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Effectiveness of problem-solving strategies for stress management among emergency nurses working in Mosul City Hospitals

Salim Shehab Ahmed

M.Sc. in Nursing PMHN. College of Nursing / Ph.D. Student / University of Baghdad. Iraq

Corresponding author email: almetewtysalim@gmail.com

Kareem Reshak Sajit

Ph.D. PMHN, Assis. Prof, College of Nursing / University of Baghdad. Iraq

Abstract---Background: Job related-stress for nurses is considered a serious issue that may result in increasing nurses' emotional distress and psychological problems and has a negative effect on health care services, especially in emergency units. Objective: This study aimed to evaluate the effect of problem-solving strategies on the levels of job-related stress among emergency nurses at teaching hospitals in al Mosul city. Method: quasi-experimental, study of two groups (control and study) used the pre-test, post-test 1, and post-test 2. conducted through the period from (1st March 2020 to 1st August 2020) on a total sample consisting of (60 nurses) working in emergency units through purposive sample method. Three sessions were submitted to emergency nurses that adopted the problem-solving strategies. Data were collected by a questionnaire; Work Stress Scale tests. Results: the educational program decreased the job stress from (2.13) in pre-test to (1.58) post-test 2 in experimental groups. The study findings that the mean stress level decreased from moderate mild level at post-test 1 and post-test 2. Conclusion: The study revealed that problem-solving strategies can reduce the level of stress among ER nurses.

Keywords---management program, problem-solving, job stress, emergency nurses.

Introduction

Working as a nurse in an Ed can be extremely stressful, Stress can hurt one's physical and mental health, resulting in workplace problems. In the long run, this has an impact on the productivity of the company. High occupational stress have detrimental effects not only on individual staff, but also on patient safety and an

organization's financial profile (Moeini et al., 2011). Prolonged exposure to these occupational stressors can place staff at risk of depression, anxiety, musculoskeletal pain, fatigue, sleep disturbances, and cardiovascular diseases (Hamilton et al., 2016).

Nurses are workers exposed to high physical and emotional demands, and having to deal with pain, suffering, death, high work days, deficit of personnel, low wages, high responsibility, constant need for technical and technological updates (Higazee et al., 2018). Allied to factors, such as low ability of coping with stressors, may affect individual health with biopsychosocial problems, and, in organizations, with increased absenteeism, high staff turnover rates and sick leaves due to occupational diseases, in addition to reflecting negatively on the quality of the service provided, consequently, reflecting on the patient safety (Silveira et al., 2020).

While stress chronicity brings negative effects, promoting workplace well-being has an inverse effect, favoring improvements in individual and organizational levels. In itself stress is not an illness, but if it is excessive and prolonged, it can lead to mental and physical ill health, including depression, nervous breakdown and heart disease. (Faremi et al., 2019). Problem-solving involves both an attitude that problems can be solved or at least improved, and a process based on a specific set of skills. The process of problem-solving has four distinct steps. For many clients, you will want to go through the whole problem-solving process step by step; however, for some clients, you may use only parts of the process. Below are the four steps (Josefowitz & David Myran, 2017). Problem solving strategies can be summarized by : identify the problem and set realistic goals, generate new solutions this is often called *brainstorming*, evaluate the different solutions and decide which one to try, and try one of the solutions: evaluate the consequences and decide whether the problem is solved or whether you need to continue to problem-solve (Ramezanli et al., 2015).

Material and Method

Quasi-experimental design, with purposive sample, it includes seven general teaching hospital that has emergency departments involved in the study on a total participant consisting of 60 nurses working in the emergency units, after the approval from the Nineveh directorate of health and local arrangement with the hospital administration to implement the training program. Data from the study and control groups were collected from the target sample of nurses who work in these departments. Inclusion Criteria: Nurses who work in the emergency department. Nurses who have experience of one year and more in the emergency department, Both genders (male and female) nurses. Exclusion Criteria: Nurses who have experience of less than one year in the emergency department, and the nurse who refuses to engage in the study. The sample divided into two groups (30 control and 30 study) used the pre-test post-test 1 and post-test 2. conducted through the period from (1st February 2021 to 1st August 2021. three sessions were submitted to a study group that adopted the problem-solving strategies program during one week. The instrument was adopted and modified for the present study fall into two parts, the first one is the demographical characteristics of nurses consisting of seven items. The other is the work-related stress scale. 26

items were scored on a Likert scale with three levels of stress (stressful=1, occasionally stressful=2, and extremely stressful=3). The grade of job-related stress was computed by dividing the overall score of the scale into three categories (which indicate the level of stress experienced by nurses) and grading them as follows: mild= 26-43, moderate= 44-61, and severe= 62-78. The data were analyzed using descriptive statistics (frequency, percentage, mean, and standard deviation). A significance level of less than 0.05 was set for the tests. For data analysis, SPSS software (version 23; SPSS Inc, Chicago, Illinois) was used.

Results

Sample Distribution based on Socio-demographic Characteristics

No.	Characteristics		Study group		Control group	
			f	%	f	%
1	Age (year)	20 – 29	12	40	17	56.7
		30 – 39	9	30	5	16.7
		40 – 49	8	26.7	5	16.7
		50 ≤	1	3.3	3	10
		<i>Total</i>	30	100	30	100
		<i>M±SD</i>	33.9 ± 9.3		23.4 ± 10.4	
2	Gender	Male	14	46.7	12	40
		Female	16	53.3	18	60
		<i>Total</i>	30	100	30	100
3	Nursing qualification	Preparatory	13	43.3	18	60
		Diploma	6	20	9	30
		Bachelor	11	36.7	3	10
		Master /Doctorate	0	0	0	0
		<i>Total</i>	30	100	30	100
4	Marital status	Single	12	40	5	16.7
		Married	15	50	25	83.3
		Widowed/er	3	10	0	0
		Separated	0	0	0	0
		<i>Total</i>	30	100	30	100
5	Shift duty	Day	19	63.3	17	56.7
		Night	5	16.7	2	6.7
		Both	6	20	11	36.7
		<i>Total</i>	30	100	30	100
6	Years of experience in nursing	≤ 5	12	40	16	53.4
		6 – 10	6	20	4	13.3
		11 – 15	4	13.3	1	3.3
		16 – 20	5	16.7	4	13.3
		21 ≤	3	10	5	16.7
		<i>Total</i>	30	100	30	100
		<i>M±SD</i>	9.9 ± 7.8		10.4 ± 10.3	
7	Years of experience in emergency	1 – 3	22	73.3	18	60
		4 – 6	6	20	6	20
		7 ≤	2	6.7	6	20

	<i>Total</i>	<i>30</i>	<i>100</i>	<i>30</i>	<i>100</i>
	<i>M±SD</i>	<i>2.9 ± 1.8</i>		<i>4.2 ± 4.1</i>	

Table (2): Changing the stress level resulting from time management strategies program at three times

List	Job-related Stress	Study Group (N=30)						Control Group (N=30)					
		Pre-test		Post-test I		Post-test II		Pre-test		Post-test I		Post-test II	
<i>Workload</i>		M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.
		2.15	Mo	1.62	Mi	1.57	Mi	2.14	Mo	2.20	Mo	2.19	Mo
<i>Conflict</i>		M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.
		1.96	Mo	1.48	Mi	1.48	Mi	1.98	Mo	2.08	Mo	2.17	Mo
<i>Lack of support</i>		M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.
		1.88	Mo	1.5	Mi	1.52	Mi	2.06	Mo	2.24	Mo	2.25	Mo
<i>Uncertainty regarding patient treatment</i>		M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.
		2.08	Mo	1.46	Mi	1.54	Mi	2.17	Mo	2.19	Mo	2.3	Mo
<i>Dealing with death & dying</i>		M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.
		2.38	Se	1.5	Mi	1.58	Mi	2.34	Se	2.29	Mo	2.27	Mo
<i>Organizational decisions</i>		M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.
		2.25	Mo	1.63	Mi	1.60	Mi	2.04	Mo	2.17	Mo	2.26	Mo
<i>Inadequate preparation</i>		M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.
		2.16	Mo	1.56	Mi	1.53	Mi	2.06	Mo	2.21	Mo	2.23	Mo
<i>Sexual harassment</i>		M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.	M.S	Ass.
		2.20	Mo	1.83	Mo	1.83	Mi	2.30	Mo	2.37	Se	2.27	Mo
Total		2.13	Mo	1.56	Mi	1.58	Mi	2.13	Mo	2.22	Mo	2.25	Mo

Discussion

The descriptive analysis in table 4-1 shows that the nurses' age is 33.9±9.3 years among the study group and 23.4±10.4 years among the control group with the highest percentage among the study and control groups referring 20-29 years (40%) and (56.7%). The gender refers to the fact that female nurses make up 53.3 % of the study group and 60% of the control group. Regarding nursing qualifications, the nurses in the study group are completed the nursing preparatory school (43.3%) and 36.7% are with bachelor's degrees while those in the study group represent 60% who graduated from nursing preparatory school and 30% are with a diploma degree Marital status refers that 50% of the study group and 83.3% of the control group are married this is the highest reported percentage. Regarding shift duty, more than half of nurses in both groups are working at day shift; The study group had 63.3 % and the control group had 56.7 %. Regarding years of experience in nursing indicates nurses with fewer than five years of experience as reported by 40% in the study group and 53.4% in the control group. While a year of experience in the emergency department indicates they have 1-3 years as seen among 73.3% in the study group and 60% in the control group.

As revealed by the table (2) the mean scores for job-related stress domains; the finding related to nurses in the study group and control show that they have a moderate level of stress during the pre-test time among all domains except (dealing with death and dying) , and the mean score of job stress decreased from (2.13) in pretest to (1.58) posttest 2 in experimental groups. The nurses in experimental group show decreased to a mild level among all domains during the post-test 1 and 2, except sexual harassment still moderate. These findings confirm that the stress management program that applies to the emergency nurses is useful in reducing such job stress. On the other hand, the nurses in the control group show a moderate level of stress across all domains. During the post-test 1 time, they show moderate levels in all domains except sexual harassment which show severe levels. During the post-test 2, they show moderate levels also among all domains.

These fluctuated levels between moderate to severe among the control group (that does not receive the stress management program) during the three times (pre-test and the two post-tests) of some items mentioned in the table (2), regarded as a normal reflex of stress is not equally and constant during the all the time depending on the nature of the stressor which maybe sometimes is in a high level and sometimes may be decreased according to the job situation. The present study is somewhat in the line with the study of Hersch et al., who mention in their study that the more stressed subscale was recorded as related to issues of death and dying, conflict with physicians, and workload (Hersch et al., 2016). This result does not agree with Samar M. Kamal et al. (2012) who state in their study the most stressful subscale was interacting with patients and their relatives or family (Samar M. Kamal et al., 2012).

Conclusion

The researcher concluded that the study revealed that problem-solving strategies can reduce the level of stress among nurses. Aside from the nurses, this study could help fund the implementation of this health promotion method. working in the emergency units with the other hospital nurses, or even other professionals.

Recommendation

The study recommends the need to conduct future studies regarding stress management based on a large number of nurses in the other Iraqi population to reduce the level of stress among emergency nurses, also it may be applied to the other nurses' fields in health institutes.

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