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# The effect of emotional intelligence training on general health promotion among nurse

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## Abstract:

**INTRODUCTION:** The hospitals are a stressful environment for employees, especially nurses. Stress and other health problems may lead to occupational burnout and reduction of nurses' efficiency. The aim of the current study is to investigate the effect of emotional intelligence training on health promotion of nurses in Sabzevar Hospitals.

**METHODOLOGY:** The current study is a field trial with a random control group. The sample group was 135 nurses of Sabzevar Hospitals. They were then divided randomly into experimental and control groups. First, all of the samples answered the questionnaire of personal information, Bar-On Emotional Intelligence, and General Health Questionnaire. The first group (intervention) was trained by giving the speech, and the second group (control) did not receive any intervention about the subject of the study. The experimental group was then trained for the components of emotional intelligence and answered the questionnaire again. The significance level was considered as  $P < 0.05$ .

**RESULTS:** The results showed that the distribution of qualitative variables in the study was similar and also the scores of emotional intelligence and the dependent variables after intervention in the intervention group had a significant and inverse relationship, meaning that the score of emotional intelligence decreased with the score of general health score. This could be significant in comparison to the two groups. Findings showed that emotional intelligence at the beginning of the study in the intervention and control groups were  $35.03 \pm 32$  and  $30.89 \pm 33$ , respectively, and after the intervention, it was  $29.68 \pm 35$  and  $42.89 \pm 34$ , respectively. Total general health was  $19.76 \pm 84$  and  $18.77 \pm 77$  in the case group before intervention and  $14.55 \pm 56$  in the case group and  $17.68 \pm 52$  in the control group, respectively ( $P < 0.001$ ).

**CONCLUSION:** Findings indicated the significant mutual effect of emotional intelligence changes and general health variables. It means as the score of emotional intelligence gets more, health score decreases and the rate of general health increases.

## Keywords:

Emotional intelligence, general health, nurses, training

## Introduction

Human being has been always looking for methods to get rid of anxiety, worrisome, obsession, depression, and different physical diseases since a long time ago. They also want better relations, happiness, and better life.<sup>[1]</sup> The civilization disease today, arising from lifestyle, is one

of these changes. The effect of emotion on personality, physical, and mental health has been emphasized a lot over the recent decades. There are lots of studies about how people cope with emotional and stressful events and how it happens. Moreover, scholars have been always trying to realize such affairs.<sup>[2]</sup>

Mayer *et al.* – emotional intelligence theory, as one of such activities, has been proposed

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with the aim of using emotions to facilitate thinking. The theorists define emotional intelligence as the ability of correct perception of the human environment, monitor of self and others' emotions, the ability to identify self and others' emotions, and using emotional knowledge to lead thinking and self and others' relationships.<sup>[3]</sup> Modern clinical records indicate that thinking without emotion will not end to satisfactory decision-making. According to Salovey and Grewal, we cannot suppress the emotions because each emotion has its own value and message so our duty is to manage them so that a balance can be established between thinking and emotion. The key factor of desired decision-making is to identify self and others' emotions. The more this ability is, the accuracy of decision-making will be more.<sup>[4]</sup>

Attention to different definitions, proposed in the field of mental health, also shows the relationship between the components of emotional intelligence with this structure. If we consider the signs of mental health as a positive attitude toward self and environment, self-flourishment, integrated mental performance, independence, correct perception of reality, goal-oriented motivation, then we should admit that emotional intelligence is of a great role because physical, mental, and social welfare of human being depends on conscious perception of self and others' emotions, continence and dominating the wishes, sympathy with others and making friendly relationships with others. Nurses have been studied in this paper. As the biggest health service providers, nurses shall have working life quality and good physical and mental health, while they are always exposed to the damages of anxiety and stress.<sup>[5]</sup> It could threaten their life. Workplace and related activities to nurses are threatening and anxiety factors. Acute care units and intensive care units are of the most stressful environments for nurses. These stresses could negatively affect mental health and also the performance of nurses. Emergency cases, caring for dying patients, and shortage of facilities also make this problem double.

According to Bar-On, the stresses of the nursing profession are followed by the qualitative and quantitative decline of health-care services which negatively affect the health of society. Given the importance of preventing and controlling stress and maintaining the health of this group as well as promoting the quality and effectiveness of cares, identifying effective factors is an effective step toward appropriate measures for promoting the health of nurses and the quality of their services.<sup>[6]</sup>

The results of different studies show that emotional intelligence and general health are interrelated and training emotional intelligence skills may promote health, especially for nurses. In a meta-analysis, investigated 44 studies, it was concluded that emotional

intelligence has a relationship with mental health. Jacobs *et al.* reported that emotional intelligence has a negative relationship with neurosis and depression and positive relationship with extroversion, openness to new experiences, acceptability, life satisfaction, and cognitive skill.<sup>[7]</sup> Krueger *et al.* (2002) showed that health components, especially mental health, has a relationship with emotional intelligence and training emotional intelligence skills could be followed by a positive effect on people's physical and mental health.<sup>[8]</sup> However, although many research results show the relationship between emotional intelligence and health, there was no research on the effect of emotional intelligence training, especially on nurses and component training.

Given what was said, in this study, we are seeking to investigate the effect of emotional intelligence training on health promotion of nurses in educational hospitals.

## Methodology

The current study is an experimental study with a random control group. Target population of this study consist of nurses in units of Mohammad Vasei, Shahid Beheshti, and Shahidan Mobini Hospitals in Sabzevar, randomly divided into two groups and a sample of 135 people were randomly selected based on the list of sample group names and random number table. 73 ones in control group and 62 ones in the intervention group were studied. All patients completed the informed consent form. Assignment of individuals to groups was done randomly. The first group (intervention) was trained by giving the speech, and the second group (control) did not receive any intervention about the subject of study. The members of the intervention group learned 15 components of emotional intelligence. The demographic questionnaire of ten questions, General Health Questionnaire (GHQ) of 28 questions, and Bar-On Emotional Intelligence Questionnaire of 90 questions were used after and before the intervention. At the end of the training sessions, the intervention group of both groups (experimental and control) took the tests again. All nurses working in hospitals of Sabzevar were enrolled in the study if they had the following conditions up to the appropriate volume of study: people who have not already received any training on the topic of research. If a person has already been trained, the results of the study will be affected whether the score obtained from the study is present or not? Do not use antianxiety and tranquilizers during the study period. Drug use could interfere with the outcome (due to sleepiness and lack of consciousness) (either at the training stage or the completion stage of the response). No night shift before the night before the tests. Fatigue caused by night shift could interfere with completing the questionnaire or understanding the training sessions.<sup>[4]</sup> To commit to

attend all or more than half of the meetings. Pregnant nurses were excluded or nurses with underlying diseases (blood pressure, diabetes, etc.) were excluded.

The training program in this study is based on a training package of emotional intelligence,<sup>[9]</sup> implemented during 6 sessions of 2 h, 2 days a week. The related experts did training in two repetitive periods (two 6-session courses). The content of the program for each session was as follows: group and members' referrals with each other, familiarity with the method of work, learning and discussing emotional intelligence and its components, understanding the concept of emotional self-regulation, expressing emotions, attachments and ways of changing perceptions in SPSS 16 software, and analyzed with descriptive statistical tools, *t*-test, and paired *t*-test or their nonparametric equivalence of covariance. Covariance analysis is appropriate for pretest-posttest experimental plans and the comparison of means of two groups.<sup>[10]</sup>

### Research tools

Bar-On Questionnaire consists of 90 questions, testing five factors of intrapersonal relationship, interpersonal relationship, stress management, compatibility, and general mood. This questionnaire has been normalized<sup>[11]</sup> and its reliability is 76%, according to Cronbach's alpha. Its validity has been shown through internal consistency using Cronbach's alpha in seven samples of a different population.<sup>[12]</sup> GHQ: it consists of 28 statements of four subscales which are physical signs, anxiety, social performance failure, and chronic depression.

Goldberg and Hillier *et al.* confirmed the validity of the questionnaire as 0.78 and its internal consistency as 0.64 using Cronbach's alpha.<sup>[13]</sup> Krueger *et al.* and Taghavi also confirmed the reliability and validity of the questionnaire.<sup>[7,8]</sup>

### Results

Out of 135 participants, 73 ones in the control group and 62 ones in the intervention group were studied. 112 of them (83%) were women and 104 ones of them (77%) were married. 125 ones (92.5%) of participants had nursing Bachelor academic degree. Moreover, 123 ones (91.1%) were working in all three shifts (not simultaneously). Most of participants were those of intensive care unit as 43 (31.9%). Most of the participants (129, 95.6%) were also the native of Sabzevar [Table 1].

The comparison between the scores of general health and emotional intelligence before and after intervention in the experimental and control group was conducted using the statistical paired *t*-test. The results indicated that the total score of general health in the experimental group is significantly different before and after intervention ( $P < 0.001$ ). Furthermore, the total score

of emotional intelligence in the experimental group is significantly different before and after intervention while these variables in the control group were not significantly different before and after intervention [Table 2].

The results of the analysis showed that the score of emotional intelligence and general health are significantly different in two groups, and higher in experimental group after intervention so that changing the rate of emotional intelligence, the rate of general health also changes significantly and reversely [Table 3].

### Discussion

Given the stressful working conditions of nurses, the aim of the current study was to investigate the effect of emotional intelligence training on health promotion of nurses. The results indicated that the interaction between emotional intelligence and general health changes was significant. It means as the score of emotional intelligence gets more, health score decreases and the rate of general health increases.

In general, emotional capabilities are effective on coping with daily life problems, positive attitudes toward

**Table 1: Demographic characteristics by the groups studied**

Variable	Control, n (%)	Case, n (%)
Gender		
Women	60 (82.2)	52 (83.9)
Men	13 (17.8)	10 (16.1)
Total	73 (100)	62 (100)
Education		
Bachelor	69 (94.5)	56 (90.3)
Masters	4 (5.5)	6 (9.7)
Marital status		
Single	13 (17.8)	18 (29)
Married	60 (82.2)	44 (71)
Work shifts		
Just work morning	3 (4.1)	4 (6.5)
In three shifts	68 (93.2)	55 (88.7)
In two shifts	3 (4.8)	2 (2.7)
Total	73 (100)	62 (100)
Work section		
Emergency and burn	8 (11)	11 (17.7)
CCU, ICU, NICU, dialysis	23 (31.5)	20 (3.32)
Internal, nervous and infectious	17 (23.3)	19 (30.6)
Surgery, orthopedics	12 (16.4)	8 (12.9)
Children and infants	6 (8.2)	3 (4.8)
Heart	7 (9.6)	1 (1.6)
Total	73 (100)	62 (100)
Accommodation status		
Native	68 (93.2)	61 (98.4)
Nonnative	5 (6.8)	1 (1.6)
Total	73 (100)	62 (100)

CCU=Coronary care unit, ICU=Intensive care unit, NICU=Neonatal ICU

**Table 2: Mean and standard deviation of quantitative variables in the total population of the study population**

Variable	Average	SD	SE	Total (n)
Age	32.11	6.68	0.57	135
Work experience	7.24	5.72	0.49	135
General health score before intervention	42.98	7.76	0.66	135
General health score after intervention	38	8.63	0.74	135
Emotional intelligence score before intervention	327/02	33.44	2.78	135
Emotional intelligence score after intervention	339.5	39.11	3.36	135

SD=Standard deviation, SE=Standard error

**Table 3: The comparison of variables before and after the intervention, separated by study group**

Variable	Experimental group		Control group	
	Mean±SD	P	Mean±SD	P
Total score of general health before intervention	84.95±15.76	<0.001*	77.61±13.77	0.39
Total score of general health after intervention	72.98±13.55		79.52±15.68	
Total score of emotional intelligence before intervention	319.06±34.02	<0.001*	333.76±31.62	0.56
Total score of emotional intelligence after intervention	350.11±29.67		330.49±43.84	

\*Significance level was considered as  $P < 0.05$ . SD=Standard deviation

events, and expansion of sight horizon and the people’s insight so people with this ability are more physically and mentally healthy and more satisfied.<sup>[14]</sup> The findings of the current study are consistent with the existing literature on emotional intelligence and health. For example, the consistency of Salovey *et al.* studies can be mentioned. With the trait meta-mood scale, they showed a significant relationship between emotional intelligence and mental, interpersonal performance. The results of the mentioned study indicated that high emotional intelligence is consistent with anxiety and low depression and sympathy and high interpersonal satisfaction. High emotional attention is followed by low blood temperature which is of great importance in physical health.<sup>[15]</sup> Moreover, the results of the current study are consistent with the studies of Pulido-Martos *et al.* The mediating role of perceived emotional intelligence between stress resources and mental health was investigated in their study. The results confirmed that emotional intelligence is an important mediator in the relationship between professional stressors and mental health.<sup>[16]</sup> In a study, subjected to emotional intelligence as a predictor of mental well-being of burnout and life satisfaction, Carvalho *et al.* showed the positive effect of emotion evaluation on burnout.<sup>[17]</sup>

The findings of this study are also consistent with other studies such as Erdman *et al.*, Alconro-Camero *et al.*<sup>[18,19]</sup> In a systematic review study, Khosrorad *et al.* showed that in most of the studies with the subject of emotional intelligence with health, the role of general emotional intelligence has been more investigated and the role of its components have been less studied. There are a few studies about the physical health and clinical population.<sup>[20]</sup> If the components of emotional intelligence are considered, intrapersonal emotional regulation components are more effective on health

than interpersonal ones.<sup>[21]</sup> The components of mental health have been also investigated in the current study. The results indicate a significant relationship between emotional intelligence and mental health components that are higher emotional intelligence causes less anxiety and physical deficiencies in social performance. Therefore, training emotional intelligence as a psychological ability is effective on the physical and mental health of nurses with a high rate of anxiety because the skills of emotional intelligence facilitate the processes of emotional information and increase cognitive cohesion. Therefore, people who pay attention to and identify their emotions can minimize the effect of stressful events, cope with them easily, and be healthier physically and mentally.<sup>[8]</sup>

On the other hand, it should be noted that all data were collected through personal questionnaires. As a result, a part of the covariance between variables can be due to this common method. The use of personal reporting tools has a potential threat in terms of scale validity. Problems such as pretending, the effect of the researcher’s expectations, forgetting, motivation, bias, and difficulty understanding the questionnaires, can all affect the validity of the data. It is always a matter of concern with how relevant the responses of contributors correspond to their behavioral and cognitive responses to real-life situations. In addition, the use of personalized reporting tools to measure direct cognitive processes that are beyond the realm of knowledge (such as identity processing styles) has further implications. Using other measurement methods, such as observation and interviewing, can provide more complete data. However, due to the size of the sample size, it was not possible to do so.

## Conclusion

According to this study, increasing the score of emotional intelligence in nurses may lead to health promotion can be effective on servicing the clients to the health-care



centers of town along with health development plan. Using the results of this study and the results clearly showed that emotional intelligence affects health; therefore, using educational models and appropriate strategies for increasing the emotional intelligence of nurses to improve their health can be taken.

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### Conflicts of interest

There are no conflicts of interest.

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