

Effect of resilience-based intervention on occupational stress among nurses

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Abstract

Background: Resilience is one of the most important factors that can affect nurses' occupational stress. The purpose of this study was to determine the effect of a resilience-based intervention on occupational stress in nurses at Tekab Shohada Hospital in 2016.

Materials & Methods: This research was quasi-experimental and implemented using pre-test/ post-test design. All nurses working in Shohada Hospital in Tekab city (n=60) were the subjects of this study. Firstly, by referring to the hospital, the occupational stress questionnaire was distributed to the study subjects and a pre-test was obtained from them. In the next step, the nurses were trained in 5 sessions of 1 hour, twice a week in groups of 30 people in two shifts of morning and evening at the conference hall of the hospital. After collecting post-test data, data were analyzed using SPSS / 16 software.

Results: There was a significant difference in the level of occupational stress and its components between the pre-test and post-test of the studied subjects after the intervention ($P < 0/001$).

Conclusion: Holding resilience training courses can help reduce nursing job stress and help to adapt individuals to existing changes.

Key words: Resilience-based Intervention, Occupational stress, Nurse

Please cite this article as: Moradi Y. et al . Effect of resilience-based intervention on occupational stress among nurses. *World Family Medicine*. 2017; 15(9):159-163 DOI: 10.5742/MEWFM.2017.93116

Introduction

The phenomenon of occupational stress is one of the major problems that has been encountered by human societies over the last decades and with the gradual shift of societies towards modern life [1]. According to the National Institute of Occupational Safety and Health, a person faces a stressful job when there is no coordination between job needs and his/her abilities, and desires [2]. Job stress is a process that results from a person's encounter with the organization and the workplace. Occupational stress is of particular concern to people with mental health problems [3, 4]. In 1992, the United Nations recognized occupational stress as the 20th Century disease, and later the World Health Organization declared it to be the most epidemic in the world [5, 6]. The International Labor Organization has estimated labor costs for countries to be 1 to 3.5 percent of GDP due to occupational stress, indicating that this is rising [7]. Also, the American Academy of Family Physicians estimates that about two-thirds of those who have been visited and evaluated at work have symptoms of stress [8], and about 30% of the workforce in developed countries is occupationally stressed [9]. Of the various occupational groups, health professionals, especially those working in the hospital environment, experience higher job stress [10]. Among the healthcare professions, nursing is also recognized as one of the high-risk occupations for physical and mental illness [11]. In our country, 80% of healthcare workers are nurses. According to the Nursing Organization, 75 percent of nurses suffer from some degree of stress and physical and mental illness [12, 13]. The National Professional Safety Association in the United States has identified nursing at the top of 43 professions with a high incidence of occupational stress-related diseases and believes nursing is likely to be at the head of tensed healthcare jobs [12]. The nursing profession is inherently tense and tension affects the quality of life and health of nurses, the burden of workload, close relationship with patients, responsibility for their lives and their lives; technological advancements and increasing care dimensions are directly related to nursing job stress [14]. Long working hours, busy work, shift work, lack of freedom to act in decision-making, lack of support from managers and colleagues are among the factors that cause occupational stress in nurses [12, 15, 16].

Regarding the problems of job stress, recent attention has also been paid to resilience in the nursing profession [17, 18]. In this connection, McGee in the theory of limited scope of resilience in nursing, and a nursing pattern [19] sees resilience as the ability to change disaster and turn it into a growing and forward-looking experience, and in his view, he considers the four infrastructure patterns to be resilient. Each of these patterns plays a role in both empowering and empowering individuals. The four patterns are readiness patterns, relational patterns, situational patterns, and philosophical patterns [19-21].

For resiliency five dimensions proposed by Gitterman include: 1- Integration with the family 2- Consistency with the social environment 3- Consistency with the physical

environment 4. Integration with the inner wisdom and 5. Supporting mentality. These dimensions enable individuals to develop appropriate coping skills in challenging situations [22].

In relation to the research background, Kutlurk and et al, showed a significant negative correlation between resiliency and burnout [23]. In their analysis, Warelow and Edward (2011) stated that nurses should increase their resilience skills in the 21st century in order to cope with their professional problems and mental health [24]. Allister and Kinnon (2013) found that resiliency is one of the important and effective factors in nursing career success and resilient capacity is required for nursing careers' success [25]. Therefore, based on the importance of the above-mentioned cases, the present study aimed to determine the effect of resilience-based intervention on occupational stress in hospital nurses.

Materials and Methods

Study Design and Participants

This research was quasi-experimental and was implemented using pretest-posttest design. All nurses working in Shohada Hospital in Tekab city were the subjects of this study. Sampling was complete and all 60 nurses working in Shohada Hospital in Tekab entered the study. The criteria for entry to studying were having a bachelor's or master's degree, a lack of a second job, having constant shifts (in the morning, evening, and evening), did not attend the taught training courses associated with resilience in the past 3 months, and the exclusion criteria were the reluctance to continue in the study, the lack of willingness to complete a questionnaire or an irregular company and absence from more than two sessions of classes. Participation in this study was also voluntary.

Instruments

In this study, the occupational stress questionnaire of the British Occupational Safety and Health Organization was used. The questionnaire was compiled by the British Health and Safety Executive Agency (HSE) and was reviewed by free translation and its validity and reliability. The occupational stress questionnaire is designed to measure work-related stresses and has 35 items with seven subscales of Demands, Control, Managers' support, Peer support, Relationships, Role, and Change. In this scale, high scores indicate low occupational stress [26]. In this study, Cronbach's alpha coefficient for the total job stress scale 89.9 and each of dimensions of demand, control, support of authorities, support of colleagues, communication, role and changes 0/77, 0/70, 0/69, 0/77, 0/81, 0/70, 0/72 were obtained respectively.

Procedures

Following the informed consent, patients were assured of the secrecy and confidentiality of their information. Then, occupational stress questionnaire was distributed in the group and a pretest was obtained from them. In the next step, the nurses were trained in 5 sessions of 1 hour, twice a week in groups of 30 people in two shifts of morning

and evening at the conference hall of the hospital. The number of meetings held for all nurses was equal. Methods of training in interventional phase included lectures, discussion and participation of nurses in role play, group training and pamphlet presentations.

Ethical Considerations

The present study was approved by the Ethics Committee of Urmia University of Medical Sciences. Informed consent was obtained from all participants. Participants were briefed on the objectives and methods of the study and ensured about the voluntary nature of participation in, and

withdrawal from, the study as well as the confidentiality of their data.

Data Analysis

SPSS 16 was utilized to analyze the data. Further to descriptive statistics, first, Kolmogorov-Smirnov test was used to assure the normal distribution of variables (Table 1), and then paired t-test, was utilized to study the mean of scores within groups. Normally distributed data were presented as the mean \pm standard deviation (SD). The significance of data was set at a p-value of 0.05.

Table 1: Results of the Kolmogorov-Smirnov test to determine the normality of the data

Variable	n		K-S		P-value	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
Demands	60	60	1/28	0/60	0/07	0/85
Control	60	60	1/04	0/63	0/22	0/81
Managers' support	60	60	1/33	1/18	0/06	0/12
Peer support	60	60	1/31	1/23	0/06	0/09
Relationships	60	60	0/78	0/76	0/57	0/60
Role	60	60	1/10	1/39	0/17	0/11
Change	60	60	1/20	1/53	0/10	0/13
Occupational stress	60	60	0/99	0/93	0/27	0/33

Findings

28.3% of the study subjects were male and 71.3% female. The mean scores of occupational stress in men and women were 123.29 ± 15.11 and 171.05 ± 19.97 respectively and there was no statistically significant difference in terms of the level of occupational stress between both groups ($P=0.33$).

Based on the results of the paired t-test, there was a statistically significant difference in the level of occupational stress and its components between the pre-test and post-test of the studied subjects after the intervention. (Table 2)

Table 2: Comparing the mean scores of occupational stress and its subscales before and after the intervention

Item	Mean \pm SD		T	P-value
	Before	After		
Demands	16/97 \pm 3/78	22/67 \pm 5/85	-6/26	< 0/001
Control	15/33 \pm 3/86	19/53 \pm 4/39	-5/56	< 0/001
Managers' support	13/73 \pm 3/75	16/93 \pm 3/98	-4/06	< 0/001
Peer support	11/8 \pm 2/40	14/77 \pm 3/56	-5/27	< 0/001
Relationships	11/5 \pm 3/46	13/07 \pm 4/14	-5/27	< 0/001
Role	18/2 \pm 2/76	22/13 \pm 2/72	-7/40	< 0/001
Change	8/8 \pm 2/16	13/23 \pm 2/63	-10/30	< 0/001
Occupational stress	97/77 \pm 16/17	119/53 \pm 18.75	-6/75	< 0/001

Discussion

The results of this study showed that the mean score of occupational stress in the group before and after intervention based on resilience is different. As a result, there is a significant difference in the amount of occupational stress in the two periods before and after the resilience training within the group. The results of this study were consistent with the results of studies by Kutlurkan et al, Warelow et al, McAllister et al and Shakernia et al [21, 23-25, 27]. In his analysis of results, Warelow et al stated that nurses in the 21st Century should increase their resilience skills in order to cope with their professional problems and improve their mental health because resilience and resilient behaviors potentially help people. To overcome negative experiences and turn these experiences into positive experiences [24]. In the present study, there was a significant difference between the mean demands scores of the samples before and after the intervention. Job pressure is desirable for a person who is in balance between the demand to be met and his ability to perform that balance. As economists say, prices fluctuate if demand or supply is not consistent [29]. The results of this study showed that the mean scores of Peer support and authorities are different before and after the intervention based on resilience. In explaining the hypothesis, it should be said that an individual can achieve resilience who is in an amicable environment and does an altruistic affair [28].

The results showed that the mean scores of the control subscale were varied before and after intervention based on resiliency. Having a program and a goal for life can predict the future and determine the path. It also reduces the number of failures due to planning, which as a results of these items, resilience will be increase [28].

The results of this study showed that the mean scores on the subscale of the relationship before and after the intervention based on resilience are different. As a result, there was a significant difference in the rate of communication between the two periods of before and after the resilience training, within the group. Among important factors that cause stress can be cited disturbing relationships between colleagues, distress, insecurity and unhealthy competition [12, 30, 31].

The results showed that the mean scores of the role subscale were varied before and after intervention based on resilience. Therefore there was a significant difference in the rate of role between the two periods of before and after the resilience training within the group. In explaining this hypothesis, life is somewhat boring without coping with difficulties and without the need to develop capabilities. One needs to make maximum use of the situation in which he or she is located, and in this regard, it is necessary to balance his/her abilities and the demands [32]. Also, there was a significant difference between the mean scores of subscales of changes before and after intervention based on resilience. A person with a high level of resilience can well adapt to changes in an organization and tolerate pressures at the workplace [33].

Conclusion

Resiliency training is one of the important indicators in the way nurses deal with work environment pressures and in relation to their colleagues. Nurses with high resilience are more flexible, compatible and collaborative in their work environment than their other colleagues. Therefore, holding educational classes based on resilience has a significant effect on the efficiency of nurses.

Acknowledgments

This article was derived from MSc thesis at Urmia medical university of science and was funded by the research and technology deputy of this university. The author wishes to thank the research and technology deputies of Urmia universities and all participants.

References

- Hajjamini Z, Cheraghalipour Z, Marzabadi A, Ebadi A, Norouzi Koushali A. Comparison of job stress in military and non-military drivers in Tehran city. *Journal Mil Med.* 2011;13(1):25-30.
- Kerr R, McHugh M, McCrory M. HSE Management Standards and stress-related work outcomes. *Occupational Medicine.* 2009;59(8):574-9.
- Cooper CL, Marshall J. Occupational sources of stress: A review of the literature relating to coronary heart disease and mental ill health. *From Stress to Wellbeing Volume 1: Springer;* 2013. p. 3-23.
- McVicar A. Scoping the common antecedents of job stress and job satisfaction for nurses (2000–2013) using the job demands–resources model of stress. *Journal of nursing management.* 2016;24(2).
- Brun J-P. Work-related stress: scientific evidence-base of risk factors, prevention and costs. *Skinuto s mreže.* 2008;3:2008.
- LaPorta LD. Occupational stress in oral and maxillofacial surgeons: tendencies, traits, and triggers. *Oral and maxillofacial surgery clinics of North America.* 2010;22(4):495-502.
- Park S-G, Min K-B, Chang S-J, Kim H-C, Min J-Y. Job stress and depressive symptoms among Korean employees: the effects of culture on work. *International archives of occupational and environmental health.* 2009;82(3):397.
- Duraisingam V, Pidd K, Roche AM. The impact of work stress and job satisfaction on turnover intentions: A study of Australian specialist alcohol and other drug workers. *Drugs: education, prevention and policy.* 2009;16(3):217-31.
- Klein S, Alexander DA. Epidemiology and presentation of post-traumatic disorders. *Psychiatry.* 2009;8(8):282-7.
- Magnago TSBdS, Lisboa MTL, Griep RH, Kirchhof ALC, Guido LDA. Psychosocial aspects of work and musculoskeletal disorders in nursing workers. *Revista latino-americana de enfermagem.* 2010;18(3):429-35.
- Menzel NN. Psychosocial factors in musculoskeletal disorders. *Critical care nursing clinics of North America.* 2007;19(2):145-53.

12. Adib-Hajbaghery M, Khamechian M, Alavi NM. Nurses' perception of occupational stress and its influencing factors: A qualitative study. *Iranian journal of nursing and midwifery research*. 2012;17(5):352.
13. Rezaei J, Naderi S, Mahmoudi E, Rezaei S, Hashemian AH. Job Burnout Rate and Related Demographic Factors in Nursing Personnel Employed in Emergency Departments of Chosen Educational Hospitals by Kermanshah University of Medical Science in 2012. *Advances in Biological Research*. 2015;9(2):117-27.
14. Bianchi ERF. Stress and coping among cardiovascular nurses: a survey in Brazil. *Issues in mental health nursing*. 2004;25(7):737-45.
15. Perdikaris P, Kletsiou E, Gymnopoulou E, Matziou V. The relationship between workplace, job stress and nurses' tobacco use: a review of the literature. *International journal of environmental research and public health*. 2010;7(5):2362-75.
16. Roberts RK, Grubb PL. The Consequences of Nursing Stress and Need for Integrated Solutions. *Rehabilitation nursing : the official journal of the Association of Rehabilitation Nurses*. 2014;39(2):62-9.
17. Jackson D, Firtko A, Edenborough M. Personal resilience as a strategy for surviving and thriving in the face of workplace adversity: a literature review. *Journal of advanced nursing*. 2007;60(1):1-9.
18. Kim B-N, Oh H-S, Park Y-S. A study of nurses' resilience, occupational stress and satisfaction. *Korean Journal of Occupational Health Nursing*. 2011;20(1):14-23.
19. McGee EM. The healing circle: resiliency in nurses. *Issues in mental health nursing*. 2006;27(1):43-57.
20. Ahern NR, Norris AE. Examining factors that increase and decrease stress in adolescent community college students. *Journal of pediatric nursing*. 2011;26(6):530-40.
21. Shakerinia I, Mohammadpoor M, editors. Relationship between hardiness and resiliency with mental hygiene in male mountaineer in Rasht City. *Proceeding of 1st congress of covert pathology Kurdistan: Kurdistan University and Jahad Daneshgahi*; 2009.
22. Gitterman A, Germain CB. Social work practice: A life model. *Social Service Review*. 1976;50(4):601-10.
23. Kutlurkan S, Sozeri E, Uysal N, Bay F. Resilience and burnout status among nurses working in oncology. *Annals of general psychiatry*. 2016;15(1):33.
24. Warelow P, Edward KI. Caring as a resilient practice in mental health nursing. *International Journal of Mental Health Nursing*. 2007;16(2):132-5.
25. McAllister M, McKinnon J. The importance of teaching and learning resilience in the health disciplines: a critical review of the literature. *Nurse education today*. 2009;29(4):371-9.
26. AZAD ME, GHOLAMI FM. Reliability and validity assessment for the HSE job stress questionnaire. 2011.
27. Shakerynya I, Mohammadpoor M. The relationship between job stress and resiliency with burnout among woman nurses. *Journal of Kermanshah University of Medical Sciences, Behbud*. 2010;14(2):161-9.
28. Zakeri H, Jowkar B, Razmjoe M. Parenting styles and resilience. *Procedia-Social and Behavioral Sciences*. 2010;5:1067-70.
29. Wilks SE. Resilience amid academic stress: The moderating impact of social support among social work students. *Advances in social work*. 2008;9(2):106-25.
30. Adriaenssens J, De Gucht V, Maes S. Causes and consequences of occupational stress in emergency nurses, a longitudinal study. *Journal of Nursing Management*. 2015;23(3):346-58.
31. Happell B, Dwyer T, Reid-Searl K, Burke KJ, Caperchione CM, Gaskin CJ. Nurses and stress: recognizing causes and seeking solutions. *Journal of nursing management*. 2013;21(4):638-47.
32. Killian B. Risk and resilience. *A generation at risk*. 2004:33-63.
33. Fadardi JS, Azad H, Nemati A. The relationship between resilience, motivational structure, and substance use. *Procedia-Social and Behavioral Sciences*. 2010;5:1956-60.