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The Effect of Teaching Emotional Intelligence (EI) Items on Job Related Stress in Physicians and Nurses Working in ICU Wards in Hospitals, Yerevan, Armenia

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ABSTRACT

Background: Intensive care units (ICUs) are known as stressful environments. However, the conditions in which stressors may affect health professionals' performance and well-being and the conditions that potentially lead to impaired performance and staff's psychological distress are not well understood. Emotional intelligence, an essential factor responsible for determining success in life and psychological well-being, seems to play an important role in shaping the interaction between individuals and their work environment. The emotional dimension (personal) is the concept of multi-dimensional intelligence, it is also necessary for physicians and nurses to learn how to view and understand people's behavior, attitudes, interpersonal skills and potential. Individuals who have these characteristics are said to be "emotionally intelligent."

Objectives: The objective of the study is to determine the effects of emotional intelligence education items on job related stress in physicians and nurses working in intensive care units in hospitals in Yerevan, Armenia.

Method: A cross interventional, pre-post, case and control group design was used and inferential study design was implemented, with 150 registered hospitals physicians and nurses, who were widely distributed.

Results: A sample of 106 participants (18.7% of men and 31.3% of women in case and control group), representing various human service professions (physicians, nurses) was eligible for the study. The mean age of the participants was 33.19 years in case group (SD = 6.44), and 31.6 in control group (SD = 6.04), and the employment period was 8.2 years (SD = 7.34) in case group and 5.57 years (SD = 4.02) in control group. The results confirmed an essential, very strong, role of emotional intelligence in perceiving occupational stress and preventing physicians and nurses from negative health outcomes.

Conclusion: Results showed that physicians and nurses experienced high level of stress. The level of stress experienced at work by this occupational case was higher than control group. The ability to effectively deal with emotions and emotional intelligence in the workplace assists employees in coping with occupational stress. Therefore, it should be developed in stress managing trainings. Emotional intelligence items education decreased situational and personal anxiety of physicians and nurses in case group more than those in control group.

Keywords: Emotional intelligence, education, stress, physician, nurses, intensive care unit

Introduction

Intensive care unit (ICU) has been described as a stressful working environment by healthcare professionals (1). Accordingly, the report on medical error produced by Institute of Medicine in 1999 recommended targeting these human factors to improve the training of healthcare professionals working in acute settings (2). Staff well-being is another major concern for stakeholders involved with acute care environments. Recently, a growing number of studies have reported a high prevalence of psychological symptoms among ICU healthcare professionals (3–4). Emotional intelligence, an essential factor responsible for determining success in life and psychological well-being, seems to play an important role in shaping the interaction between individuals and their work environment(5). Emotional intelligence is the ability to perceive emotions, to access and generate emotions in order to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions, so as to promote emotional and intellectual growth (6). Nursing is a profession that involves interpersonal relationships thus; it is imperative that nurses understand their own feelings and use them to make good decisions as well as to have empathy for others. It is also necessary that they learn how to view and understand people's behavior, attitudes, interpersonal skills and potential. Individuals who have these characteristics are said to be "emotionally intelligent" (7). There is a little coherence between general intelligence and some dimensions of emotional intelligence, even in the best conditions. Emotional intelligence (EI) can be summarized as the ability to understand and recognize emotional states and to use that understanding to manage one's self and other individuals or teams (10-11). We can claim that they usually have separated existences, when people with poor general intelligence succeed in life, on people with medium intelligence progress incredibly, can realize that they have high emotional intelligence (8).

Recent studies show that emotional intelligence reduces stress and predicts 66% of key success factors in healthcare. Researchers found that healthcare professionals high in emotional intelligence are far more effective in a number of key performance areas, including stress management, showing that these skills are critical for healthcare professionals and especially those in leadership positions (12). Considering this factor we analyzed the effect of emotional query (EQ) items education on job related stress in physicians and nurses who work in intensive care units.

Materials and method

This study is based on a pretest and post-test intervention case-control study and the statistical community of this research includes the nurses and specialist physicians working in intensive care unit (ICU[1], CCU[2], psychiatry ward, burn wards, pediatric ICU and hemodialysis wards) of Kansker, Zeyton, Markarian, Arboni hospitals in Yerevan (Armenia) in 2010. Sample admission requirements include the lack of any severe depression disease and anxiety disorders as well as working experience of more than 2 years in intensive care units and sample exclusion requirements include having acute mental or physical disease and performing other educational or therapeutic programs to promote emotional intelligence level. After investigation of the desired conditions (inclination to participate in educational programs), 106 individuals, 76 nurses and 30 physicians, participated in this study. Thirty eight nurses and 15 specialists were selected from Kansker and Zeyton hospitals for case

group and 38 nurses and 15 specialists were selected from Markarian and Arboni hospitals for the control group. Both groups participated in pretest before the training program. For data collection, 20-question Berger situational (overt) anxiety questionnaire and 20-item personality (covert) anxiety questionnaire and Bar-on emotional intelligence questionnaire with 133 questions have been used. Emotional intelligence questionnaire consists of five factors of interpersonal relationship, intrapersonal relationship, stress management, adaptability and the general mood which consist of 15 subscales, as follows: self-regard, assertiveness, emotional self-awareness, self-actualization, independence, interpersonal relationship, empathy, social responsibility, problem-solving, reality testing, flexibility, stress tolerance, impulse control, happiness, and optimism. For validity of this test from internal consistency approach through Cronbach's alpha in seven samples from different populations (Bar-on 2000), the mean of coefficients of Cronbach's alpha was reported for all sub-scales in the range of 0.69 (social responsibility) and average of 0.86 (Emotional Self-Awareness) and average of 0.76. Investigation of test-retest reliability showed average coefficients of reliability equal to 0.66. Using test-retest method, the reliability of this test was reported 0.74 for 35 individuals immediately after one month.

Retest coefficients have been respectively reported 0.90, 0.84, and 0.082 percent for subscales of stress tolerance, impulse control, social flexibility and 0.58, 0,062 and 0.65 percent for subscales of assertiveness and social responsibility and independence (13). For validity of situational (explicit) anxiety questionnaire of Berger Behdani et al., 130 individuals were randomly selected from the norm sample, proportionate to criterion sample size (130 distressed individuals diagnosed by a psychiatrist) observing the ratio of gender and age groups of members of

criterion sample, and then studying the validity of the test, average explicit and implicit anxiety and finally, total anxiety in two levels of 0.95 and 0.99 percent were separately calculated and the results of reliability calculation were 95% and 99% significant (14). The reliability of this questionnaire has been calculated 87% in various researches, including research by Ruhi (3). Kazemi Malik Mahmoudi (2003) and Ruhi (2005) respectively calculated the reliability of the Spielberger test 89% and 90% in preliminary study (15-16). To run this test, pretest and posttest were performed for control and case groups. Case group was tested again after the end of training sessions. The researchers have developed the training program in this research and the program was consisted of 4 sessions of general conference program and six inter-group sessions, educational pamphlet and posters. Training programs were performed 2 sessions per week, each session lasted 2 hours. This program focused on 15 sub-scales of emotional intelligence and especial programs to reduce anxiety. In these training programs, first, required training were performed regarding the above items, and then ways of thinking, emotion expression, affections, ways of changing their perceptions, and ways of judgments about their beliefs were taught. Ways of coping with stressful factors and conditions of stressful environment were taught to them. Statistical descriptive methods and covariance and one-way variance tests, chi-square (X2) and t-tests have been used to analyze data.

Protocol of implementation of training emotional intelligence

First, demographic questionnaire and Berger's 20-item situational (overt) and 20-item personality (covert) anxiety questionnaire were given to all participants and then

participants were divided into case and control groups. The following training program was implemented for case group:

In the first session of the conference, some explanations were given on the concept of emotional intelligence, different types of emotional intelligence, definition and concept of decisiveness, definition of anxiety and different types of anxiety and its role in reducing the efficiency of physicians and nurses.

In the second session, trainings were given on ways of empathy and its concept, problem-solving methods and its concept, flexibility, thought control methods and methods of replacing positive thoughts by negative thoughts, relaxation techniques, and methods of controlling anxiety.

In the third session, required training was given on the methods of identification of oneself and the others and the relationship with the others, the concept of independence and self-concept and impulse control.

Moreover, educational pamphlets as well as educational booklets on the above concepts were given to all participants. Both case and control groups were given 20-question Berger situational anxiety and 133- question Bar-on questionnaires one month after the end of training sessions as post-test to the case group.

Result

The findings of the study shows that 106 participants from 76 nurses 70 (66%) male and 6 (5.7%) female and from 30 person physicians 5 (4.7%) male and 25 (23.6%) were female. Mean age of nurse participants was 40 years and in physicians it was 36 years. Mean score of situational anxiety in physicians was 39.40 (SD=4.22) and in nurses

it was 46.96 (SD=7.36) and mean score of personality anxiety in physicians was 36.73(SD=4.22) and in nurses it was 40.96(SD=7.36) representing various human service professions (physicians, nurses) was eligible for the study. All of the 76 nurses were bachelor of sciences and all of physicians were medical specialists. As far as the marital status of these nurses is concerned 32 (30.2%) were single, 37 (34.9%) were married, 4 (3.8 %) were separated, 2 (1.9%) were divorced and 1was others. Among physicians 15 (14.2%) were single, 12 (11.3%) were married, 2 (1.9%) were separated and 1 (0.99%) was divorced.

Table 1: Finding of Table 1 shows that mean of situational anxiety in physicians and nurses was 45.22 in case group and mean of situational anxiety in control group was 46.77. T-test shows that mean is not significant in both groups (p= 0.261).

Table 2: Finding of this table shows that the distribution between personality anxiety in case and control groups was the same. X^2 test showed between personality anxiety in case and control group no significant (p = 0.332).

Table 3: Finding of this table shows that mean scores of emotional intelligence in all of participants in case group than control group after E.I. education items were significant. In other words, this table showed that emotional intelligence items education was effective on case group.

Table 4: Finding of this table shows that mean score of personality anxiety in physicians and nurses in case and control groups before teaching emotional intelligence items was 40.03 and after teaching emotional intelligence items decreased to 36.23. This indicates that teaching emotional intelligence items affects the decrease of personality anxiety. While mean score of pre-test of personality anxiety in physicians and nurses in

control group was 40.21 and of post-test was 40.95 (increased). Although T- test does not approve the significant difference between the mean score of participants in control and case groups before teaching emotional intelligence items (p =0.883), after teaching emotional intelligence items the difference of mean score in case and control group was significant (p = 0.001). Paired T-test shows that mean score of personality anxiety in physicians and nurses in case group before and after teaching emotional intelligence items was significant (p = 0.001), while it shows that in control group it was not significant (p = 0.199). Therefore, teaching emotional intelligence items was effective on personality anxiety in physicians and nurses who worked in intensive care units.

Table 5: Finding of this table shows that mean score of situational anxiety in physicians and nurses in case and control groups before teaching emotional intelligence items was 45.22 and after teaching emotional intelligence items decreased to 40.47. This indicates that teaching emotional intelligence items affects the decrease of situational anxiety. While mean score of pre-test of situational anxiety in physicians and nurses in control group was 46.77, in post-test it was 47.05 (increased). Although T- test does not approve the significant difference between the mean score of participants in control and case groups before teaching emotional intelligence items (p =0.261), after teaching emotional intelligence items, the difference of mean score in case and control groups was significant (p = 0.000). Paired T-test shows that mean score of situational anxiety in physicians and nurses in case group before and after teaching emotional intelligence items was significant (p = 0.001), while it shows that in control group it was not significant (p = 0.314).Therefore, teaching emotional intelligence items was effective on situational anxiety in physicians and nurses who worked in intensive care units.

Discussion

The present study was conducted to investigate the effect of teaching the emotional intelligence items to physicians and nurses in intensive care units and their stress and anxiety. The result of this study showed that there is a positive relationship between the increase of emotional intelligence and decrease of stress and anxiety among participations. In order words, stress and anxiety were reduced in case group compared to control group. In this study in training programs with emphases on recognition of emotions and their interactions with other internal and external aspects of the person, reception of the emotions and more than that correct and classified expression of the emotions were more. In short, the result of this investigation showed that teaching emotional intelligence items which were consisted of five major elements and fifteen subscales affected decreasing anxiety. The studies conducted by Oginska et al. (8), Matthews et al., (9), Montes-Berges et al., (10), Naidoo et al., (11), also reveals similar results. So it can be said that emotional intelligence is the ability to restrain negative feelings such as anger, self-doubt, stress, anxiety and instead focus on positive ones such as confidence, empathy and congeniality. The result was similar to the findings of Hallahan, G. & Moos, R. (12) regarding E.I. with flexibility and physical features, and with the study of Bar-on (13) regarding the relationship between E.I. and mental health, as well as with Esmaeli et al. (14) regarding the effect of training E.I. on mental health of men and women clients of consulting center and approved them. It was also similar to the findings of José M. (15) regarding E.I. in resident students of surgery. What has been done in this study was improving the mind toward the internal and external truths and

realities along with practicing and encountering the reality. In this training program it was tried to help the participants to cope with their stress and anxiety by relaxation and concentration exercises. So it seems logical that after taking E.I. training classes the participants would get higher grades in E.I. and lower grades in situational anxiety. It should be noted that considering novelty of concept of emotional intelligence on controlling anxiety and stress, limitation of research background regarding the impact of emotional intelligence on anxiety of physicians and nurses and unavailability of other health programs to promote emotional intelligence and occupation of physicians and nurses and lack of support from the supporting systems were of the limitations of this study. Repetition of the research based on health programs of other medical groups and other mental disorders such as disorders in interpersonal, mood, anxiety and behavioral relationships, such as aggression and marital disputes, are of suggestions which can be offered regarding this study.

Conclusions

The results of the study showed that physicians and nurses experience high level of stress. The level of stress experienced at work by this occupational cases and control group is higher. The ability to effectively deal with emotions and emotional information in the workplace assists employees in coping with occupational stress. Therefore; it should be developed in stress managing trainings. Teaching emotional intelligence items decreased situational and personal anxiety of physicians and nurses, in case group rather than control group.

Acknowledgements

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Table 1: Distribution frequency and comparison of mean score of situational anxiety in physicians & nurses between case & control groups before teaching emotional intelligence items

situational Anxiety / Group	Number & Percent	Mean	STD Deviation	T- VAL	DF	Sig
case	53(50%)	45.22	7.27	-1.131	104	0.261
control	53(50%)	46.77	6.79			

Table 2: Distribution frequency and comparison of mean score of personality anxiety in physicians and nurses between case and control groups before teaching emotional intelligence items

personality Anxiety / Group	Number & Percent	Mean	STD Deviation	T- VAL	DF	Sig
case	53(50%)	43.62	7.38	0.976	104	0.332
control	53(50%)	45.03	7.54			

Table 3: Distribution frequency and comparison of mean score of teaching emotional intelligence items in physicians and nurses between case & control groups

Group	Case		Control				
Analysis EI Items	Mean	Std Deviation	Mean	Std Deviation	P-Val	DF	P
Self Regard	36.32	4.82	30.26	4.81	6.469	104	0.000
Self Awareness	31.07	4.16	27.66	4.17	4.215	104	0.000
Assertiveness	27.30	3.65	22.90	23.86	6.897	104	0.000
Independence	27.39	4.58	22.32	3.03	6.720	104	0.000
Self Actualization	36.15	4.13	32.18	2.72	5.826	104	0.000
Empathy	33.94	4.06	28.81	3.43	7.020	104	0.000
Social Responsibility	38.00	4.76	33.64	3.90	5.152	104	0.000
Interpersonal	44.69	5.05	41.47	5.34	3.195	104	0.002
Stress Tolerance	34.84	4.82	32.18	4.03	3.081	104	0.003
Impulse Control	35.98	5.76	32.32	6.00	3.227	104	0.002
Reality Testing	39.62	4.74	34.54	3.94	5.986	104	0.000
Flexibility	30.98	4.92	26.93	4.54	4.351	104	0.000
Problem Solving	32.33	4.03	28.11	3.26	5.927	104	0.000
Optimism	31.88	4.86	28.30	3.28	4.340	104	0.000
Happiness	36.33	4.86	31.86	3.25	5.564	104	0.000
Total E.I	516.88	55.56	453.56	31.58	7.212	104	0.000

Table 4: Distribution frequency and comparison of mean scores of personality anxiety in physicians & nurses between case & control groups before and after teaching emotional intelligence items

Group	Case					Control				
personality Anxiety / Analysis	Before E.I. Education Items	After E.I. Education Items	**Paired T-val**	**DF**	**P**	Before E.I. Education Items	After E.I. Education Items	**Paired T-val**	**DF**	**P**
Mean	40.03	36.23	7.354	52	0.001	40.21	40.95	-1.295	52	0.199
STD Deviation	7.65	7.08				7.91	7.93			
Comparison of mean before teaching emotional intelligence in case and control groups								**P-Val**	**DF**	**P**
								-0.147	104	0.883
Comparison of mean after teaching emotional intelligence in case and control groups								**P-Val**	**DF**	**P**
								-3.85	104	0.001

Table 5: Distribution frequency and comparison of mean score of situational anxiety in physicians and nurses in case and control groups before and after teaching emotional intelligence items

Group	Case					Control				
Situational Anxiety / Analysis	Before E.I. Education Items	After E.I. Education Items	**Paired T-val**	**DF**	**P**	Before E.I. Education Items	After E.I. Education Items	**Paired T-val**	**DF**	**P**
Mean	45.22	40.47	9.875	52	0.001	46.77	47.05	-1.014	52	0.314
STD Deviation	7.27	8.02				6.63	6.49			
Comparison of mean before teaching emotional intelligence items in case and control groups								**T-Val**	**DF**	**P**
								-1.131	104	0.261
Comparison of mean after teaching emotional intelligence items in case and control groups								**T-Val**	**DF**	**P**
								-4.64	104	0.000