 18 years	122 (34.8)	2.58±3.89	P<0.001 F=8.006	17.99±109.66	P=0.562 F=0.578
	Between 18-28 years	192 (54.9)	2.16±3.18		15.36±110.13	
	More than 28 years	36 (10.3)	1.61±2.27		14.64±112.94	
Daily cigarette consumption	Under 10 cigarettes	167 (47.7)	1.7±1 2.10	P<0.001 F=57.158	14.24±113.18	P<0.001 F=9.949
	Between 10-20 cigarettes	151 (43.1)	2.03±4.06		15.07±109.88	
	Between 20-30 cigarettes	21 (6.0)	2.30±6.00		19.35±96.14	
	More than 30 cigarettes	11 (3.2)	1.97±6.90		25.04±97.90	

Variables		No. (%)	Mean±SD	Sig.*	Mean±SD	Sig.*
Weekly cigarette consumption	Under 70	165 (47.1)	1.66±2.06	P<0.001 F=64.571	13.90±113.52	P<0.001 F=6.724
	Between 70-140	57 (16.3)	1.81±3.28		13.51±110.12	
	Between 140-210	16 (33.2)	2.12±4.79		18.30±107.06	
	More than 210	12 (3.4)	2.08±7.00		24.34±96.91	

*ANOVA test.

Table 2. The descriptive and test statistics of nicotine dependency and emotional intelligence scores for the variable of smoking status

Variables		No. (%)	Mean±SD of Nicotine Dependency	Sig. (t-test)	Mean±SD of Emotional Intelligence	Sig. (t-test)
Smoking status	Smoking	309 (88.3)	3.39±2.32	P=0.202 F=1.635	09.77±16.28	P=0.129 F=2.312
	Quitted	41 (11.7)	2.90±2.23		113.87±15.68	

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Table 3. Distribution of mean scores of emotional intelligence dimensions based on the severity of nicotine dependency

Emotional Intelligence	Nicotine Dependency	Mean±SD	ANOVA test Statistics	P
Self-motivation	Low	23.0±3.27	10.36	<0.001
	Moderate	22.15±3.72		
	High	20.39±3.66		
Self-awareness	Low	30.01±4.39	8.21	<0.001
	Moderate	29.04±4.46		
	High	26.93±5.71		
Self-control	Low	22.16±4.28	7.34	<0.001
	Moderate	21.23±5.07		
	High	19.23±4.83		
Empathy	Low	20.53±3.65	8.65	<0.001
	Moderate	19.20±3.98		
	High	18.27±3.57		
Social skills	Low	18.0±3.40	12.59	<0.001
	Moderate	16.64±3.90		
	High	15.13±4.25		

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Discussion

Male smoker employees of Urmia University of Medical Sciences had a low cigarette nicotine dependency. Since there is no baseline for the emotional intelligence score, high levels of emotional intelligence scores are investigated in different studies. Considering the mean score of emotional intelligence in the present study, higher emotional intelligence is associated with a mild dependency on cigarette smoking. Due to the reverse re-

lationship between nicotine dependency and emotional intelligence, with the increase of emotional intelligence score, the degree of dependency on smoking reduces. It means that with the higher the intelligence skills, the nicotine dependency would be lower. This finding is consistent with the findings of previous studies.

The results of various studies show a significant difference between the scores of emotional intelligence in smokers and non-smokers. Trinidad et al. also confirmed that people with low emotional intelligence do not perceive the negative social consequences of smoking [10]. Kun's study also supports this theory that low levels of emotional intelligence lead to smoking and nicotine dependency [15].

The present study shows a significant reverse relationship between emotional intelligence and nicotine dependency. Therefore, with the increase of emotional intelligence, the nicotine dependency decreases. In other words, if the score of the emotional intelligence test is high, there will be less dependence on nicotine. This finding is consistent with the previous studies.

Ghasempour et al. reported a significant difference between the scores of emotional intelligence in smokers and non-smokers. Considering that smoking is the consequence of failing to control emotions and is a strategy to reduce tensions, improving emotional intelligence skills, especially self-control, can hinder individuals from smoking [28].

According to the study findings, there was also a significant relationship between the scores of different dimensions of emotional intelligence and the level of nicotine dependency. Low self-control is one of the crucial factors, which affects smoking. People with low self-control probably barely think about the consequences of their behaviors and get more dependent on tobacco. However, people with a high level of self-control are more aware of their feelings and less likely engaged in antisocial behavior. People with more self-awareness or perception of their feelings have more self-confidence, and therefore, they are less likely to participate in high-risk behaviors, including cigarette smoking and nicotine dependency when facing stressful situations [13].

Observing ethical considerations, only male smokers were included in this study. Due to the heavy workload of employees and the many questions (several research questionnaires), the employees were less willing to participate in the study. To control these limitations, they were asked to complete the questionnaires in their free time, and they were given adequate time to fill out the questionnaire. Employees were also assured that their information would remain confidential.

Conclusion

Emotional intelligence as an acquired skill can be reinforced through training. This ability helps individuals to effectively use their emotional intelligence skills in solving the problems and adapting to the environment. Besides, it assists people facing tensions and stress. On the other hand, training courses will improve the emotional intelligence skills to control the use of addictive substances, including cigarettes. Considering the study variables relationships, people with high emotional intelligence are less dependent on cigarette smoking.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Ethics Committee of Tabriz University of Medical Sciences (Code: TBZMED.REC.1395.695)

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Authors' contributions

All authors contributed in designing, running, and writing all parts of the research.

Conflict of interest

The authors declare no conflict of interests.

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