

Original article

The effectiveness of coping strategies training on nurses' Occupational stress in Jahrom hospitals.

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Abstract

Background/aim: Occupational stress is one of the major problems of nurses that can have negative effects on their job performance. Since stress is unavoidable, it is necessary to use methods to reduce or control and manage it in nurses. The purpose of this study was to determine the effectiveness of coping strategies training on nurses' occupational stress in Jahrom hospitals.

Materials and methods: This quasi-experimental study with two groups of experimental and control was randomly selected from nurses working in internal and surgical wards and divided into two groups of 25 each. Demographic information questionnaire and OSIPOW Occupational stress questionnaire were used to measure nurses' job stress in both groups. The experimental group received 4 sessions of 90 minutes in the framework of the coping strategies workshop and the control group did not receive any training. Finally, to assess the effect of intervention, one month after the sessions, the questionnaires were completed by the control and experimental groups again. **Results:** The mean scores of nurses' Occupational stress in the pre- and post-test groups were 180.12±19.52 and 166.28± 25.71, respectively. The mean score of nurses' Occupational stress in the control group before and after the test was 178.08±24.65 and 178.95±22.14, respectively. Results showed a decreasing trend of job stress score in the experimental group (P = 0.02), while no significant change was observed in the control group score. **Conclusion:** Coping strategies training is effective in reducing nurses' Occupational stress and it can be recommended to reduce other stressful occupations.

Keywords: Education, coping strategies, Occupational stress

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1. Introduction:

Tension is encountered when situational demands surpass the resources of the individual and some harm or loss is predicted. Occupational stress is a known issue for health care workers¹. Nursing is a high-risk and stressful career², and nursing has been described as stressful occupation by some studies¹.

Job stress is a situation in which job-related factors affect a person and can change his mental and physical condition in a way that causes a person to deviate from normal functioning. Work-related stress can be

detrimental to a person's physical and mental health, while high levels of stress can lead to absenteeism and low levels can lead to increased productivity³.

For a long time, nursing has been considered a stress-filled profession based on physical labor, long hours of work, unpredictable staffing and complicated interpersonal relationships¹. Nursing is viewed as an exhausting work with strong and challenging demands. Increasing the workload of nurses along with their high responsibilities and low authority in the workplace have been described as some of the main sources of job stress³.

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Nurses also face serious events or acute stressors. Being responsible for patient outcomes, difficulty with patient care, and uncertainty regarding patient treatment, disease spread from patients, and coping with death and dying have been established as time of stress at work among nurses. Burdensome duties, heavy workloads, inadequate resources, lack of workers, long working hours, irregular shift work, conflict with other colleagues and high demands for jobs have also been identified as occupational stressors for nurses².

Occupational stress can dramatically affect the quality of life of nurses, and at the same time reduce the quality of care. As a consequence, Occupational stress has a lack of compassion for patients and an increased incidence of procedural errors, and is therefore unfavorably related to quality care. A great number of studies indicate that these effects directly or indirectly affect treatment delivery and patient outcomes³.

Researchers note that about 25% to 35% of medical trainees experience symptoms of anxiety and / or depression as a reaction to the stressors they encounter⁴, and 27% of all hospital staff suffer from stress and mental illness⁵.

Successful management or stress minimization depends on the patient's ability to recognize and adapt using coping strategies. Coping is meant to preserve psychological health and prevent stress-related symptoms. Badger described coping as the person's response to a stressful situation that was perceived to exceed the individual's resources. There is a strong correlation between adaptive coping strategies and less perceived stress⁶.

Managing job stress by nurses reduces it and increases adaptation to the work environment. What is lacking now is work to reduce stress, mitigate or remove some of these stressors⁷.

Occupational stress has been shown to have harmful effects not only on the health of patients but also on their ability to cope with job requirements. The use of effective stress management skills will adjust all of these stresses in a positive way⁸. In response to a stressful experience, adjustment mechanisms maintain a sense of control in the workplace⁹.

Lazarus and Folkman have described coping strategies as problem-focused and emotion-focused: in problem-solving strategy, individuals actively work to solve the problem, while in the emotion-focused coping strategy, the individual behaves emotionally¹⁰.

Folkman et al. (1986) illustrated that problem-based coping styles (namely, positive coping styles) are likely to be associated with lower rates of negative health outcomes and coping with emotion-centered coping styles such as self-blame, delusions, or escaping leads to reduced mental health¹¹.

The results of studies by Healy and McKay (2000) indicated that incompatibility with job stress impairs nurses' mental health and confronts the problem of life cycle to their happiness and sense of security¹².

Experimental evidence in the Smith's (2014) study using mindfulness interventions to reduce nurses' Occupational stress showed positive results: including stress reduction, job burnout and anxiety and empathy, increasing their concentration and mood¹³.

Psycho-educational approaches, comprising consideration of specific risk factors in nursing, practice with relaxation techniques, and analysis of coping behaviors through art show pledge as tools for encouraging positive self-care strategies¹⁴.

During their daily work, the use of confrontational and positive coping strategies to minimize occupational tension for surgical nurses should be encouraged and promoted¹⁵.

It follows that reducing nurse manager tension, improving nurse manager coping habits and promoting appropriate decision-making by the nurse manager are all consistent approaches to engaging and maintaining both nurse managers and nurses in the profession¹⁶.

Given the inevitable stressors in the nursing profession and the need to prevent the physical, psychological and behavioral effects of stress, employing and training coping strategies are among the responsibilities of health care organizations. Considering the fact that having the necessary skills as a coping system in stressful situations helps different social groups, especially nurses, and not having such skills in the long run can be a form of mental illness¹⁷. Therefore, this study was designed and conducted to investigate the effectiveness of coping strategies on nurses' Occupational stress in Jahrom hospitals. Numerous studies in Iran have done descriptive study on Occupational stress but so far no intervention research has been conducted to investigate the effect of coping strategies on nurses' stress in hospitals, which makes the necessity of this study more significant and clearer.

Table 1. Comparison of absolute and relative frequency distribution of studied units according to demographic characteristics in experimental and control groups.

P-Value	Chi-Square	Total N=49		Control N=24		Intervention N=25		Group	
		Percent	Number	Percent	Number	Percent	Number	Variable	
0.726	0.123	85	42	87.5	21	84	21	Female	sex
		14	7	12.5	3	16	4	Man	
0.100	2.706	30.6	15	41.6	10	20	5	Single	marital status
		69.4	34	58.3	14	80	20	Married	
0.184	4.84	8	4	16	4	0	0	Conscription law's conscripts	Employment status
		24	12	25	6	24	6	Temporary-to permanent	
		59	29	50	12	68	17	contractual	
		8	4	8	2	8	2	permanent	
0.889	0.020	49	24	50	12	48	12	Internal	Working Sector
		51	25	50	12	52	13	Surgery	

2. Material and Methods:

This study was a quasi-experimental study with control and experimental groups. The study population consisted of all clinical nurses working in teaching hospitals affiliated with Jahrom University of Medical Sciences. Inclusion criteria included having a bachelor's degree in nursing, consent to participate in the study, working in internal and surgical wards, having at least 6 months of work experience and exclusion criteria included having taken training courses in applying coping strategies, having a history of mental illness, nurses experiencing a stressful event near the time of the test or during the intervention, studying in higher education or other disciplines, having a second job.

Sampling was classified by random method. For this purpose, the list of male and female nurses was prepared separately in the hospitals, and then random sampling was performed for each class using a random number table. Twenty five nurses were divided into two groups of experimental and control. In order to achieve the research objectives, after completing the informed consent form, a questionnaire including demographic information (sex, age, marital status, employment status, and occupational ward) and OSIPOW Occupational Stress Questionnaire were completed by all nurses.

The standard OSIPOW Occupational Stress Questionnaire was first used by OSIPOW et al. In 1987 and was called the Occupational Stress

Measurement Tool. The questionnaire consisted of six dimensions of role overload, role insufficiency, role ambiguity, role boundary, responsibility and physical environment in order to assess one's stress. These six dimensions, each rated on a five-point Likert scale from one to five, are evaluated with 10 terms¹⁸.

The content validity of the questionnaire inside and outside the country has been reported by various researchers such as Frutan et al. (2015) and OSIPOW (1998) and its reliability is satisfactory with test-retest and Cronbach's alpha coefficient of 0.89 is calculated¹⁹.

In this study, nurses in both experimental and control groups voluntarily entered the study. Coping strategies training classes for the experimental group in the form of a workshop with group discussion were held in 4 sessions and each session for 90 minute. First, after familiarizing with the group and expressing goals, defining stress, complications, physical and psychological symptoms of stress, the role of their thoughts and cognition in stress, cognitive errors and how to manage stress in occupational stress were explained. In the second session, sufficient information about nursing profession, Occupational stress, occupational stress in nursing profession and its influencing factors were pointed out. In the third session in the third session, coping strategies, types of coping strategies and their application in coping with occupational stress problems were dealt with. And the

fourth session, problem solving skills and practicing relaxation techniques were taught to nurses. Finally, one month after the training program, in order to determine the effectiveness of this intervention, the Occupational stress questionnaire was completed by the experimental and control groups again and the data were collected for statistical analysis. At the end, a brochure containing instructional materials on coping strategies was provided to both experimental and control groups. It should be noted that during the training sessions for the experimental group, no intervention was performed on the control group.

Data were analyzed by SPSS 21 using descriptive and inferential statistics including paired t-test, independent t-test, and chi-square test.

3. Results:

In this study, 49 patients were studied in the experimental group 4 males (16%) and 21 females (84%) and in the control group 3 males (12.5%) and 21 females (87.5%). Chi-square test showed that there was no statistical difference between the experimental and control groups in terms of sex (P = 0. 726). Thus, both groups were sex-matched. Also, there was no statistical difference between the experimental and control groups regarding marital status, occupational status and occupational ward (p <0.05). (Table 1)

Table 2. Comparison of nurses’ total stress scores before and after the test in the experimental and control groups

P-Value	Post -test occupational stress	Pre – test occupational stress	Groups
	Mean± SD	Mean± SD	
0.025	25.719±166.28	19.528±180.12	Experimental
0.108	22.141±178.95	24.650±178.08	Control

The results of Table 2 show that there is no statistical difference between the two groups in terms of Occupational stress before and after the test (P> 0.05). However, nurses’ occupational stress in the experimental group decreased after the test compared to the pre-test (p <0.05). In the control group, nurses’ stress after the test did not change significantly compared to the pre-test (P> 0.05).

Table 3. Comparison of mean scores of occupational stress scale dimensions in study units in experimental and control groups in terms of sex

p-value	control	Experimental	time	Dimensions of occupational stress
	Mean ± SD	Mean ± SD		
0.148	31.33 ± 6.00	33.28 ± 3.93	pre	role overload
0.011	29.91 ± 3.95	32.36 ± 3.37	post	
0.394	29.25±5.22	28.4±6.59	pre	role insufficiency
0.001	29.25±5.22	24.76±5.37	post	
0.627	25.91±6.13	25.16±6.54	pre	role ambiguity
0.108	26.37±6.02	23.92±6.29	post	
0.053	31.66±4.58	33.76±3.70	pre	role responsibility
0.346	31.58±4.57	32.62±3.97	post	
0.942	31.83±9.50	32±8.57	pre	physical environment
0.053	33.75±8.29	29.50±9.31	post	
0.797	28.08±4.93	28.40±5.01	pre	role boundary
0.277	28.08±4.74	26.66±5.94	post	

The findings in Table 3 show that there is a statistically significant difference between the two groups in terms of role insufficiency after the test (P=0.001). Also there was a statistically significant difference between the two groups in terms of role overload after the test (P=0.011)

4. Discussion:

This study aimed to evaluate the effectiveness of coping strategies training on nurses’ Occupational stress. Data analysis indicated that stress coping strategies were able to reduce Occupational stress in nurses working in internal and surgical wards.

Results showed that there was no significant difference in occupational stress mean score between the two groups before the test, but after the test, the mean score of occupational stress in the test group had a decreasing trend compared to the pre-test. The results of Peyman&Ezzati (2012) study also showed that Occupational stress among the nurses before the test of self-efficacy training in both experimental and control groups was the same but after the educational test it reduced the Occupational stress of the nurses in the experimental group, so it can be acknowledged that this study is consistent with the results of the present study¹⁸.

Research shows that nurses use less problem-solving strategies²⁰, on the other hand, many employees suffer

from work stress in the workplace, but are not aware of the appropriate solution to prevent and manage this stress. Training with effective skills for nurses is very effective in reducing stress during occupational exposure²¹.

Job stress is a physical and psychological response that arises through a person's lack of interaction with the work environment and incompatibility with work responsibilities and abilities²².

Since coping strategies are a problem-focused coping and rational approach to stress, it can have a more lasting and effective impact on job performance, and this positive impact can bring mental health to the employee. It is also possible to explain this finding in people who use problem-focused coping strategies, stress levels are low and low levels of stress make one able to use cognitive and dynamic skills to cope with the problem in the light of mental relaxation. And as a result, they gain greater satisfaction and greater mental health. According to the findings, the effects of job stress can be improved by effectively and efficiently teaching problem-solving strategies through the use of these strategies and reducing the use of emotion-focused strategies²³.

Hosseini et al. (2014) also showed in their study that coping strategies training is effective in reducing stress and job performance as well as affecting and reducing the components of Occupational stress, which is consistent with the present study²⁴.

In the results of the study Lee et al. (2016) entitled "A Meta-Analysis of the Effects of Coping Strategies on Reducing Nurse Burnout" showed that coping strategies can minimize burnout among nurses and maintain efficacy between 6 months and 1 year. This confirms the effectiveness of training problem-focused strategies in reducing Occupational stress and, consequently, reducing job burnout as a consequence of Occupational stress²⁵. Therefore, stress management training can reduce nurses' work stress. As a result, training of stress management skills in nursing management, clinical and educational domains seems necessary.

Better knowledge and skills of nurses could improve their ability to cope with job demands and minimize work stress²⁶. Also in the results of studies it has been shown that the most stressful factors are related to commitment, workload and incompetence²⁷ and that

Group ACT-based training can reduce work stress but had no significant effect on job burnout²⁸. Because people who use effective coping strategies to cope with stress are less vulnerable to stressors than those who have emotionally-focused coping²⁹.

Therefore, according to the results of the present study, coping strategies training can be one of the measures to reduce nurses' Occupational stress in managing stress and Occupational stress.

It is recommended that programs be introduced to teach them how to deal with stress at work and improve their coping strategies and problem-solving skills³⁰.

The findings of the present study indicate that there is a significant difference in some aspects of occupational stress, between the experimental and control groups, and between both sexes, in fact, it can be said that training coping strategies also affects some aspects of occupational stress and has reduced them. In the study of Sunanda (2018) entitled Influence of Occupational Role Stressors on Employees' Stress in IT Sector it was showed that there is a strong positive relationship between occupational role stressors and Occupational stress among IT sector employees³¹.

The results of the study by Lili et al. (2017) show that optimistic coping strategies can improve patient care and increase nurses' job performance, which is consistent with this study³².

In the study of Mazzella et al. (2019), the findings indicate that the existence of a protective factor to cope with job stress, led to more use of problem-based coping during the first years of employment in oncology nurses³³.

Conclusion:

Identifying the impacts of work stress and using effective coping methods play a vital role in minimizing nurse stress. The use of problem solving coping strategies to alleviate Occupational stress for medical and surgical nurses in their daily work should be promoted and encouraged.

Therefore, training strategies for coping with nurses' Occupational stress is effective and reduces their Occupational stress. Since the costs associated with occupational stress injuries are high and significant, it can be suggested that the authorities concerned allocate a cost to implement training for health

care providers such as nurses who play a special role in this. Because this issue is closely linked to promoting community health, it also minimizes Occupational stress in nurses and improves the work process by emphasizing training coping strategies and strengthening stress management and problem solving in nurses, rather than eliminating any problems that lead to Occupational stress are also addressed. It is also suggested that this training be studied in larger samples of nurses and other treatment groups.

Ethical clearance: We obtained an agreement for

conducting the study from the Research Council of the University and the permission of the relevant field.

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Author contribution: Study conception and design (SR-MK), statistical expertise, analysis and interpretation of data and supervision (SR-TA), manuscript preparation (TA), Supervision, administrative support and critical revision of the paper (SR- TA -MK).

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