

# Teaching Emotional Intelligence to Intensive Care Unit Nurses and their General Health: A Randomized Clinical Trial

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## Abstract

**Background:** Emotion and how people manage it is an important part of personality that would immensely affect their health. Investigations showed that emotional intelligence is significantly related to and can predict psychological health.

**Objective:** To determine the effect of teaching emotional intelligence to intensive care unit nurses on their general health.

**Methods:** This randomized clinical trial (registered as IRCT201208022812N9) was conducted on 52 of 200 in intensive care unit nurses affiliated to Shiraz University of Medical Sciences. They were recruited through purposeful convenience sampling and then randomly categorized into two groups. The intervention group members were trained in emotional intelligence. Bar-on emotional intelligence and Goldberg's general health questionnaires were administered to each participant before, immediately after, and one month after the intervention.

**Results:** While the mean score of general health for the intervention group decreased from 25.4 before the intervention, to 18.1 immediately after the intervention and to 14.6 one month later, for the control group, it increased from 22.0, to 24.2 and to 26.5, respectively ( $p < 0.001$ ).

**Conclusion:** Teaching emotional intelligence improved the general health of intensive care unit nurses.

**Keywords:** Emotional intelligence; Mental health; Education; Nurses

## Introduction

Emotion and how people manage it is an important part of personality that would immensely affect their health.<sup>1</sup> Mental health is one of the overall health dimensions and refers to all methods and measures used to prevent psycho-

logical disorders.<sup>2</sup> Emotional intelligence plays a mediatory role between the mental health and stress. Those with higher emotional intelligence have more ability to cope with the environmental conflicts than those without.<sup>3</sup> Emotional awareness and its regulation also lead to better stress management and performance of

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tasks.<sup>4</sup>

Nurses face numerous occupational stressors including shift work, high work load, frequent contacts with patients' suffering and death, *etc.* For all these stressors, nurses are prone to develop irresolvable conflicts that would ultimately result in jeopardized interpersonal relationship and/or work-related issues that affect the administrative system.<sup>5</sup>

Bradberry, *et al.*, studied a number of individuals in the work environment and found that 90% of those with excellent job performance had high emotional intelligence.<sup>6</sup> Some researchers believe that some forms of emotional intelligence would keep people safe from stress and lead to more compatibility.<sup>7</sup> For instance, the capability to control emotions is associated with maintaining a positive mood and thus, prevents depression. They also showed that the adolescents who were able to control the others' emotions benefited from more social support and were more satisfied.<sup>7</sup> In the same line, Saarni conducted a study on 400 workers and showed that those with higher emotional intelligence benefited from more freshness, exhilaration, vitality, and independence as well as better performance at work. They were also more optimistic to-

wards life, more tolerant towards stress, and more successful in life.<sup>8</sup>

Although pure rational capabilities cannot well predict the success in work and life, emotional intelligence and mental health can be good predictors of success in job situations.<sup>9</sup> Nurses are among the groups who have close relationships with people, have the responsibility of maintaining the people's health, and are faced with patients many of whom suffering from incurable diseases. Therefore, they may encounter severe physical and psychological pressures resulting in dissatisfaction and now and then quitting their job.

Emotional intelligence and mental health can help people solve their occupational problems and raise committed nurses.<sup>10</sup> Emotional intelligence skills, particularly "self awareness," help the nurses to get familiar with their emotions, behaviors, and reactions<sup>11</sup> because self awareness is the process of understanding one's thoughts, conflicts, motivations, and limitations and describes how other people would be affected by these issues.<sup>12,13</sup> The ability to consider and control one's and the others' emotions and differentiate between them is of course quite important in nursing.<sup>14</sup>

Considering the importance of mental health and emotional intelligence in nursing, we conducted this study to determine if general health of a group of nurses with high level of work stress can be improved by increasing their emotional intelligence quotient.

## Materials and Methods

The present randomized clinical trial (registered as IRCT201208022812N9) was conducted to investigate the effect of teaching the components of emotional intelligence on the general health of a group of intensive care unit (ICU) nurses

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### TAKE-HOME MESSAGE

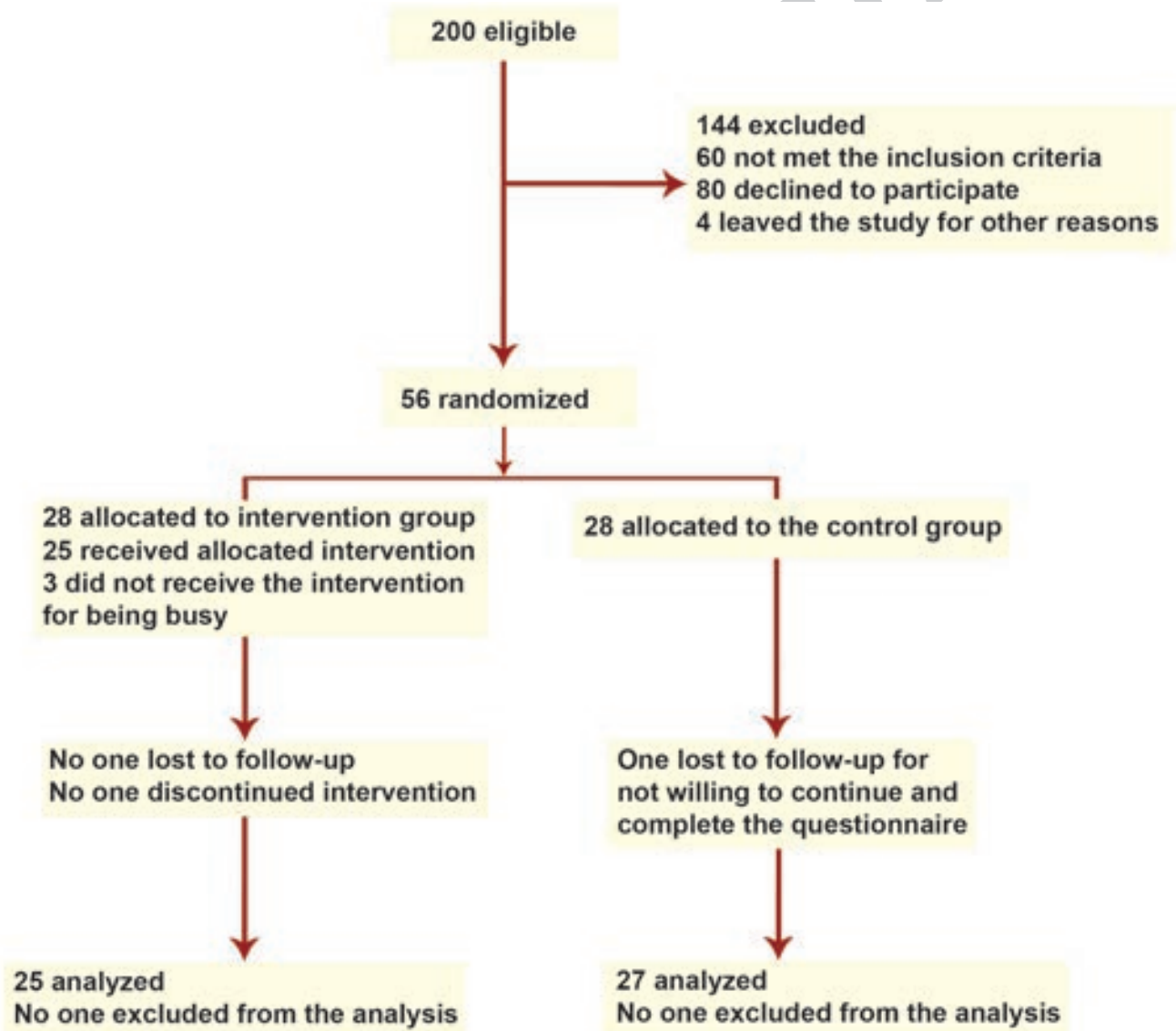
- Nurses face numerous occupational stressors.
- Rational capabilities cannot *per se* well predict the success in work and life; emotional intelligence and mental health can do.
- Emotional intelligence plays a mediatory role between mental health and stress. People with higher emotional intelligence can better cope with the environmental conflicts.
- Training of ICU nurses in emotional intelligence significantly improves the general health of them.

affiliated to Shiraz University of Medical Sciences, Shiraz, Iran. Based on a similar study conducted in 2007, Tehran, Iran,<sup>15</sup> assuming an expected mean difference in mental health score of 0.65 unit, an expected SD of 0.85 in the two study groups, a significance level of 0.05, and a study power of 80%, we derived a minimum sample size of 54 subjects was determined for the study (27 subjects in each group). We, therefore recruited 56 out of 200 ICU nurses of Namazi and Shahid Faghihi

hospitals, affiliated to Shiraz University of Medical Sciences, Shiraz, Iran. However, 52 nurses completed the study.

At first, the study samples were recruited through purposeful convenience sampling and randomly allocated to two either the control ( $n = 27$ ) or the intervention group ( $n = 25$ ). The intervention group members took part in a workshop on emotional intelligence lasted for two consecutive days (Fig 1).

Demographic information were col-



**Figure 1:** Trial profile

lected for each participant; Bar-on emotional intelligence, and 28-item Goldberg's general health questionnaires (GHQ-20) were then administered to each nurse.

Bar-on emotional intelligence questionnaire consists of 133 questions and evaluates five factors of interpersonal relationship, intrapersonal relationship, stress management, adaptability, and general mood; it includes 15 subscales of emotional self awareness, assertiveness, self regard, self actualization, independence, interpersonal relationships, empathy, social responsibility, problem solving reality testing flexibility, stress tolerance, impulse control, happiness, and optimism.<sup>16</sup> The questionnaire has been translated and standardized in Iran and its content, with the same five factors and 15 subscales, has been reduced to 90 questions.<sup>17,18</sup> The answers in this questionnaire are scored through a Likert scale with five choices ranging from "completely disagree" to "completely agree." The Persian version of the questionnaire had acceptable reliability and validity for Iranian students.<sup>17</sup> Dehshiri examined the reliability of the questionnaire through the test-retest method on 35 subjects and reported the reliability index of 0.74.<sup>18</sup> He also reported reliability coefficients of 0.90, 0.84, 0.82, 0.57, 0.62, and 0.65 for stress tolerance, impulse control, flexibility, assertiveness, social responsibility, and independence subscales, respectively.<sup>18</sup> GHQ-20 questionnaire has also a high validity and reliability in assessing mental health.<sup>19-21</sup>

This study has been approved by Shiraz University of Medical Sciences Ethics Committee. All ICU nurses of Shahid Faghihi and Namazi hospitals, Shiraz, Iran, were informed of the necessary information about the training course on emotional intelligence. Those nurses with more than two years of experience inter-

ested in participating in the study were registered.

Of 200 ICU nurses, 28 were working in Shahid Faghihi hospital and selected as the control group; 28 nurses who were working in Namazi hospital were allocated to the intervention group. Selection of the hospitals for the control and the intervention group was random.

The nurses of the intervention group were invited to take part in a training courses held in the College of Nursing and Midwifery, Shiraz University of Medical Sciences, Shiraz, Iran. During this two-day workshop, components of emotional intelligence were taught. Of the intervention group nurses, 25 completed the training course. The course included the concept of health, self awareness skills, stress and its symptoms, stress management, the relationship between thoughts and emotions, emotional intelligence, management of emotions, relationship management, and self management. These nurses in the intervention group were asked to complete the questionnaires before, immediately after and one month after the workshop.

The 28 ICU nurses of Shahid Faghihi hospital (the control group) were also asked to complete the questionnaires at the same time as the intervention group did. Of these, 27 completed the questionnaires after one month of the intervention. To consider ethical issues, the nurses in the control group were provided with educational materials after completion of the study.

Data were analyzed by SPSS® for Windows® ver. 15. Categorical variables were compared with  $\chi^2$  test. Means of continuous variables in the two groups were compared with *Student's t* test for independent samples. Repeated-measure one-way analysis of variance (ANOVA) was used to examine the trend of changes in emotional intelligence and mental health

scores before, immediately after, and one month after the intervention.

**Results**

The two study arms were not significantly different in terms of age, working experience, and working hours (Table 1) the distribution of employment status, shift working, and number of night shifts per week, were also not different between the two groups (Table 2) No significant difference was observed between the two groups in terms of emotional intelligence and mental health mean scores before the intervention (Tables 3 and 4)

The mean emotional intelligence score in the two groups was not significantly different (p =0.495) before the intervention. Immediately and one month after the intervention, while the mean score increased

**Table 1:** Mean±SD of demographic variables in the two groups before the intervention

Parameter	Intervention	Control	p value
Age	36.3±6.7	33.0±6.3	0.12
Work experience	11.6±6.03	9.3±6.2	0.19
Work hours	42.8±6.05	42.6±11.8	0.95

in the intervention group, it decreased in the control group (Table 3) The mean score significantly (p =0.02) changed over time in both groups. The score was also significantly different between the two study groups (p =0.005) The two groups were significantly (p <0.001) different in terms of the trend of changes in the mean emotional intelligence score before, im-

**Table 2:** Frequency distribution of studied nurses in the two groups stratified by their marital and work status

Parameter		Intervention	Control	p value
Marital status	Married	18 (72%)	15 (58%)	0.28
	Single	7 (28%)	11 (42%)	
Employment status	Formal	11 (44%)	7 (30%)	0.31
	Semi-formal	10 (40%)	8 (35%)	
	Contractual	4 (16%)	8 (35%)	
Work shift	Morning or evening	7 (28%)	8 (31%)	0.83
	Rotational	18 (72%)	18 (69%)	
Number of night shifts per week	1	7 (28%)	3 (12%)	0.39
	2	11 (44%)	14 (54%)	
	>2	0 (0%)	1 (4%)	
	None	7 (28%)	8 (31%)	

**Table 3:** Mean±SD emotional intelligence scores before, immediately after, and one month after the intervention in the two study groups

Group	Before the intervention	Immediately after the intervention	One month after the intervention
Intervention	319.0±33.2	337.6±33.0	360.9±40.4
Control	324.7±27.5	320.2±23.40	315.8±40.3

mediately after, and one month after the intervention (Table 3)

The mean general health score in the two groups was not significantly different ( $p=0.311$ ) before the intervention. Immediately and one month after the intervention, while the mean score decreased in the intervention group, it increased in the control group ( $p < 0.001$ , Table 4). It means while immediately after and one month after the workshop, general health was improved in the intervention group.<sup>22</sup> Time was not an important factor ( $p = 0.2$ ). Regardless of time, a significant difference was observed between the two groups ( $p = 0.033$ ).

### Discussion

Emotional intelligence is a form of social intelligence. Those with higher emotional intelligence are more capable of dealing with life challenges and have better mental health.<sup>23</sup> The present study showed positive effects of teaching the components of emotional intelligence on the

general health of ICU nurses. The mean score of emotional intelligence was higher in the intervention than the control group.

Kazemi, *et al*, showed that teaching the emotion management skills, particularly “self awareness” and “relationship management” would increase the emotional intelligence among a group of students.<sup>22</sup> Shahbazi, *et al*, reported that teaching “problem solving skills” had a positive effect on the emotional intelligence quotient of a group of nursing students.<sup>24</sup> Other researchers also confirmed that emotional intelligence can be increased by education<sup>25,26</sup> and that the increased emotional intelligence can improve various aspects of people performance.<sup>27,28</sup>

We found that training in emotional intelligence resulted in positive effect on the nurses' general health. These findings were consistent with many reports revealing positive effects of emotional intelligence on mental health, general health,<sup>29-31</sup> flexibility, depression,<sup>32</sup> anger management,<sup>33</sup> freshness, exhilaration, vitality, independence, better perfor-

**Table 4:** Mean±SD general health score before, immediately after, and one month after the intervention in the two study groups

Group	Before the intervention	Immediately after the intervention	One month after the intervention
Intervention	25.4±11.0	18.1±8.7	14.6±10.1
Control	22.0±12.8	24.2±9.7	26.5±13.8

mance, optimism towards life, and stress tolerance.<sup>8</sup>

One of the limitations of the present study was the small sample size studied. Participants might have different personalities that would affect their level of assimilation. However, randomization of participants should have abolished this problem as both groups had similar baseline characteristics. Similar studies with larger sample size and longer follow-up are needed to investigate the changes in general health with higher level of scrutiny. Further studies have also to be conducted to assess the mental health in university hospitals, so that the risk factors for psychological problems in nurses can be identified for planning to improve their mental health.

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**Conflicts of Interest:** None declared.

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