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The Effect of Emotional Intelligence Skills Training on Resilience of Critical Care Unit Nurses

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ABSTRACT

This study aimed to investigate the effect of emotional intelligence skill training on the resilience of critical care unit nurses. This interventional study, which used a pretest-posttest control group design, was conducted in 2018 in Khorramabad, Iran. Considering the inclusion criteria, 50 critical care nurses were selected using purposive sampling and randomly divided into two experimental and control groups through the random number table. The Connor-Davidson resilience scale was completed to assess resilience in the pretest-posttest comparisons. The intervention included training emotional intelligence skills in seven 60-minute sessions. The results showed that after the emotional intelligence training intervention, a statistically significant difference was observed in the mean resilience score between the experimental and control groups ($p<0.05$). Training can be designed based on the present study to improve emotional intelligence for nurses in critical care departments. It is recommended that nursing managers consider this important issue for nurses in planning and training.

Keywords: Education; Emotional intelligence; Resilience; Critical Care Unit; Nurses

Introduction:

Nurses are considered the largest human resources group in the healthcare system [1]. The U.S. National Institute for Occupational Safety and Health (NIOSH) has ranked nursing among the top 40 most stressful professions [2]. Healthcare team members and nurses are exposed to high physical, organizational, and psychological risk factors [3]. In addition to pointing to the high level of occupational stress among nurses, various studies have also addressed the difference in its severity in different wards; For example, nurses working in burn, emergency, and pediatric wards as well as critical care units and operating room have more stress than those working in other wards [4] Therefore, nursing in such wards is of special importance, because nurses working in these wards experience more stress due to special conditions caused by the work environment and patients[5]. Critical ward stressors include the need for high levels of knowledge and skills, the immediate presence of nurses in urgent situations, and the heavy responsibilities of patient care [6]. Resilience is a positive adaptation to stress. Garmezy and Masten defined it as "a process, capacity, or outcome of successful adaptation despite threatening circumstances" [7]. Therefore, adaptation in these nurses is crucial and involves overcoming various personal barriers and leveraging psychological, professional, and social capital to improve their caregiving abilities. As one of this study's most important adaptation components, we deal with resilience. In other words, resilience is a positive adaptation to adverse conditions [8]. Resilience enables nurses to withstand many psychological and environmental stressors. Considering the need to reduce occupational stress among nurses, it should be noted that the incidence of occupational stress in the

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workplace is multifactorial due to various occupational and personal factors [9].

Cameron and Brown, found that a sense of purpose in the workplace and a positive attitude toward work-life balance are the most important determinants of resilience among elderly care nurses [10]. Akbari et al. reported that high resilience is associated with high psychological well-being in nurses [11]. Amini et al. suggested that critical care unit nurses have lower life satisfaction and resilience than those in other wards [12]. Edenborough et al. found that resilience enables nurses to cope with many psychological stressors [13]. Factors affecting resilience in nurses include personal and environmental factors playing significant roles in maintaining resilience among nursing staff. Individual characteristics consist of hardiness, emotional insight, and effective coping strategies. In nursing research, emotional intelligence is one of the most effective factors in promoting resilience [14, 15]. This skill allows people to manage their emotions before they become uncontrollable and prevent physical complications. Emotional intelligence is influential in increasing resilience because it reduces stress when dealing with adverse situations [15]. High emotional intelligence is defined as having abilities such as maintaining motivation, enduring hardships, controlling impulses, delaying gratification, and having a sense of empathy and hope [16]. Unfortunately, some studies conducted in Iran have reported nurses' emotional intelligence at a low level [17]. By training emotional intelligence, people can strengthen their resilience in the face of failures, regulate their moods, increase their ability to control themselves, defer the satisfaction of their temporary needs, and avoid drowning in distressing issues [18]. A meta-analytic study showed that emotional intelligence is one of the most important predictors of mental and physical health, so high emotional intelligence is associated with mental and physical health [19], general health, well-being, self-control, excitability, sociability [20, 21], and physical capabilities [21]. Low emotional intelligence affects nurses' sense of happiness and health and makes it difficult to manage problems and conflicts [22]. Considering the importance of resilience in nursing and identifying ways to improve it, this study aimed to determine the effect of emotional intelligence skill training on the resilience of critical care unit nurses.

Materials and Methods

Study design

This was an interventional study with a pretest-posttest control group design. In total, 50 nurses working in critical care units (26 cases in the ICU, 20 in the CCU, and 4 in the dialysis ward) of Khorramabad educational hospitals were selected using the purposive sampling method and randomly divided into two experimental and control groups (N=25 in each group) through the random number table.

Participants

Inclusion criteria were nurses working in critical care units and not having a medical diagnosis of mental illness. Exclusion criteria were: being absent in training sessions and lack of cooperation in participating in the study. Considering the 95% confidence interval, statistical power of 80%, and standard error/standard deviation observed in the Khoshnazari et al. research [23] and replacing them in the formula proposed by Cohen [24], the sample size was calculated as 25 subjects for each group. Considering the inclusion criteria, 50 nurses working in critical care units were selected using purposive sampling and randomly divided into two experimental and control groups. After explaining the research objectives, assuring participants of the confidentiality of their information, and obtaining written consent based on the informed consent form, they were matched for age, gender, educational level, and type of employment. They were randomly divided into experimental and control groups using the random allocation rule. After clarifying the training objectives, nurses' demographic characteristics and resilience were evaluated using a scale in two experimental and control groups before the study. After applying the intervention protocol in the experimental group, the participants of both groups were

asked to complete the resilience scale again as a self-report.

The Connor-Davidson resilience scale was used to collect data. Conner and Davidson developed this 25-item scale to measure resilience despite pressures and threats. The items were rated on a 5-point Likert scale, ranging from 0 (completely incorrect) to 4 (always correct), with a total score of 0-100, so zero indicates the minimum resilience level and higher scores indicate greater resilience. The validity (convergent and divergent validity) and reliability of the scale were confirmed by "factor analysis" and "test-retest and Cronbach's alpha coefficient," respectively by Connor-Davidson and in Iran by Zarifi et al. [25].

Intervention

The experimental group received the emotional intelligence training intervention protocol by the researchers in seven 60-min sessions. The content of the training protocol was developed based on the Bradberry and Greaves model [26]. The content of the emotional intelligence skill training was: Introducing and identifying emotions, 2: Understanding emotions and empathy, teaching social skills for effective communication, 3: Emotion management, 4: Introducing stress and stressors, 5: Stress management, 6: Social awareness and flexibility to change, 7: Use of emotions which was taught in seven sessions by the research team by lecture, group discussion, questions and answers and pamphlet distribution.

Statistical analysis

The collected data were classified and described by calculating the mean and standard deviation (SD) and drawing a table. The ANCOVA test was used to analyze the data and test the research hypotheses. For this purpose, the statistical assumptions of ANCOVA included the normality of data distribution, homogeneity of group variance, linear relationship between the dependent variable and covariate, and homogeneity of regression slopes were examined and confirmed using the Kolmogorov-Smirnov test, Levene's test, plotting a graph, and investigating the interaction between the independent variable and covariate, respectively. Finally, data were analyzed using SPSS software (version 22, IBM Corporation, Armonk, NY). In all analyses, a p-value of less than 0.05 was considered statistically significant.

Ethical considerations

Ethical considerations were observed by receiving the Ethics Code IR.LUMS.REC.1397.047 and Registry of Clinical Trial Code IRCT20181012041316N1, stating the research objectives and obtaining informed consent from nurses to participate in the study.

Results

In this study, 48 (96%) participants were female, and 18 (36%) were married. In total, 48 (96%) subjects had a bachelor's degree in nursing, and all were natives of Khorramabad. The mean age of participants was 33.5 (SD: 2.3) years old. The results showed no statistically significant difference between the experimental and control groups regarding age, gender, and resilience score before the study. The mean and standard deviation (SD) of the pretest and posttest resilience scores of experimental and control groups, are presented in Table 1. As the Kalmogorov-Smirnov Z test is not significant for all variables. ANCOVA was used to evaluate the effect of emotional intelligence training on resilience. The results of testing the homogeneity of regression slope (as the pretest and posttest) showed that the regression slope was equal in both groups ($P=0.07$, $F1,46=3.08$). The results of Levene's test for examining the homogeneity of variance of the dependent variable showed that the variance of resilience was equal in both groups ($P=0.38$, $F1,48=2.9$). Table 2 presents the results of the univariate ANCOVA to investigate the differences between the experimental and control groups in the pretest and posttest.

According to Table 2, after controlling the effect of the pretest, the group effect on

resilience was significant (p=0.001), i.e., there was a significant difference in the levels of these variables in the posttest between the experimental and control groups. Based on the results obtained and Table 1, it can be concluded that emotional intelligence skill training effectively improved resilience among nurses working in critical care units.

Table 1. Pretest and posttest scores of resilience in experimental and control groups (N=50)

Groups	Pretest (Mean ± SD)	Posttest (Mean ± SD)
Experimental	71.3±14.25	78.8±15.2
Control	70.9±13.8	70.7±14.8

Table 2. Results of the univariate ANCOVA for investigating the differences between the experimental and control groups (N=50)

Source	Total sum of squares	Degree of freedom	Mean square	F-statistic	P value	Effect size
Pretest	448.54	1	4486.54	38.251	0.10	0.37
Group	642.14	1	642.14	57.162	0.001	0.51

Discussion

The results showed that emotional intelligence training significantly increased nurses' resilience.

These results were consistent with the results of other studies. Homayounnia et al. showed that emotional intelligence and its dimensions positively and significantly correlated with resilience[27]. Phuma-Ngaiyaye found that the total emotional intelligence score positively and significantly predicted the total resilience score [28]. In other words, people with higher emotional intelligence showed greater resilience in difficult situations. Liu et al. concluded a positive and significant correlation between emotional intelligence and resilience and reported that resilience partially mediates between emotional intelligence traits and emotional balance[29].

In explaining the results, it can be stated that proper management of emotions leads to self-control, one of the factors affecting resilience [30]. Also, when mental stress is manifested, emotional intelligence helps the person analyze the situation and deal with their emotions with full discretion[31]. People with high emotional intelligence can adapt to life's challenges and improve their mental and physical health[32]. Emotional intelligence affects how a person responds to emotions, so it plays a major role in coping with mental stress[33].

Overall, the results of the present study showed that emotional intelligence could play a significant role in improving nurses' resilience. Due to the effective role of this educational method in improving resilience, it is recommended that emotional intelligence training courses be held for health professionals. Given that emotional intelligence training is a relatively inexpensive, practical, and efficient method, the results of this study can provide practical implications for hospital planners, administrators, counselors, and therapists of psychological service clinics. Therefore, it is recommended that head nurses and hospital officials refer nurses with psychological problems to experienced counselors and therapists, and they use the emotional intelligence skill training method and other educational and therapeutic techniques to improve nurses' mental health. The present study faced some limitations, including the reluctance of some nurses to participate, the prolonged intervention process, the need to generalize results to other wards, and geographical constraints. Therefore, it is recommended that this study be

conducted on nurses working in other hospital wards to generalize the results.

Conclusion

Since the nursing profession requires clinical competence in practice, it is essential to improve nurses' resilience. Considering the effectiveness of emotional intelligence training on nurses' resilience, it is recommended that nurses be trained at the beginning of employment or on the job. It is also suggested that the effectiveness of this intervention on other psychological components of nurses be investigated in future research.

Conflict of Interests

Authors declare that they do not have any conflict interests.

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