

Effect of Coping Strategies Program on Quality of Life among Emergency Clinic Nurses Working at Night Shift

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ABSTRACT

Context: The night shift work can have a negative impact on job performance, sleep, physical and emotional health, social life, family life, and level of job –related stress for nurses.

Aim: This study aimed to evaluate the effect of coping strategies program on quality of life among emergency clinic nurses working at night shift.

Methods: A quasi-experimental design was utilized to fulfill the aim of this study. The study conducted at Emergency Clinic affiliated to Benha University Hospital. A convenience sample used to achieve the aim of this study. It includes all nurses (60 nurses) who worked at night shift at Emergency Clinic. Three tools utilized in this study: A Structured interviewing questionnaire to assess a nurses' socio-demographic characteristics, Ways of Coping Scale for measuring coping abilities of nurses, and Quality of life Scale for measuring the quality of life for nurses.

Results: A result reveals that there is a significant difference between the nurses' quality of life and their coping abilities post-program implementation.

Conclusion: This study concluded that coping strategies program was effective, and its results had a drastic improvement in coping abilities and quality of life for nurses working at night shift. The study suggested establishing continuous educational programs for nurses who are working at night shift at Emergency Clinic unit about coping strategies & its effect on their quality of life.

Keywords: Coping strategies program, Emergency Clinic, quality of life, night shift.

1. Introduction

Nowadays, almost a fifth of the worldwide workforce is engaged in shift work. In the health care system, shift work is considered necessary and indispensable to ensure continuity of care in hospitals and residential facilities. Approximately one-fourth of the workforce in hospitals works unusual hours (away from the traditional diurnal work period) (Peplonska, Bukowska, & Sobala 2015). Rotating and scheduling are the main characteristics of shift work, and nurses mostly locked into schedules that provide 24-hour care and include night shift work. Nightshift is a term that defined as work performed after 6 pm and before 6 am, the next day, "Shift workers are creators and victims at the same time" of the new work organization (Ferri *et al.*, 2016).

Shift work, and night shift, in particular, is one of the most frequent reasons for the disruption of circadian rhythms, causing significant alterations of sleep and

biological functions. Therefore, the activity at night will be out of phase with the circadian body temperature and other coupled rhythms. Emergency clinic nurses were vulnerable to a stressful environment because of the complex nature of the patient's health problems requiring extensive use of very sophisticated technology (Costa, Anelli, Castellini, Fustinoni, & Neri, 2014).

Research in night shift has identified many stressors depending on the area of specialty. Such as including the poor working relationship between nurses and other health team members, demanding communication and relationship with patients' relatives, emergency cases, high workload, understaffed and lack of support or feedback from their seniors. Working in night shifts creates difficulties in family life and tends to restrict nurses' social and leisure activities. Mainly, working at night, either on permanent or rotating shifts, often produces discordance with the spouse's working hours and free time (Yuan, *et al.*, 2011).

Numerous studies have shown high amounts of psychological distress in nurses and other healthcare

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professionals working in various situations. Night shift causes an imbalance between desired lifestyle and work, women have a significant role to play in the domestic life, and they compromise their sleep to undertake the domestic chores such as care to their children and family chores. To find out whether night shift affects the social aspect of nurses or not 60% of respondents stated that their social life is sometimes affected, 33% stated that always their social life is affected that is mean 93% of the nurses are affected and 7% not affected. The aspect of social life involves nurses' families, work relationships, and other social groups (Buyukhatipoglu, Kirhan, & Vural, 2010).

Besides, because individual biological rhythms, re-entrain to a time shift at different rates, each time the work schedule rotates, for some time after the time shift, the circadian system will be in a desynchronized state. This disorganization can lead to health & psychosocial effects such as a feeling of fatigue and disorganization, which, in turn, can affect the physical and psychological well-being and negatively condition work performance (Parent-Thirion, Vermeylen, & van Houten, 2016). Also, these adverse effects have consequences not just for the individual, but also for the workplace, as decreased alertness and reduced job performance could endanger human lives (Vitale, Varrone-Ganesh, & Vu, 2015).

Night shift has physical, psychological, and social effects on the quality of life of individuals, including nurses. The long hours that they work interfere with their health and their safety is compromised. Studies have shown that a night shift –work can have a negative impact on job performance, sleep, physical and emotional health, social life, family life, drug use and level of job –related stress). Also, shiftwork for nurses disrupts both social and domestic lifestyle, which is a significant consequence of shiftwork, especially with maternal employment that may have some adverse influences on their young children's cognitive and behavioral outcomes (Han, 2015).

Nurses play essential roles in ensuring quality and safe patients' care because they are considered the most significant healthcare workforce. However, nurses challenged by work pressure, exposure to risks, moral and ethical distresses, demands of patients, and significant others, which pose a threat to their wellbeing. Nurses also need to carry out other responsibilities, such as professional and continuing education and workplace management; thus, some nurses struggle in creating and maintaining a balanced personal and professional life (Cruz, 2017).

Quality of life (QOL) is a very complicated and abstract concept. Most have the idea that the quality of life means the suitability of the material circumstances and the perception of the people. Quality of life is a broad multidimensional concept that usually includes subjective evaluations of the positive and negative aspects of life. WHO defines this concept as the "individuals' perceptions of their position in life in the context of the culture and value systems in which they live and about their goals, expectations, standards, and concerns" (Geiger-Brown et al., 2016).

The health and well-being of nurses are an essential concern because health is a significant dimension of social wellness. Healthy nurses can significantly contribute to enhancing the efficiency and effectiveness of health care systems because good health is vital to the performance of tasks. Specifically, nurses who experienced pain and depression reported decreased on the job efficiency, which resulted in increased patient falls, medication errors, and poor quality of patient's care. Thus, ensuring the excellent health of nurses is essential not only for them but also for patients (Rahman, Abdul-Mummin, & Naing, 2016). Efforts to promote adaptation to shift work and long work hours include strategies for employers and strategies for workers. Most suggestions to date have written for shift work, but they may also be relevant for long work hours. A sampling of strategies suggested in the literature for shift work includes designing new work schedules and rest breaks during work, altering circadian rhythms with bright light or blue light, optimally timing physical activity or other work demands (Al-Ameri, 2014).

Moreover, improving physical conditioning, using caffeine, planning dietary regimens, stress reduction, support groups, and family counseling. Behavioral and administrative strategies before were considering pharmacologic aids since the stimulants and sedatives can be addictive, and questions remain about the safety and effectiveness of long-term use. Taking naps during work is another intervention that has been associated with improvements in alertness (Costa et al., 2014).

More researches are needed to determine the optimum length and timing of the nap and a practical environment at work to take a nap. Empirical evaluations and applications of the other techniques have begun and will be useful for some workers, but more researches are needed to develop strategies that can be easily applied by workers in a wide range of demanding work schedule situations. Another type of strategy is work hour limits, such as the recent Institute of Medicine recommendation. That work hours for nurses be limited to 60 hours per 7-days period and 12 hours per day. Several studies are carried out in developing countries for analyzing QOL among nurses (Jathanna & D'Silva, 2014).

2. Significance of the study

Vitale, et al., (2015) reported that the night-shift nurses have rapidly increased worldwide over the last decades, and nurses work the long-hour night shift have become under conditions of intense stress. Also, they often suffer from excessive workloads, minimal social support, and low quality of life. Long-term night and shift work in nurses becoming more pessimistic and less vicarious as their training progresses, and might be associated with many health-related problems like fatigue, sleep problems, anxiety and difficulties in maintaining regular lifestyles

Nurses often exposed to challenging situations in the clinical area, which may negatively impact the quality of life (QoL) of nurses to develop a positive outlook towards life, improve overall health, achieve high productivity and low-stress levels, and acquire effective coping skills. So,

this study can help emergency clinic nurses working at night shift through providing them with different coping strategies that can increase their coping abilities & improving their quality of life. So, this study focused on the effect of coping strategies on quality of life among Emergency Clinic nurses working at night shift.

3. Aim of the study

Evaluate the effect of coping strategies program on quality of Life among Emergency Clinic nurses working at night shift.

3.1. The hypothesis of the study

Night shift nurses' coping abilities will be significantly improved after implementation of the coping strategies compared to their pre-implementation level.

Night shift nurses' quality of life will be significantly improved after implementation of the coping strategies compared to their pre-implementation level.

4. Subjects and methods

4.1. Research design

Quasi-experimental (pre/post) research design was used to complete this study.

4.2. Study setting

The study conducted at Emergency Clinic affiliated to Benha University Hospital from December 2018 to May 2019.

4.3. Subjects

A convenience sample used to achieve the aim of this study. It includes all males and females nurses from Emergency Clinic (60 nurses) who worked at night shift during the study period (6 months). Also, they work in the night shift for more than one year.

4.4. Tools of data collection

Three tools used for data collection.

4.4.1. Structured interviewing questionnaire

It developed by the researchers to assess nurse's socio-demographic data. It developed by the researchers and includes two parts to collect data about: First part concerned with study subjects' socio-demographic characteristics as age, gender, marital status, occupation, and educational level. The second part concerned with data related to health status as night shift affect health, health problems currently experience and occupational injuries during working.

4.4.2. Ways of Coping Scale

It adapted from *Folkman & Lazarus, (1985)*, it utilized to measure the coping abilities of nurses working at night shift. It consists of 45 statements which responded against four-point Likert scale ranged from (3) always, (2) sometimes, and (1) never. It collected pre and post-test.

Scoring system:

The total score for coping behavior strategies for nurses ranged from 45-135 points expressed as follow; negative use coping behavior strategies: score < 60% equal 45 < 81 points, positive use coping behavior strategies: 60% - < 75% with a score 81 < 102 points, and highly positive uses coping behavior strategies: ≥ 75 equal 102 – 135 points.

4.4.3. Quality of life scale

It adapted from *WHOQOL, (1995)*, it utilized to measure the quality of life for nurses who are working at night shift. It consisted of (34) items that were categorized based on the quality of life three domains: Physical health (14) items to assess energy and fatigue, mobility, pain and discomfort sleep and rest and work capacity. Psychological health (12) items to assess bodily image, appearance, negative feelings, positive feelings, self-esteem thinking, learning, and concentration. Social relationships were (8) items to assess personal relationships, social support, and sexual activity. It is collected pre-post-test.

Scoring system:

The score of the response answers were ranged from (3) always, (2) sometimes, and (1) never. The total score for quality of life for nurses ranged from 34-102 points was expressed as follow; Low quality of life: Score < 60% equal < 61 points, moderate quality of life: Score 60 - < 75% equal 61 - < 77 points And high quality of life: Score ≥ 75 equal 77-102 points.

4.5. Procedures

The current research carried out in three phases. Those are preparation, implementation, and evaluation.

Preparation Phase: In this phase, the researchers reviewed the currently available national and international literature review and exploring internet to develop the study tools for data collection and designing the educational program. Finally, the tools were revised and modified. Official permission for data collection & implementation of the educational program obtained from the dean of Benha Faculty of nursing and hospitals administrative personnel, the researchers interviewed with available nurses to explain the aim of the study & take their approval to participate in the study before data collection.

Face and content validity were done for the tools by three experts from medical surgical nursing & psychiatric nursing and community health nursing there were no modifications to study tools accordingly the reliability of the tools tested using the test-retest method. It proved to be high with Cronbach's alpha reliability coefficients 0.91.

Ethical considerations: The oral consent was obtained from nurses to participate in the study. During the initial interview, the purpose of the study explained. The nurses reassured that their participation was voluntary, and they had the right to withdraw from the study at any time if they want and without any costs. All information would be confidential.

A pilot study conducted on 10% (6 nurses) from the total number of subject (60) emergency clinic nurses it was done to assess the tools clarity, objectivity, and time required to fill the tools that approximately ranged from (25-30) minutes and the feasibility of the research process. The nurses who included in the pilot study were not excluded from the main study sample, where no modifications have done.

Planning phase: include the program general, and specific objective

General objective: The general objective of the Coping Strategies Program was to improve coping abilities and Quality of life for nurses working at night shift

Specific objectives: By the end of the program implementation, the Emergency Clinic Nurses should be able to:

- Identify health problems with night shifts
- Define the meaning of coping and coping strategies.
- Importance of coping strategies
- Uses of coping strategies
- Explain coping strategies methods.
- Apply coping strategies methods.
- Discuss effect of coping strategies on nurses' quality of life.

Implementation Phase: At first, the researchers started the preparation and construction of the data collections tools & started to assess the readiness of the subjects in the study settings to announce and encourage subjects' participation in the study. After that, explaining the aim of the study to emergency clinic unit nurses working at night shift to gain their cooperation and agreed to attend the educational program. They also agreed to provide the researchers with the learning room in their units for the same purpose. The educational program was developed based on determined needs and relevant review of the literature. The educational booklets were designed to provide the nurses with an opportunity to develop their coping abilities which improve their quality of life. Different educational strategies, methods of teaching, media, and methods of evaluation were selected to suit the learners' needs, and achieve the objectives and contents of the program.

The researchers distributed pre-test sheets to test the coping abilities & quality of nurses' life. It filled by nurses through 10 sessions & the educational program was carried out at the same sessions for (every six nurses). The researchers met nurses for two days per week (Tuesday and Thursday). The sessions achieved by using available resources, relevant contents, and educational strategies for each session. Different teaching methods were used, such as lectures, group discussion, and brainstorming. The course content of the program took about ten days; one day for orientation and the other nine days for the course content of the program. The duration of each session was (30-40) minutes depending on workload. It included periods of discussion according to their achievement, progress, and feedback. It started at 9-11 P.M. The educational booklets prepared by researchers and distributed to nurses on the first day of the program

An orientation to the training sessions and its aims took place at the beginning of each session. Feedback has given at the beginning of each session about the previous one. Discussion of the current session, program situation, nurses' suggestions and alternative solutions addressed at the end of each session

Evaluation phase: The effect of the educational program was evaluated, using the same tools used before the program. One month after the last session; the researchers gave the post-test to detect the improvement of coping abilities & quality of life of nurses. This phase of the procedure was also taking ten sessions (20-25) minutes for each. The data were analyzed and interpreted and clinically evaluated for a comprehensive discussion of the data analysis results of the study.

4.6. Data analysis

Data verified before computerized entry. The Statistical Package for Social Sciences (SPSS version 20.0) was used for that purpose, followed by data analysis and tabulation. Descriptive statistics were applied (e.g., frequency, percentages, mean, and standard deviation). Test of significance (Chi-square test) were used to compare among mean scores of nurses through study phases. For testing the study hypothesis, the Pearson correlation coefficients used. A statistically significant level considered when $p\text{-value} \leq 0.05$, and a highly statistically significant level considered when $p\text{-value} \leq 0.01$.

5. Results

Table (1) shows that about three-quarters of studied nurses 73.3% their ages from 21-30 years about half of the nurses 53.3% were males. As regarding occupation about three-quarters of the sample, 73.4% were registered nurses. While about two-thirds of the nurses were 66.7% had technical institute diploma.

Table (2) illustrates the distribution of nurses health status, there is a highly statistically significant difference between pre and post-program implementation regarding the effect of the night shift on the nurses' health, health problems they experience, and incidence of occupational injury.

Table (3) shows that there was a statistically significant difference between nurse's ability to coping pre and post-program implementation in all items except blame me for being too emotional ($p=>0.05$).

Figure (1) illustrates positive coping abilities among emergency clinic nurses working at night shift 73.3% after implementing coping strategies program.

Table (4) demonstrates that there was a highly statistically significant difference in the quality of life three domains, Physical health, social relationships and psychological health among emergency clinic nurses working at night shift ($P \leq 0.001$) post-program implementation.

Figure (2) shows that there was a highly statistically significant difference in the total level of quality of life

among emergency clinic nurses working at night shift where 71.2% after implementing coping strategies program

Table (5) shows that there is no significant difference between the nurse's health status and their coping preprogram implementation.

Table (6) shows that there is no significant difference between nurse's health status and their coping post-program

implementation in all items except health problem ($X^2=3.36$, $p=>0.05$).

Table (7) shows that there is a positive significant correlation coefficient between nurses coping strategies and their quality of life post-program implementation ($r=0.40$, $p=<0.05$).

Table (1) Frequency and percentage distribution of nurses' socio-demographic data (n=60).

Socio-demographic	N	%
Gender		
Male	32	53.3
Female	28	46.7
Age		
21-30	44	73.3
31-40	16	26.7
≥40	0	0.0
Mean±SD		42.6 ± 8.5
Marital status		
Married	22	36.7
Single	32	56.3
Widow	6	10.0
Divorced	0	0.0
Occupation		
Head of the department	12	20.0
Matron	2	3.3
Registered nurse	44	73.4
Assistant nurse	2	3.3
Education		
Technical institution	40	66.7
Bachelor in nursing	12	20.0
Others	8	13.3

Table (2): Number and percentage distribution of nurses' health status pre and post-program implementation (n=60)

Items	Pre-program		Post-program		X ²	P
	N	%	N	%		
Night shift affect nurse's health						
yes	44	73.3	12	20.0	3.13	<0.002
no	10	16.7	40	66.7		
Do not know	6	10.0	8	13.3		
health problem do you currently experience						
No problem	0	0.0	34	56.7	2.74	<0.006
Frequent headaches	22	36.7	22	36.7		
Backache	10	16.7	4	6.6		
Persistent tiredness	10	16.7	0	0.0		
Feet diseases	4	6.7	0	0.0		
Decrease in sleep	14	2.23	0	0.0		
Occupational injuries during working						
No	0	0.0	32	53.4	3.68	<0.001
Needlestick	10	33.3	14	23.3		
Muscle tiredness	20	66.7	14	23.3		

Table (3): Nurses' coping abilities mean score pre and post-implementation of the coping strategies (n=60)

Item	Pre-program	Post-program	T	P
	Mean ± SD	Mean ± SD		
Schedule my time better	1.03±0.69	2.93±0.92	3.63	<0.001
Focus on the problem and see how I can solve it	1.30±0.87	1.96±0.80	3.08	<0.004
Think about the good times I had	1.10±1.02	1.93±0.98	5.00	<0.001
Try to be with other people	0.90±0.92	2.06±0.73	5.43	<0.001
Blame myself for procrastinating	1.00±0.74	2.00±1.01	3.87	<0.001
Do what I think is best	1.50±0.73	2.33±0.89	3.42	<0.002
Become preoccupied with aches and pains	1.90±0.84	1.03±0.76	3.97	<0.001
Blame myself for having gotten into the situation	1.03±0.66	1.90±1.02	3.97	<0.001
Outline my priorities	1.76±0.72	2.30±0.98	2.38	<0.05
Try to go to sleep	1.96±0.76	1.10±0.84	3.71	<0.001
Treat myself a favorite food or snack	0.93±0.82	1.86±1.13	3.39	<0.002
Feel anxious about not being able to cope	1.86±0.86	1.20±1.09	2.87	<0.007
Become very tense	1.50±0.62	2.46±0.68	6.54	<0.001
Think about how I solved similar problems	0.96±0.76	1.90±1.02	0.46	<0.001
Blame myself for being too emotional	1.40±0.93	1.63±0.80	0.96	>0.05
Go out for a snack or meal	2.03±0.85	1.50±0.97	2.33	<0.05
Become very upset	1.50±0.73	2.20±0.84	3.17	<0.004
Buy myself something	1.40±0.77	2.46±0.86	4.75	<0.001
Determine a course of action and follow it	1.10±0.92	1.76±1.10	2.48	<0.05
Blame myself for not knowing what to do	1.23±0.85	1.86±0.81	3.35	<0.002
Go to a party	1.63±1.03	2.26±0.73	2.78	<0.009
Work to understand the situation	1.83±1.08	1.10±0.92	2.89	<0.007
Freeze and not know what to do	1.56±0.81	2.00±0.87	2.21	<0.05
Take corrective action immediately	1.86±0.97	2.53±0.73	3.34	<0.002
Think about the event and learn from my mistakes	2.40±0.81	1.96±0.71	2.14	<0.05
Wish that I could change what happened or how I felt	1.90±0.92	2.40±0.85	2.54	<0.05
Visit a friend	1.40±0.72	1.86±0.62	3.29	<0.003
Worry about what I am going to do	1.26±0.94	2.06±1.08	3.07	<0.005
Spend time with a special person	1.03±0.76	1.86±0.89	3.97	<0.001
Go for a walk	1.03±0.85	2.06±0.78	4.26	<0.001
Tell myself that it will never happen again	1.83±0.98	2.40±0.81	2.66	<0.05
Focus on my general inadequacies	1.36±0.71	2.06±0.98	2.97	<0.006
Analyze the problem before reacting	1.56±0.67	2.03±0.88	2.04	<0.05
Phone a friend	1.36±0.88	1.80±0.84	2.44	<0.05
Get angry	1.86±0.93	1.36±0.85	2.54	<0.05
Adjust my priorities	1.60±1.03	1.96±0.92	2.84	<0.008
See a movie	1.96±0.92	2.56±0.67	3.16	<0.004
Get control of the situation	2.10±1.02	2.63±0.61	2.38	<0.05
Make an extra effort to get things done	1.43±0.72	2.46±0.73	6.36	<0.001
Come up with several different solutions to the problem	2.36±0.76	1.86±1.07	2.47	<0.05
Take some time off and get away from the situation	1.20±1.03	0.56±0.67	2.99	<0.006
Take it out on other people	1.36±0.61	2.23±0.89	5.06	<0.001
Use the situation to prove that I can do it	1.36±0.66	2.40±0.67	5.86	<0.001
Try to be organized so I can be on top of the situation	0.93±0.82	1.83±0.91	3.65	<0.001
Watch TV	0.96±0.71	1.70±1.02	3.34	<0.002

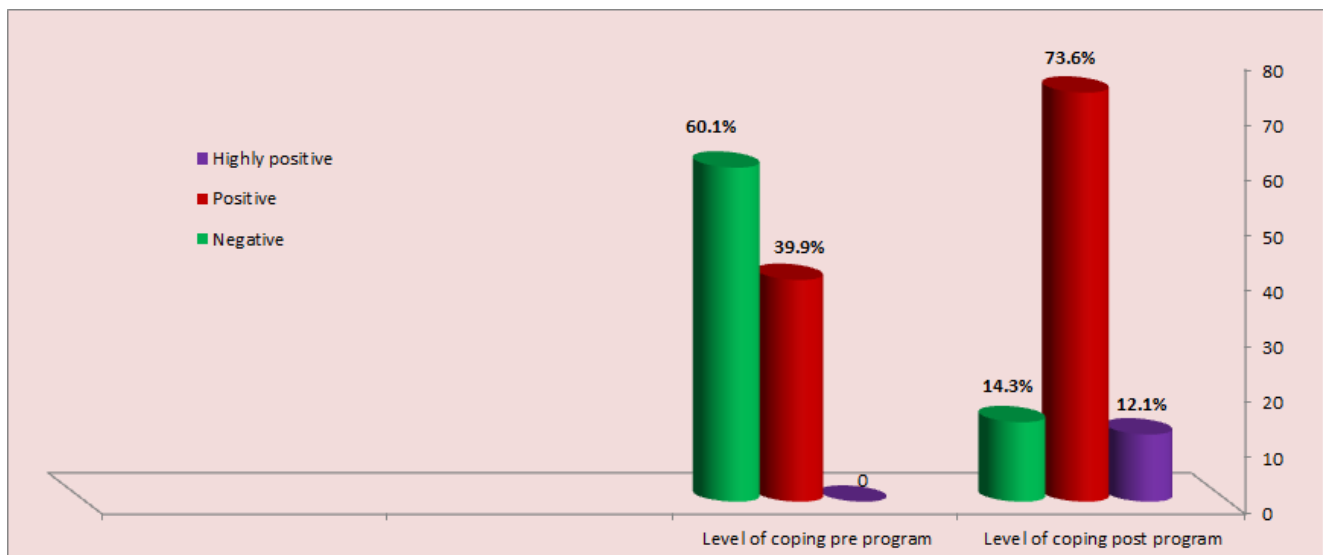


Figure (1): Total level of Nurses' coping abilities through the program

Table 4: Nurses' quality of life mean score pre and post-implementation of the coping strategies (n= 60)

Quality of life domains	Max score	Pre-program Mean ± SD	Post-program Mean ± SD	Paired t-test	P Value
Physical health	33	14.36 ± 2.69	19.65±2.28	46.58	<0.001**
social relationships	48	18.03 ± 4.23	34.20±2.34		
psychological health	21	5.16±2.66	16.40±1.99		
Total	102	37.56± 7.20	70.25±7.87		

**A high statistically significant difference ($P \leq 0.001$)

Paired t-test: pre & post

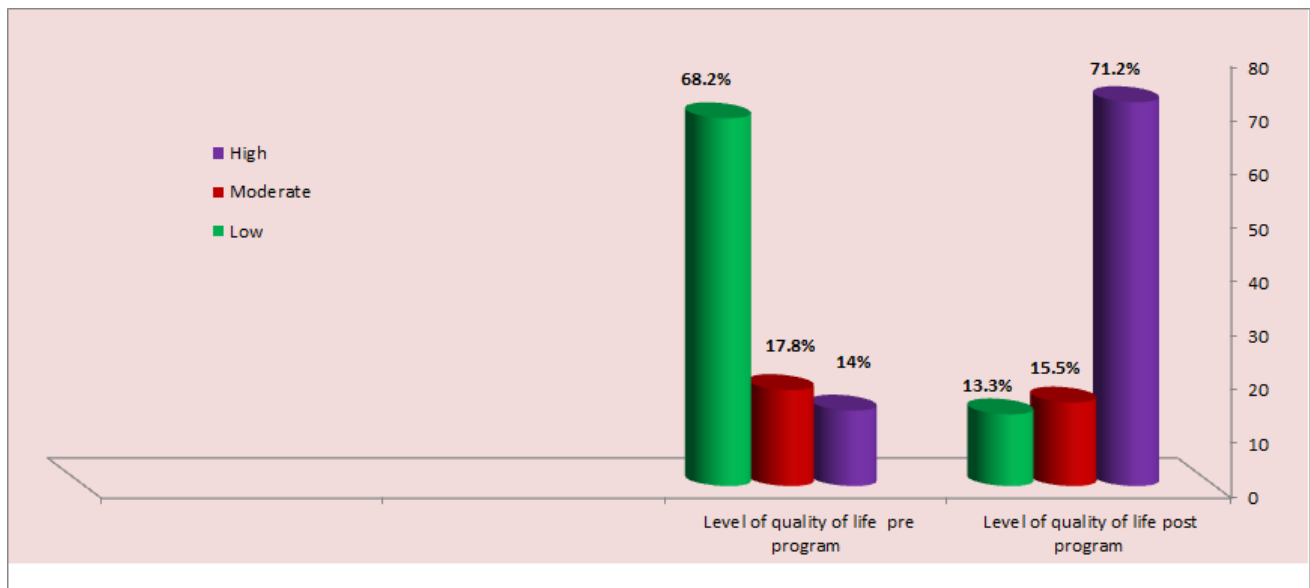


Figure (2): Total level of Nurses' quality of life through program

Table (5): Relation between nurses health status and their coping preprogram implementation (n=60)

Health status	Negative		Coping Positive		High Positive		X ²	P
	N	%	N	%	N	%		
Effect of the night shift on health								
Yes	14	70.0	30	75.0	0	0.0	0.12	>0.05
No	4	20.0	6	15.0	0	0.0		
Do not know	2	10.0	4	10.0	0	0.0		
Health problem								
Frequent headache	6	30.0	16	40.0	0	0.0	1.12	>0.05
Backache	2	10.0	8	20.0	0	0.0		
Persistent tiredness	4	20.0	6	15.0	0	0.0		
Feet disease	2	10.0	2	5.0	0	0.0		
Decrease sleep	6	30.0	8	20.0	0	0.0		
Occupation injury								
Needlestick	4	20.0	16	40.0	0	0.0	1.20	>0.05
Muscle tiredness	16	80.0	24	60.0	0	0.0		

Table (6): Relation between nurses health status and their coping post-program implementation (n=60)

Health status	Negative		Coping Positive		High Positive		X ²	P
	n	%	N	%	N	%		
Effect of the night shift on health								
• Yes	4	100.0	2	8.3	6	18.8	10.82	<0.05
• No	0	0.0	16	66.7	24	75.0		
• Do not know	0	0.0	6	25.0	2	6.2		
Health problem								
• No problem	4	100.0	14	58.3	16	50.0	3.36	>0.05
• Frequent headache	0	0.0	10	41.7	12	37.5		
• Backache	0	0.0	0	0.0	4	12.5		
• Persistent tiredness	0	0.0	0	0.0	0	0.0		
• Feet disease	0	0.0	0	0.0	0	0.0		
• Decrease sleep	0	0.0	0	0.0	0	0.0		
Occupation injury								
• No injury	0	0.0	10	41.7	22	66.7	9.06	<0.05
• Needle stick	4	100.0	6	25.0	4	12.5		
• Muscle tiredness	0	0.0	8	33.3	6	18.8		

Table (7): Correlation between nurses coping strategies and their quality of life pre and post-program implementation (n=60)

Quality of nurses' life	Coping strategies			
	Pre-program	P	Post-program	p
	r		r	
Pre-program	0.01	>0.05	0.40	<0.05
Post-program				

6. Discussion

Interest on emergency clinic nurses nightshift related stress and its impact on nurse's well-being and quality of life and nursing outcomes has increased in recent years. Work-related stress is a significant health problem often faced by nurses working in a clinical setting. Nurses often exposed to challenging situations in the clinical area. Nurses confronted with different work tasks and working hours, nightshifts, working conditions, understaffing.

Nurses' reactions to stressors can be physiological, psychological, and behavioral leading to stress-related to mental and physical diseases that decrease well-being and QoL (*Portero & Vaquero, 2015*). One's degree of adaptation varies according to how one perceives and copes with a stressful situation. The inability of an individual to cope effectively may result in psychological (e.g., anxiety and depression) and psychosomatic symptoms (e.g.,

headaches, nausea and sleep problems), which may negatively impact the QoL of nurses and eventually leave adverse effects on the quality of nursing care they provide (Naz, Hashmi, & Asif, 2016), so this study aimed to evaluate the effect of coping strategies program on quality of life among emergency clinic nurses working at night shift

Pertaining to Socio-demographic data, the current study shows that about three quarters of nurses aged from 21 to 30 years old, this may be related to the difficulties in working during night shifts and physical & psychological stress that may result from night shifts for elder nurses, the study is supported by Al-Ameri, (2016) whose study was about (Sources of work-related stress among nurses), the study revealed that about three quarters in his study sample aged from 21 to 40 years old. However, the study is incongruent with Madide (2016) whose study was about (Effects of Night Shift Schedules on Nurses Working in a Private Hospital), who reported that about half of his study sample were middle-aged between (31-40) years old.

As regard to gender more than half of the nurses in this study were males, this may be related to the difficulties that face the female nurse in working at night shifts due to her familial and social responsibilities so that males are more suitable to work at night shifts. The study is congruent with HeidariTabrizi, Elekaei, & Faramarzi, (2015) whose study was about (The effects of shift work on marital satisfaction), the study shows that about three quarters of their study group were males and they can afford the consequence of night shifts on their familial and social responsibilities than female nurses.

Concerning to level of education of the study group, it found that about two-thirds of nurses had a technical institute diploma, which means two years after secondary school. This finding may be due to the bachelor, and highly educated nurses occupy an administrative position like matron or head of the department who usually works at morning shifts, this result supported by Al-Ameri, (2016) whose study was about (Sources of work-related stress among nurses). The study revealed that about three quarters had technical institute diploma and secondary school diploma in nursing but isn't supported by Jabbarzade, (2017) whose study was about "Effect night shift work for nurses and midwives," who revealed that all nurses were bachelor nurses because the standard level of education is Bachelor and there is no nurses have a secondary school diploma or technical institute diploma.

Pertaining to health status of nurses working at night shifts, there was a statistically significant difference between nurses health status pre and post implementing the program, most nurses had significant problems such as frequent headaches, backache, persistent tiredness, feet disease and sleep problems pre implementing the program whenever these problems decreased after the program with statistically significant differences. This finding may be related to increasing knowledge about health problems and improved coping strategies to deal with these problems.

This study is congruent with Nasrabadi, Lipson, & Emami, (2004), whose study was about "Professional

Nursing in Iran," who revealed that there was a statistically significant difference in health problems pre and post implementing of the educational program. The study mentioned that the physical effects of night working included chronic headaches, weight loss, chronic fatigue, skin disorders, sleep disorders, taking frequent naps during the day, and gastrointestinal problems. The study also evidenced that sleeping disorders, anxiety, inactivity, need for hypnotic drugs and reduction of accuracy, as well as concentration, and may also result from night shifts, some of these problems significantly decreased after implementing a coping strategies program.

As regarding nurses' ability to cope pre and post implementing the program, the study revealed that there was a statistically significant difference, nurses ability to cope with night shifts improved after the program, from the researchers point of view this may be due to increasing knowledge and skills about coping strategies, how to setting priorities and organizing their work., able to think better to solve a problem, improve feeling of anxiety, tense and angry, modifying their sleep pattern and circadian rhythm, learning skills for adequate dealing with problems and finding solutions to such problems. This study is consistent with Nasrabadi et al., (2004), whose study was about (Professional Nursing in Iran), who revealed that nurses occupied with night shifts cope well with their life, social, emotional and psychological problems after implementation of an educational program.

The current study showed that nearly three-quarters of emergency nurses reported positive coping abilities after coping strategies implementation, this is may be due to positive attitudes toward focused attention work strategies in coping with their daily work stressors after implement of coping strategies program which leads to positive thinking and positive outlook. This study is consistent with Gholamzadeh, Sharif, & Rad (2011), whose study was about (Sources of occupational stress and coping strategies among nurses who are working in Admission and Emergency Department), revealed that reported that most nurses are trying to gain adaptation with their work tensions by increasing knowledge and experience and relying on their abilities. Moreover, McTiernan & McDonald, (2015), indicated that psychiatric nurses employ diverting attention and positive attitudes toward work strategies in coping with their daily work stressors. Conversely, White, (2006), contradicted this result by reporting that the least coping strategies often used by the psychiatric nurses working on locked units were diverting attention strategy.

As regard to quality of life domains, the present study revealed that there was highly statistically significant difference in quality of life three domains, Physical health, social relationships and psychological health among the nurses working at night shift, this result congruent with Cruz, Cabrera, Hufana, Alquwez, & Almazan, (2018), who revealed that the nurses presented good QOL scores in all domains of the quality of life. This finding in the same line with Kelbiso, et al., (2017), who reported that the work unit of the respondents had a statistically significant association with quality of work-life among nurses. While

Dargahi, Changizi, & Jazayeri Gharabagh, (2012) incongruent with the current study who reported that most nurses were unsatisfied with all components of their quality of life in working.

As well as, the current study also found more than two thirds among emergency clinic nurses working at night shift reported high in the total level of quality of life after implementing coping strategies program. Whereby, the high nurses' quality of life can improve the quality of care provided as well as retention of the nursing workforce. This finding accordance with some studies which found similar high QOL was reported among nurses working in Saudi Arabia Ibrahim *et al.*, (2016) and Japan by Makabe, Takagai, Asanuma, Ohtomo, & Kimura, (2015). This finding contradicted with Vitale *et al.*, (2015). Who reported that about half of the nurses took place in the present study have a poor and very poor quality of life that indicates an adverse impact of night shift upon the physical, psychological and social status of a large number of nurses working at night shift

Pertaining to the relation between nurse's quality of life and their coping post-program implementation, the current study showed that there was a significant relationship between coping and quality of life among the studied nurses; this may be related to that nurses improve their quality of life when acquiring adequate knowledge and skills about coping strategies and dealing with problems.

The study is congruent with Yuan *et al.*, (2015), whose study was about (Influences of-shift work on fatigue among nurses), the study showed that the quality of life was low before acquiring coping skills, whenever nurses had a high quality of life after learning and implementing coping strategies and skills.

As regarding the relation between nurses health status and their coping preprogram implementation, the current study showed that there was no significant relation, this may be related to lack of information and skills about coping strategies before implementing the program, inadequate adherence to coping strategies and lack of training courses about coping mechanisms so that nurses cannot cope well which is reflected negatively on their health status.

This study is in the same line with Pati Chandrawanshi, & Reinberg, (2016) whose study was about (consequences and management of shift work), who revealed that there was no significant relationship between health status and coping strategies pre implementing the program. They mentioned that nurses who work at night shifts could not deal appropriately with their health problems such as headache, backache, insomnia, anxiety, and stress because they had a lack of adequate coping strategies.

Pertaining to the relation between nurse's health status and their coping post-program implementation, the current study showed that there was a significant correlation in all items except health problem, this may be interpreted that nurses improve their health status after learning and implementing coping strategies, whenever

there is no relation between health problems and coping strategies because health problems require medical interventions and cannot only be managed by coping strategies and lifestyle modifications.

This study is congruent with Jabbarzade, (2017) whose study was about "Effect night shift work for nurses and midwives," who revealed that there was significant relationship between health status and coping strategies, who reports that there are a high number of studies which confirm that night working in unconventional hours is accompanied by a large number of physical and psychological damages, after implementing the educational program and adherence with coping strategies , the nurses improved their health status.

As regarding to correlation between nurses coping strategies and their quality of life pre and post-program implementation, the study showed that there was a positive correlation, this may be interpreted that when nurses change their lifestyle, learning coping strategies, adapt with their familial responsibilities and know how to manage their stress and psychological problems that result from working in night shifts, it will improve quality of life and minimize problems that result from night shifts.

The study is congruent with Al-Ahmadi, (2018) whose study was about "Factors affecting performance of hospital nurses in Riyadh Region," who states that nurses who work at night shifts and adhere to coping strategies can improve their quality of life because the ongoing educational activities and coping strategies for nurses, helps in enhancement of practice relevant to their responsibilities, professional growth, and maintaining competency in their respective positions.

In summary, the results of the study revealed that about three quarters of nurses aged from 21 to 30 years, more than half of nurses in this study were males and about two thirds of nurses had a technical institute diploma, Pertaining to health status of nurses working at night shifts, there were statically significant difference between nurses health status pre and post implementing the program, pertaining to nurses' quality of life pre and post implementing the program there were statically significant difference, As regarding to the relation between nurse's quality of life and their coping post-program implementation, the current study showed that there were significant relation, concerning nurses ability to cope pre and post implementing the program , the study revealed that There was a statistically significant difference and Pertaining to the relation between nurse's health status and their coping post-program implementation, the current study shows that there is a significant correlation. Finally, as regards to the correlation between nurses coping strategies and their quality of life pre and post-program implementation, the study shows that there is a positive correlation.

7. Conclusion

According to study results and research hypothesis, there was a statistically significant difference between

nurse's ability to coping pre and post-program implementation; also, there was a statistically significant difference between nurses' quality of life pre and post-program implementation.

8. Recommendations

This study recommended a continuous education program for nurses who are working at night shift about coping strategies & its effect on their quality of life.

Further research:

- Carrying out of Health education program of this study for nurses on a large scale at the different health sectors
- Encourage the nurses to join the individual sessions for coping and stress management to lessen and prevent the work-related stress to improve nurses' quality of life.

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