

The Effect of Self-Care Education on Emotional Intelligence of Iranian Nursing Students: A Quasi-experimental Study

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Abstract This study aimed to determine the effect of self-care training on emotional intelligence of nursing students. This quasi-experimental study was conducted on nursing students of Mazandaran University of Medical Sciences in 2016. The subjects (60 students) that were collected with random sampling method were divided into experimental and control groups, and then, self-care behaviors were taught to the experimental group' students in 12 sessions by using a checklist. The subjects of control group were not taught. Emotional intelligence was measured by using Bradberry and Greaves' standard questionnaire before and after the intervention. Emotional intelligence scores of students in the experimental group showed positive and significant change between before (75.33 ± 7.23) and after (125.70 ± 7.79) of training ($P < 0.001$). Also *t* test shows a significant change in control (78.73 ± 6.54) and experimental groups (125.70 ± 7.79), after of training ($P < 0.001$). It is recommended that special programs be organized in order to improve the emotional intelligence of students that improve the likelihood of their success in life.

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Introduction

Emotional intelligence is a social skill and a key component in communication (Brackett et al. 2011; Cherry et al. 2013). It can be referred to understanding, evaluating and using those emotions to make right decisions, to solve problems and to gain knowledge of a better life (Cherry et al. 2013; Koydemir et al. 2013). The concept of emotional intelligence (EI) was first described by Salovey (Di Fabio et al. 2012), and then, scholars such as Mayer, Bar-On and Goleman have presented definitions for it. In the Mayer/Salovey “abilities” model, emotional intelligence has four abilities that, from simple to complex, consist of recognizing, facilitating, understanding and managing emotions, respectively (Schutte and Malouff 2012). Several definitions of emotional intelligence have been proposed, but it can be best defined as how people deal with both good and bad events of life and the ability to make correct decisions in critical situations (O’Boyle et al. 2011). It is composed of four main skills including self-awareness, self-management, social awareness and relationship management in which the first two items focus on the individual and the second two items are focused on human relationships (Bratton et al. 2011; Farh et al. 2012; Fernandez et al. 2012).

Based on a study among a group of students in Kuala Lumpur (Malaysia), their emotional intelligence was calculated to be 111.93, which shows a moderate level (Saat et al. 2014). Also in a study that was conducted on a group of Mahabad (Iran) students, their emotional intelligence average was reported to be 327.662, which represents a moderate level of emotional intelligence of students (Mahmoudfakhe et al. 2014). Researchers have shown that emotional intelligence is an important factor in achieving success in life including job and education, causing peoples with higher emotional intelligence to be more successful in the competition for achieving higher levels of education. This skill creates more permanent relationships and making logical decisions while facing problems and also increases individual’s better performance in times of crisis (Yozgat et al. 2013). There are many ways and methods to improve the quality of life of patients such as applying self-care methods. This method can be learned by all members in the society (Naughton et al. 2014). It is considered as one of the daily skills and health-promoting behaviors of individuals which can lead to increased satisfaction, quality of life and public health system (Pelicand et al. 2015; Salloum et al. 2015). Self-care can directly or indirectly affect cognitive, emotional and social functions of individuals which can be effective in success and adaptation of social behavior (Sharif Nia et al. 2017). It also plays an important role in improving the mental health (Biddle and Asare 2011). According to a study, employees who have higher emotional intelligence are more likely to have better regulation and control of their emotion which improve their relationships in the workplace (O’Boyle et al. 2011). According to some studies carried out in this field, emotional intelligence has a direct relationship with creativity, public health, problem-solving styles, and it is also inversely related to pessimism (Chow et al. 2011; Czabanowska et al. 2014). Therefore, the use of training methods of improving emotional intelligence can be a factor for promoting interpersonal communication skills. According to available databases, no similar interventional study has been conducted.

Given that the promotion of emotional intelligence will be the factor for success in education and future life of students and community members, this study was conducted with the aim of determining the effect of training of self-care behaviors on emotional

intelligence of nursing students of Mazandaran (Northern of Iran) University of Medical Sciences in 2016.

Materials and Methods

Participants

This quasi-experimental study was conducted on nursing students of Mazandaran University of Medical Sciences (Sari, Iran) in 2016. According to similar study, a total of 60 students that were collected with random sampling method were randomly assigned into two groups of students from Amol Nursing School and Sari nursing School (Pourmohamadreza-Tajrishi et al. 2013). In order to have no bias, control group was selected from Sari (Iran) school and an experimental group was selected from Amol (Iran) school. In order to have homogenous samples, inclusion criteria included: (i) second to sixth academic terms, (ii) ages between 20 and 24 years, (iii) absence of acute and chronic physical and mental illnesses (examined by the group's psychologist), (iv) not taking any drugs and (v) being completely consent. Exclusion criteria included: (i) any event that prevents the continuation of the study such as student's transfer to another school and (ii) absence of more than two sessions from training classes. (None of the students was included in the exclusion rules.) Samples were randomly divided into two 30-member intervention and control groups, and then, a consent form was obtained from the students. Some variables of the consent form include ensure of the non-disclosure of information, exclusion from the study based on student's request at any time and providing individuals with the overall results if requested.

Study Interventions

The entire training process was performed by a psychologist. At first, educational goals were explained to students. As listed in Table 1, in the beginning, self-care behaviors were taught to the experimental group by using checklist designed by the psychologist during the 12 training sessions (two sessions per week) for at least 1 h (Pourmohamadreza-Tajrishi et al. 2013). In addition, to ensure an ongoing training, prepared manuals were given to the students at the meetings. Manual content includes the definition and concept of emotional intelligence, the benefits of strengthening emotional intelligence in life, the ability of problem-solving and decision-making skills, stress management techniques, the concept of personality and emotion, recognition of the spiritual dimension and methods for strengthening the religion and relationship with God. Each of these aspects were taught in two training sessions. After designing the checklist, it was validated using the comments of five expert psychologists and by doing some modifications. Students were asked to participate in work groups. For each self-care class session, students were divided into groups and asked to engage in each content. The students within each group differed from one class session to the next. This procedure was intentionally chosen to create opportunities for all students to interact with the whole class and to promote cooperation and positive peer interactions. During the intervention, students in the control group received the usual tutorial lessons that are officially designed by Iranian Government for the entire academic community in the country. These lessons were mandatory which aimed to provide a comprehensive education for students. The usual way of practice in every classroom was

Table 1 Content of self-care program in each session

Sessions	Context of each session
1	Introduction and orientation of research
2	Definition of EI
3	Self-awareness skills
4	Empathy
5	Stress and coping skills
6	Personality
7	Management of excitement
8	Problem-solving ability
9	Decision-making skills
10	Improve interaction with others
11	Control anger
12	Strengthen the spiritual dimension

the assignment of a tutor to execute the lessons during each academic year with specific curricular materials. These tutorial programs are composed of several lessons that require students' personal and group reflections on the structured issues. Contents that typically compose these tutorials include classroom organization and climate, coordination with students' families, study techniques, self-assessment, self-esteem development, drug-use prevention, education in moral values, affective-sexual education, academic and professional counseling and development of social skills.

Data Collection

Before and after the full course of training, emotional intelligence was measured using Bradberry and Greaves' standard emotional intelligence questionnaire in both experimental and control groups (Tofighi et al. 2015). The questionnaire contains 28 questions that include self-awareness, self-management, social awareness and relationship management variables. Rating method is based on Likert scale, from 1 to 6 (never to always) for questions with positive content and from 6 to 1 (never to always) for questions with negative content. Scores of 133–168, 98–133, 63–98 and 28–63 represent excellent, good, moderate and weak levels of emotional intelligence, respectively (Zhou 2010). Ganji et al. (2006) had given reliability and validity to this test. To ensure the reliability of the questionnaire, a test–retest was performed on 15 students within a week and intracorrelation coefficient (ICC) was calculated as 0.92. Demographic section includes variables such as age, sex, marital status, employment history, adequacy of economic status, occupation and education of parents.

Ethical Considerations

This study was conducted according to the Helsinki Statement (Karimi 2014) and has been approved by the associated university's medical sciences ethics committee (Code IR MAZUMS.REC.94.600).

Data Analysis

Data were analyzed using SPSS 21.0 (released 2007; SPSS for Windows, SPSS Inc., Chicago, IL, USA). Basic descriptive data for quantitative variables were presented using mean (SD) and *n* (%) for qualitative variables. Paired *t* test and independent *t* test were used to determine the significant changes of emotional intelligence in both groups. In order to assess the significant difference of demographic variables between groups, Chi-square test was used. Kolmogorov–Smirnov test proved the data normality ($P = 0.724$). Significance level was considered as $P < 0.05$.

Results

This study was conducted on two 30-member groups of nursing students with some demographic characteristics presented in Table 2.

As listed in Table 2, there were no significant relationship among variables of gender, marital status and economic adequacy in intervention and control groups using Chi-square test. Most of the fathers' educational level in the control group included diploma to bachelor degree (73.3%), and most of the mothers were illiterate (63.3%). Also, most of the parents of experimental group had diploma to bachelor's level of education. The mean of EI for each group is presented in Table 3.

There was no significant difference between mean of emotional intelligence score before and after intervention in control group ($P = 1$). Emotional intelligence scores of experimental group as listed in Table 3 show significant positive changes before and after the intervention ($P > 0.001$). Before training, in the experimental group, most of the students (96.7%) had moderate level of emotional intelligence, and after the intervention

Table 2 Comparing some demographic characteristics in the experimental and control groups

Variable	Control	Experimental	<i>P</i>	
Age	21.80 ± 0.887	20.37 ± 1.159	0.21	
Sex	Male	15 (50%)	13 (43.3%)	0.796
	Female	15 (50%)	17 (56.7%)	
Marital	Married	6 (20%)	4 (13.4%)	0.73
	Single	24 (80%)	26 (86.6%)	
Economic efficiency	Intermediate	21 (70%)	17 (56.6%)	0.271
	Good	8 (26.6%)	17 (43.4%)	
	Well	1 (3.4%)	0	

Table 3 Comparing the mean of EI before and after training in both experimental and control groups

Variable	Control (Mean ± SD)	Experimental (Mean ± SD)	<i>t</i> Test	<i>df</i>	<i>P</i>	95% CI
Pretest	78.73 ± 6.38	75.33 ± 7.23	1.92	58	0.059	−51.273, −42.661
Posttest	78.73 ± 6.54	125.70 ± 7.79	21.83	58	< 0.001*	−0.128, 6.928

*Significant at $P < 0.001$

Table 4 Comparing emotional intelligence scores before and after the intervention in control and experimental groups

Variable	Paired <i>t</i> test	<i>df</i>	<i>P</i>	95% CI
Control group	0	29	1	−0.519, 0.519
Experimental group	25.23	29	< 0.001*	−54.448, −46.285

*Significant at $P < 0.001$

most of them (86.7%) gained a good level of emotional intelligence. In the control group, majority of students in pre- and post-intervention (94.8 and 93.6%, respectively) had moderate level of emotional intelligence. The results of paired *t* test in comparison of experimental and control groups before and after the intervention are reported in Table 4.

As indicated in Table 4, there is a significant difference ($P < 0.001$) between pretest and posttest of experimental groups according to emotional intelligence which shows positive effect of self-care trainings on them.

Discussion

Family trainings in the first years of life have an important role in improving one's emotional intelligence; however, there is this unique feature of increasing emotional intelligence by continuous training during lifetime (Pool and Qualter 2012). Based on the findings of the present study, training of self-care behaviors had a significant and positive impact on the students' level of emotional intelligence. According to a research, mean scores of most nursing students' emotional intelligence were moderate, which were similar to the emotional intelligence scores before intervention in the present study (Beauvais et al. 2011). In another study, the majority of nursing students had a moderate level of emotional intelligence (Tehrani et al. 2012). Also, in a study of medical students in Birjand city, emotional intelligence of students was also moderate (Miri and Khoshbakht 2007). Several researchers have proved that emotional intelligence is directly linked to health and safety and that it plays a major role in emerging appropriate health behaviors, implementation and attention to public health (Li et al. 2009; Schutte et al. 2007). Martins and colleagues emphasized on the fact that mental health (of psychological self-care items) has a direct and significant relationship with emotional intelligence (Martins et al. 2010) as emotional intelligence was reported to be an appropriate factor to predict the risk of depression among individuals in the Lloyd's study (Lloyd et al. 2012).

Conceived as a core latent trait/resource driving behavior, individual differences in emotionally intelligent competencies could underpin variation in the experience of stressors (e.g., emotional perception or management may impact initial reactivity) such that low levels of EI confer vulnerability, while high levels function as a protective resource (Zeidner et al. 2012). In addition in line with the findings of the present study, another study revealed a direct correlation between the levels of mental health with emotional intelligence in elderlies (Hashemipour et al. 2013). In the present study, the level of happiness (of emotional self-care variables) had significant impact on students' emotional intelligence. In Jitna Por and colleagues' studies on nursing students and various other studies, there was an emphasis on this result (Davis and Humphrey 2012; Por et al. 2011; Zeidner et al. 2012). People with high emotional intelligence have a good ability to manage their emotions, and they show high resistance in abnormal emotional states

associated with mood and anxiety disorders (Zeidner and Olnick-Shemesh 2010). Although emotional intelligence has been discussed for many years, it was presented as an appropriate factor for promoting and regulating emotions, aiding a better thinking, and it provides coordination between emotions and sentiments to promote emotional improvement (Malouff et al. 2014). High emotional intelligence can draw an appropriate prospect of a person's success and progress which is in line with several studies that reported people who have a higher emotional intelligence also have higher social skills and more stable relations, and causing them to respond better in the face of problems (Mayer and Salovey 1993). In a study by Ruiz-Aranda on female students, it was stated that there is a stable and direct relationship between the level of emotional intelligence of students with life satisfaction and stress reduction, which ultimately causes the person's ability to be promoted (Ruiz-Aranda et al. 2014). In another study on master of business administration (MBA) students, their emotional intelligence improved with social skills training, which subsequently had a positive effect on their performance (Reuben et al. 2009). In the study, English language training was provided to students in order to increase emotional intelligence, and the results showed positive and significant impact of these trainings on emotional intelligence (Hosseini et al. 2010). The characteristics such as stress tolerance, flexibility, responsibility and perseverance that are defined with emotional intelligence are emphasized in religious belief and can be fertilized by religion. William James believes that faith is the most effective treatment for anxiety. Faith as a coping method helps people in life (Hasani 2009). As in the present study, Akbari et al., by implementing a 90-min training course for 15 weeks, resulted that training of problem-solving behaviors is effective in promoting emotional intelligence. Similarly in Raghibi's study, positive and significant effect of optimism that is a self-care item on emotional intelligence was emphasized (Akbari et al. 2010; Raghibi and Rabbani 2012). In previous documented literature, little attention has been paid to the relationship between emotional intelligence and religiosity. Several previous Western investigations determined the association between emotional intelligence and religious orientation (Prati et al. 2007; Van Dyke and Elias 2008) which was parallel to the present study. In a descriptive study on students, a significant relationship between religious affiliation and level of emotional intelligence was not found (Karimi 2014). Perhaps the reason for this difference is the type of study. The present study is an interventional one, and religious instruction has been given to the students of the experimental group as spiritual self-care, and then, its impact on emotional intelligence was evaluated.

Study Limitations

The limitations of this study include the nature of education and probable relation of students with each other. The study design was quasi-experimental in the present study. In this regard, it is suggested that randomized controlled trial studies with more details be carried out in other parts of the countries. In addition this study incorporated 60 students in Iran, so generalizability becomes less robust if generalized outside of this sample.

Conclusion

According to the results, training of health-promoting behaviors related to self-care, with an emphasis on educational content (definitions and emotional intelligence guidelines including managing stress and emotions and ways of strengthening of religion), had a significant and direct relationship with students' emotional intelligence level. It seems that in order to improve the level of emotional intelligence of students, which gives rise to the likelihood of their success in school and life, special programs be implemented in schools such as teaching various items of self-care and emotional intelligence in special workshops in schools.

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Compliance with Ethical Standards

Conflict of interest The authors have no conflicts of interest relevant to this article to disclose.

Ethical Approval The participants were assured of their rights and the freedom to withdraw from the study at any time, if they did not wish to continue. A consent form was given to those who were willing to participate in the study for them to read, and further explanations were given about the form. Consent form was signed by each participant, and a copy of the original signed form was given to them to keep.

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