



## Original Article

# Relationship with Emotional Intelligence and General Health among Male Smoker Staff in Urmia University of Medical Sciences

Shima Yadegar Tirandaz<sup>1</sup>, Mohammad Hasan Sahebihagh<sup>1\*</sup>, Hossein Namdar Areshtanab<sup>2</sup>, Hossein Jafarizadeh<sup>3</sup>, Mohammad Asghari Jafarabadi<sup>4</sup>

<sup>1</sup>Department of Community Health Nursing, Nursing and Midwifery Faculty, Tabriz University of Medical Sciences, Tabriz, Iran

<sup>2</sup>Department of Psychiatric Nursing, Nursing and Midwifery Faculty, Tabriz University of Medical Sciences, Tabriz, Iran

<sup>3</sup>Department of Community Health Nursing, Patient Safety Research Center, Nursing and Midwifery Faculty, Uremia University of Medical Sciences, Uremia, Iran

<sup>4</sup>Department of Statistics and Epidemiology, Road Traffic Injury Research Center, Faculty of Health, Tabriz University of Medical Sciences, Tabriz, Iran

## ARTICLE INFO

Article type: Original article

Article History:

Received: 9 Nov. 2017

Accepted: 10 Sep. 2018

ePublished: 1 Dec. 2019

Keywords:

Emotional intelligence, Health, Smoking

\*Corresponding Author:

PhD in nursing. Email: Sahebihagh@yahoo.com

## ABSTRACT

**Introduction:** One of the important factors in determining success in life is emotional intelligence. It could be considered as a protective factor against health threatening behaviors, including smoking. Considering the effect of emotional intelligence on the health of people and the amount of smoking in smokers, the present study aimed to investigate the relationship between emotional intelligence and general health in the male smokers.

**Methods:** In this descriptive-correlational study, 350 male smokers who were working in Uremia University of Medical Sciences were recruited, using convenience sampling. The instruments used in this study were demographic information questionnaires, Cyberia Shrink standard questionnaire, and 28-Question General Health Questionnaire (GHQ-28).

**Results:** The mean score (SD) of emotional intelligence and the mean score (SD) of general health were 110.26 (16.24) and 23.60 (13.27), respectively. There was a significant negative relationship between emotional intelligence and general health scores.

**Conclusion:** Individuals with higher emotional intelligence scores had a better physical and mental health status. Therefore, teaching emotional intelligence can increase physical and mental health of the individuals through reducing risky behaviors.

**Citation:** Yadegar Tirandaz Sh, Sahebihagh MH, Namdar H, Jafarizadeh H, Asghari Jafarabadi M. Relationship with emotional intelligence and general health among male smoker staff in Urmia university of medical sciences. *J Caring Sci* 2019; 8 (4): 225-30. doi:10.15171/jcs.2019.032

## Introduction

Smoking is the only cause of disability and early mortality, which could be preventable<sup>1,2</sup> and one of the biggest health threats that plays an important role in the development of chronic diseases such as cancer, cardiovascular diseases, and related mortalities.<sup>3,4</sup> Cigarette is the dominant form of tobacco throughout the world, which is important because of its dependence on nicotine.<sup>5</sup> If the current pattern of smoking and cigarette (tobacco) consumption continues, smoking-related deaths are expected to increase from 5 million in 2015 to 10 million in 2030.<sup>6</sup>

Emotional intelligence is one of the psychological factors that can influence people's tendency to cigarette smoking.<sup>7</sup> It is a set of individual abilities to understand one's own feelings and the feeling of others, differentiate between them and use this information as a guide to one's own thinking and behavior. In fact, the capacity to understand feelings, to combine feelings of emotions and to manage them<sup>8</sup> the components of emotional intelligence, from the perspective of Daniel Goleman who considers it a key to success in life, include self-awareness, recognition of the causes of emotions, self-regulation and regulation of emotions, empathy, motivation and correct decisioning, ability to understand

and analyze relationships, creative thinking and balanced life<sup>9</sup> Emotional intelligence includes verbal and non-verbal assessment and expression of emotions, regulation of emotions in oneself and others, and the use of emotional content in problem solving.<sup>10</sup>

Emotional intelligence makes people adapt themselves to or cope with positive or negative life events if they are confronted with them.<sup>7</sup> One of the strategies used by people with low emotional intelligence to cope with stress is health-threatening behaviors such as smoking, which can lead to health problems.<sup>11</sup> Studies showed that people with high emotional intelligence are more capable of understanding realities; are more flexible to changes in social environments and creation of supportive groups actually experience less negative events in life.<sup>12,7</sup>

In addition, people who can adjust, understand and evaluate their emotional states can effectively adjust their moods. This set of features suggests that there should be a direct link between emotional intelligence and physical and mental health.<sup>1</sup>

Health means having the complete ability to play social, mental, and physical roles; therefore, it is not only lack of illness or disability. In fact, general health refers to the triple physical, psychological, and social responses to internal and external stimuli to maintain stability and convenience.<sup>13</sup> the concepts of mental health, goodness

and self-efficacy, self-reliance, competitive capacity, intergenerational membership, self-actualization, and potential intellectual abilities are emotional.<sup>14</sup> Emotional Intelligence is an essential and important factor for mental health and plays an important role in shaping the interaction of individuals and their work environment.<sup>8</sup>

In the main pattern of intelligence, introduced by Meyer and Salo, there are a series of learnable basic skills that can be advanced with age and increased life experiences.<sup>9,15,16</sup> It also has a moderating role between stress and mental health. Individuals with high levels of emotional intelligence are expected to effectively adapt themselves to environmental demands and pressures resulting from job stress. Therefore, emotional intelligence is strongly associated with both mental and physical health, and its increase plays an important role in health performance.<sup>1</sup>

Considering the prevalence of smoking in the province of West Azerbaijan, 14% (11% of the country's prevalence)<sup>17</sup> and the effect of emotional intelligence and its dimensions on the health status of people, as well as the status of smoking and its dependence on smokers, therefore, this study was designed with the aim of investigating emotional intelligence and general health and their relationship with smokers working in Urmia University of Medical Sciences.

## Materials and method

This study has been approved by the Vice-Chancellor of Research and Technology of Tabriz University of Medical Sciences and with the ethical code IR.TBZMED.REC.1395.695. This research is a descriptive-correlational study in which 350 male smokers employed in the department of management and treatment of Urmia University of Medical Sciences were selected through convenience sampling in 2016. The sample size of the study was calculated using Pocock formula based on the main outcomes of study: "Relation between head masters' general health and emotional intelligence and job satisfaction of teachers" Considering a confidence of 0.95, a power of 0.8 using information obtained in the pilot of the study, at least 350 cases was calculated. The inclusion criteria included: the person is smoking in one of the chain-smokers (consuming more than 20 threads per day), active smokers (consuming at least 7 packs a week), inactive (less than 7 packs per week)<sup>18</sup> having at least 5<sup>th</sup> elementary education so as to be capable of completing the questionnaire; a willingness to participate in the research; being a staff member of Urmia University of Medical Sciences; being male; having no addiction to other narcotic substances and, lacking a history of psychiatric treatment as declared by the person himself.

The exclusion criteria were: addiction to consuming drugs other than cigarettes; a history of alcohol consumption; having a history of psychiatric treatment; not completing the questionnaires.

In order to achieve the goals, a demographic questionnaire, (Cyberia shrink) a standard questionnaire

and a General Health Questionnaire (GHQ-28) were used. Cyberia shrink emotional intelligence instrument: Emotional intelligence questionnaire has 33 questions<sup>19</sup> designed to examine 5 dimensions of emotional intelligence, including self-esteem, self-awareness, self-control, empathy, and social skills. The scoring method of this questionnaire is done on the 5 point Likert scale.<sup>20</sup>

Scores range from 33 to 165. This questionnaire was translated and standardized by Mansouri in the form of a master's thesis.<sup>21</sup> The reliability of the test has been reported to be more than 80% in various studies using the calculation of Cronbach's alpha. The validity of the test, in the form of concurrent validity and construct validity, was examined through an evaluation of internal consistency and convergent and divergent factor analysis.<sup>22</sup> The reliability of this questionnaire was reported by Jerabket, using split-half method; and Cronbach's alpha coefficient was reported to be 0.94% and 0.81% respectively.<sup>19</sup>

In Abdolmaleki's study, the reliability of the questionnaire of emotional intelligence of Cyberia shrink was reported to be 0.89. The validity of this report has been reported by various appropriate and acceptable measurement methods.<sup>23</sup>

The General Health Questionnaire (GHQ-28): it is a screening instrument for the diagnosis or risk of mental disorders<sup>24</sup> designed by Goldberg and Williams for research purposes. It has also been designed to measure mental health problems in four areas of depression, anxiety, physical symptoms, and social isolation.<sup>16-24</sup> The scoring method of this questionnaire is simple Likert scale (0,1,2,3). The overall health score ranges from 0 to 84. High scores indicate poor general health.<sup>11</sup> The general health scores of 0-27, 28-55, and 56-84 of each of the studied units is considered normal, somewhat desirable, and undesirable respectively.<sup>25</sup> This instrument has internal consistency ( $\alpha=0.92$ ).<sup>11</sup> The reliability coefficients in various studies range from 0.78 to 0.95.<sup>24</sup>

In the study of Taghavi, the reliability of the questionnaire was reported to be 0.93, close to Goldberg and William's study. Its validity was also used through simultaneous narration. The correlation coefficient of the two questionnaires of GHQ and the Middlesex Hospital Questionnaire (MHQ) is similar to the results of validation overseas, such as Iceland and Australia.<sup>26</sup>

In order to collect data, after receiving the necessary letters of reference and coordinating with the head of each department, male smoker employees were identified conveniently and purposively to participate in the study. The research objectives were then explained to the participants and they were asked if they would like to participate in the study. They were also assured that their information would remain confidential. The collected data was analyzed by SPSS (version 13.0, Chicago, IL, USA). ( $P<0.05$ ).

## Results

A total of 350 male smokers working in the Urmia University of Medical Sciences participated in this study.

Their demographic characteristics and statistical analysis of the demographic variables is illustrated in (Table 1).

The results of this study indicated that the mean (SD) score of emotional intelligence in the participants was 110.26(16.24). 23.60 (13.27). Out of the dimensions of this variable, the impaired social functioning had the highest mean 7.50(3.50) and depression had the lowest mean 3.32(4.26). According to the results of Pearson correlation

test, there was a significant inverse relationship between emotional intelligence and general health scores (correlation coefficient: -0.654 and significance  $P < 0.001$ ).

There was also a significant inverse relationship between the scores of emotional intelligence and general health dimensions (Table 2) and there was also a significant inverse relationship between emotional intelligence dimensions scores (Table 2, 3).

**Table 1.** Frequency and percentage, mean and standard deviation, significance, and test statistics of emotional intelligence and general health scores by demographic characteristics

Variable	N (%)	Emotional intelligence Mean (SD)	Statistical indicator	General health Mean (SD)	Statistical indicator
Age			P=0.92, F=0.15		P=0.33, F=1.13
Less than 30 years	70(22.0)	110.01(15.85)		24.48(14.45)	
Between 31-40 years	145(41.4)	110.37(15.25)		24.05(12.28)	
Between 41-50 years	90(25.7)	109.35(18.33)		23.25(14.60)	
More than 50 years	38(10.9)	110.42(15.94)		20.21(10.78)	
Marital status			P=0.92, F=0.15		P=0.33, F=1.13
Single	44(12.6)	110.65(16.31)		25.00(14.18)	
Divorced	2(0.5)	120.00(21.12)		16.25(4.94)	
Number of children			P=0.16, F=1.58		P<0.001, F=3.88
Without any children	77(22.0)	111.77(16.67)		22.74(12.24)	
One child	94(26.8)	109.93(15.16)		26.05(13.62)	
Two children	135(38.6)	109.45(15.73)		22.22(12.73)	
Three children	31(8.9)	111.87(18.34)		23.70(13.69)	
Four children	12(3.4)	111.33(19.10)		21.33(13.02)	
Five children	1(0.3)	112.65(12.35)		12.56(11.23)	
Education			P=0.56, F=0.73		P=0.92, F=0.22
Less than high school diploma	53(15.1)	109.39(17.36)		23.58(14.32)	
High school diploma	96(27.4)	108.30(16.06)		24.44(13.38)	
Associate degree	63(18.0)	111.87(15.40)		23.15(12.56)	
Bachelor's	113(32.3)	111.58(16.53)		23.55(13.38)	
Master's degree and more	25(7.2)	109.56(15.55)		21.08(10.06)	
Type of employment			P=0.07, F=2.62		P=0.28, F=1.24
Permanent	103(29.4)	110.88(16.19)		21.88(11.90)	
Contractual	172(49.2)	108.47(15.07)		24.41(12.99)	
Others	75(21.4)	113.49(18.41)		24.12(15.47)	
Duration of employment			P=0.85, F=0.69		P=0.11, F=2.19
1-10 years	178(50.9)	110.20(15.86)		24.29(13.27)	
11-20 years	101(28.9)	109.73(16.01)		24.46(13.57)	
More than 20 years	69(20.2)	111.11(17.66)		20.67(12.60)	
Income			P=0.52, F=0.74		P=0.46, F=0.85
Between 1 and 2million tomans	45(12.9)	110.60(19.56)		26.08(15.82)	
Between 2 and 3million tomans	232(66.3)	109.5(15.41)		23.56(13.07)	
More than 3 million tomans	62(17.7)	114.4(14.96)		21.09(12.02)	
Between 1 and 2million tomans	11(3.1)	116.18(24.61)		23.72(13.16)	
Income status			P=0.12, F=2.11		P=0.22, F=1.48
Expenditures > income	273(78)	109.61(16.32)		24.14(13.33)	
Expenditures = income	65(18.6)	111.36(15.94)		22.32(13.49)	
Expenditures < income	13(3.4)	119.00(14.34)		18.33 (9.24)	
Living place			P=0.64, F=0.43		P=0.21, F=1.25
City	312(89.1)	110.49(19.19)		23.33(12.99)	
Village	28(8.0)	109.17(15.70)		24.46(13.77)	
Outskirts	10(2.9)	106.00(20.03)		29.90(19.53)	
Housing status			P=0.47, F=0.51		P=0.007, F=7.37
Personal	220(62.9)	110.74(15.81)		22.14(12.68)	
Leased	130(37.1)	109.44(16.97)		26.09(13.91)	
Smoking status			P=0.12, F=2.31		P=0.11, F=2.45
Smoking	309(88.3)	109.77(16.28)		24.01(13.31)	
Quitted	41(11.7)	113.87(15.68)		20.56(12.37)	

**Table 1 (Continue)** .Frequency and percentage, mean and standard deviation, significance, and test statistics of emotional intelligence and general health scores by demographic characteristics

Variable	N (%)	Emotional intelligence Mean (SD)	Statistical indicator	General health Mean (SD)	Statistical indicator
Duration of smoking			P=0.25, F=1.37		P=0.45, F=0.87
Between 1-10 years	132(37.7)	111.32(14.56)		23.55(12.79)	
Between 11-20 years	119(34.1)	110.44(14.64)		23.87(13.32)	
Between 21-30 years	67(19.1)	110.40(14.18)		21.89(11.46)	
Age of commencement of smoking	32(9.1)		P=0.56, F=0.57		P=0.13, F=1.99
Under 18 years	122(34.8)	109.66(17.99)		24.88(14.48)	
Between 18-28 years	192(54.9)	110.13(15.36)		23.49(13.83)	
More than 28 years	36(10.3)	112.94(14.65)		19.88 (10.60) 19.88(10.60)	
Daily cigarette consumption			P<0.001, F=9.94		P<0.001, F=9.16
Under 10 cigarettes	167(47.7)	113.18(14.24)		21.40(11.66)	
Between 10-20 cigarettes	151(43.1)	109.88(15.07)		23.76(12.09)	
Between 21-30 cigarettes	21(6.0)	96.14(19.35)		34.66(16.66)	
More than 30 cigarettes	11(3.2)	97.90(25.04)		33.81(19.61)	
Weekly cigarette consumption			P<0.001, F=6.72		P<0.00, F= 5.73
Under 70 cigarettes	165(47.1)	113.52(13.90)		21.39(12.05)	
Between 70-140 cigarettes	57(16.3)	110.12(13.51)		23.43(12.57)	
Between 141-210 cigarettes	16(33.2)	107.06(18.30)		25.63(13.74)	
	12(3.4)	96.91(24.34)		35.25(19.46)	

**Table 2.** Relationship between general healths dimensions scores

Variable	Relationship	Physical symptoms	Anxiety	Social isolation	Depression
Emotional intelligence	r	-0.530	-0.605	-0.440	-0.598
	p	<0.001	<0.001	<0.001	<0.001
	N	350	350	350	350

**Table 3.** Relationship between emotional intelligence dimensions scores

Variable	Relationship	Self-esteem	Self-awareness	Self-control	Empathy	Social skills
General health	r	-0.507	-0.574	-0.529	-0.479	-0.473
	p	<0.001	<0.001	<0.001	<0.001	<0.001
	N	350	350	350	350	350

## Discussion

Since there is no baseline for the score for emotional intelligence, and in different studies, the high score of emotional intelligence in the range of 165-133 is considered to be better. Therefore, according to the mean of the study, the emotional intelligence of male smoker staff at the university of science Urmia medical center is relatively high. General health status of the male smoker's staff of Urmia University of Medical Sciences is classified according to the health status as normal.

Emotional intelligence is a kind of ability that leads an individual to effectively use his cognitive intelligence and his skills; as a learning skill, it can be strengthened through training and can increase the ability to solve a problem and help individuals adapt to the environment, which ultimately leads to improving the health and self-esteem of stress and stress; on the other hand, by training and thus enhancing emotional intelligence, it is possible to control the conversion of addictive substances, including cigarettes, which can result from failures, and an inability to solve problems.

There was an inverse association between the

scores of intelligence and general health in smokers, with increased intelligence scores and self-control skills, self-control, empathy and social skills in smokers, general health scores and physical symptoms, social dysfunction, anxiety and depression. They decrease, which means that the higher the emotional intelligence score in the smoker is, the better their physical and mental health will be than the smoker with a low intelligence score, in fact, the more people are able to understand and control their feelings and others and establish a constructive relationship with others are; Less to health-related behaviors, such as smoking due to the lack of control over the resulting emotions, will be less susceptible to physical and mental disorders; this finding is consistent with the findings of other studies. The study of Abdolmaleki *et al.*, showed that there is a significant reverse relationship between the dimensions of intelligence and its relationship with general health and its dimensions.<sup>23</sup>

The study of Namazi *et al.*, also confirms a significant correlation between the mean total score of general health and emotional intelligence.<sup>14</sup> The study by Tsaousis *et al.*, conducted on adults, shows that there is a correlation between the high

score of emotional intelligence and the low score of physical and mental health, which can increase physical and mental health by increasing intelligence.<sup>11</sup> Another study, conducted by Slaski et al., also shows a significant link between intelligence, health and performance, in addition to the fact that intelligence plays an important role in flexibility and stress adjustment, so if it can be developed through training, stress can be managed.<sup>16</sup>

A review of Kun et al., showed that low levels of emotional intelligence are associated with smoking. In fact, emotion perception and reasoning act as a protective factor against smoking.<sup>27</sup>

Awareness of your feelings (the consciousness dimension) plays an important role in the general health of the people, which is also in line with other studies in this study.<sup>28</sup> Indeed, the more one understands their feelings, and it can easily be answered more reasonably in different stressful situations.

## Conclusion

The emotional intelligence of the male smoker's staff of Uremia University of Medical Sciences is relatively high, general health of male smokers working in the Uremia University of Medical Sciences is normal.

Regarding the relationship between intelligence and general health in smokers, it can be concluded that smokers with high intelligence have a better general health than smokers with low emotional intelligence. In fact, intelligence is a set of skills and the ability to adapt to others and the environment, and give a suitable response to them. It can be strengthened through education.

## Acknowledgments

This paper has been extracted from a master's thesis in Community Health Nursing, conducted in Tabriz University of Medical Sciences. It has been sponsored by Tabriz University of Medical Sciences and co-funded by Uremia University of Medical Sciences.

The authors of this paper are grateful to the above-mentioned universities and all the participants in the study.

## Ethical issues

None to be declared.

## Conflict of interest

The authors declare no conflict of interest in this study.

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