

Occupational stress, its psychosomatic symptoms on nurses and Coping Strategies of nurses at Assiut University Hospital

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Abstract:

Nursing is a stressful profession; stress is a prevalent and costly problem in today's workplace. **Aim:** The study aimed to assess occupational stress, its psychosomatic symptoms on nurses and coping strategies of nurses at Assiut University Hospital. **Design:** A descriptive- cross sectional study design was utilized in this study. **Subjects and methods:** The subjects included in this study 150 female nurses. The study was conducted at Assiut University Hospital at different hospital departments, during 6 months period from 1st January to 30th Jun 2012. Nurses were assessed through; the sociodemographic data questionnaire, in addition to socioeconomic status scale, Social readjustment rating scale, assessment level of stress scale, Coping strategies rating scale, and Symptoms Check List (SCL-90-Revised). **Results:** More than half of nurses (54.7%) were from urban areas, about fifty percent 50.7% of them had more than 10 years of experience, and sixty four percent 64% of nurses had moderate level of stress. Both methods of coping strategies (emotional focused strategies and problem focused strategies) had high mean scores and very highly significant (0.006*** & 0.000***). **Recommendation:** A training programme is essential for nurses to provide them with a multitude of stress management techniques and coping strategies which nurses can be used to deal with their stressors and avoid the negative effect of stress on nurse' health.

Key words: Occupational Stressors - Nursing - Coping strategie

Introduction:

Occupational stress is defined as harmful physical and emotional responses that occur when the requirements of job do not match the capabilities, resources, or need of workers (Hall, 2004). Occupational stress exists in all professions, but nursing appears to be particularly stressful (Thomas, 2002). It is important to identify the extent and sources of stress in a healthcare organization to find stress management strategies to help the individual and the working environment. Stress in nurses affects their health and increases absenteeism, attrition rate, injury claims, infection rates, and errors in treating patients (Shirey, 2006). The working environment of Intensive Care Unit (ICU) is a constant source of stress among nurses working there. Critical care nurses are working in a complex assessment, high intensity therapies and continuous nursing vigilance.

Response to stress can be divided into three categories i.e. mental, physical and emotional. Emotional and mental responses to stress have been linked to outbursts of anger, unnecessary worries and frequent mood changes whereas physical stress is associated with cardiac disorders, GIT ulcer and skin rashes. Stress has also been found to be associated with mood changes which include

tension, anxiety, fatigue and depression (Raja et al., 2007).

Stress is known to cause emotional exhaustion in nurses and lead to negative feelings toward those in their care (Cottrell, 2001).

Coping refers to perceptual, cognitive or behavioral responses that are used to manage, avoid or control situations that could be regarded as difficult. (Storm and Rothmann, 2003). Stress can be alleviated by the availability of coping resources such as social support. Nurses in a study reported by Payne, (2001) were found to have utilized quite effective coping strategies such as prayers and relaxation. However, nurses should be taught the appropriate coping skills.

Nurses are trained to deal with enclosed atmosphere, time pressures, excessive noise or undue quiet, sudden swings from intense to mundane tasks, no second chance, unpleasant sights and sounds, and long standing hours, but chronic stress takes a toll when there are additional stress factors like home stress, conflict at work, inadequate staffing, poor teamwork, inadequate training, and poor supervision (Cottrell, 2001).

Coping could be a form to avoid occupational stress. A large number of people use the emotion-focused coping strategy. In this strategy, the person tries to restructure the event with the aim to find aspects that favor the event in some way. The person may also

talk to him/herself trying to reduce the severity of the situation, and focus on the positive aspects of the situation, as a way to reduce the emotional load of the event, in the attempt to change the situation. Another strategy used was the problem-focused coping, i.e., problem solving. Some authors refer that certain types of coping are more useful than others, and emphasize that problem-focused coping can reduce stress (Laal and Aliramaie, 2010). Actually, there is no right or wrong coping strategy. Coping strategies are either effective or ineffective. Choosing a coping strategy is something quite personal. While relaxation techniques work well for some people, for others it can be rather stressful. For this reason, respecting personal characteristics is very important (Rodrigues and Chaves, 2008).

The study aimed to identify occupational stressors and coping strategies of nurses at Assiut university hospital.

Occupational stress and its consequences on nurses' behavior can create mental problems such as anxiety, depression, insomnia and feelings of inadequacy. (Wong, et al., 2001)

Stress-related physical illnesses include heart disease, migraines, hypertension, irritable bowel syndrome, muscle, back and joint pain, and duodenal ulcer, whereas psychologists who are interested in the role of psychological factors in human diseases have focused primarily on coronary heart disease and cancer. (Cohen & Williamson, 1991)

Significance of the study:

To identify pattern of psychosomatic manifestation related to levels of stresses and coping strategies among nurses because, work-related stress has been implicated as a major contributing factor to growing job dissatisfaction, rapid turnover, and high attrition rates among nurses. It was found that job stress impacts not only on nurses' health but also their abilities to cope with job demands.

Subjects and methods

Research design:-The design followed for this study is a cross-sectional study.

- Sample

The study was carried out in Assiut University Hospital, one of the largest and the most developed hospital in Upper Egypt. It was working for 3 days a week each day during 2 shifts during the morning shift from 9 am to 12pm, and evening shift from 3pm to 6pm. The study has been carried out at different wards includes:

- 1- General intensive care unit (16 nurses),
- 2- Medical emergency unit (15 nurses).
- 3- Burn unit (14 nurses),
- 4- Operation theatres of general and special surgery (16 nurses).

- 5- Neurology & Psychiatry department (23 nurses),
- 6- Internal medicine department (27 nurses).
- 7-General and special surgery departments (24 nurses),
- 8- Trauma unit (17 nurses).

Subjects

Subjects of the study comprised 150 female nurses working in different setting at Assiut University hospital (a convenience sample) will be used, with in a period of six months from 1st January to 30th Jun 2012.

- Criteria of selection (Included criteria)

All available nurses in each department working for one year or more at the same department.

- Tools of the study: - Six tools were used for data collection their reliability was assessed in a pilot study measuring their internal consistency using Cronbach's alpha coefficient method. This turned to be ($\alpha = 0.85$) for socioeconomic status data scale, turned to be ($\alpha = 0.74$) for Social readjustment rating scale, turned to be ($\alpha = 0.68$) for assessment the level of stress scale, turned to be ($\alpha = 0.77$) for coping strategies rating scale and turned to be ($\alpha = 0.73$) for symptom checklist (SCL-90-Revised) scale. Face validity and content validity was carried out by a panel of three experts in the fields of psychiatry, psychiatric nursing and neurology who reviewed and suggested the required modifications. Testing of the assessment tool indicated its appropriateness to the aim of this research).

A structured interview questionnaire, included;

1 - Socio-demographic data

This questionnaire was developed by the researcher. It includes personal data, such as nurse's name, age, marital status, address, qualification, years of experience, and place of work (department).

2 - Socio economic status data scale

This scale is an Arabic version designed by Abd-El-Tawab (2004) to assess socioeconomic status of the family, which consists of 4 dimensions, include of the followings:

- Parent's level of education, it included 8 items.
- Parent's occupation, it included 2 items.
- Total family monthly income, it included 6 items.
- Life style of the family, it included 3 items.

The sums of scores give the total score of the variable. The total (raw) score for an individual can be obtained from an equation that depends upon these four variables. Categorization of individuals of a given sample as high, middle, or low socioeconomic class is done as follows:

1. Calculation of the mean and stander deviation for the total scores of the studied sample.
2. Individuals having scores higher than mean plus one SD are classified as high socioeconomic class.

3. Individuals having scores lower than mean minus one SD are classified as low socioeconomic class.
4. Individuals in between are classified as middle class.

Accordingly classification of the nurses in this study was as follow:

High socioeconomic class scores are more than **238.2**
Middle socioeconomic class scores range between **155- 238.2**

Low socioeconomic class scores are less than **155**

3 - Social readjustment rating scale (Holmes and Rahe 1967)

This scale was Arabic version translated by Yousef, (1990) originally developed by Holmes and Rahe (1967). It was composed of 43 items, based on the premise that good and bad events in one's life can increase stress levels and make one more susceptible to illness and mental health problems. Each event should be considered as if it has taken place in the last 12 months. Scoring of this scale categorized into:

Low susceptibility to physical and mental health problems ≤ 150

Moderate susceptibility to physical and mental health problems = 151 - 299

High susceptibility to physical and mental health problems ≥ 300

- 4 - Assessment the level of stress scale (Yousef, 1991)

Arabic version developed and used by **Yousef, (1991)** and **Hieggan, (1998)** in many studies. It is consisted of 32 items, each item identify its own level of stress from time to time. Responses to stress will be measured on four points by using Likert scale which ranged from one (never) to four (always). The scoring system divided into:

-Successful and effective in management of stress: from 32-64.

-Moderate management of stress: from 65-95.

-Lack management of stress (ineffective): from 96-128.

- 5 - Coping strategies rating scale: By Jalowiec and Powers (1981)

This scale is used to measure coping strategies, this scale is composed of:

A- Problem-oriented coping strategies:

This primarily aimed at solving problems or handling stressful situations.

These are classified into two factors:

Factor I: Active role coping strategies, consists of ten items

Factor II: Passive role coping strategies, consists of six items.

B- Affective-oriented coping strategies:

Which is used to measure strategies to manage emotions accompanying stressful situations and they are classified into five factors:

Factor I : Coping strategies related to withdrawal, consisted of seven items.

Factor II: Coping strategies related to projection and displacement, consisted of five items.

Factor III: Coping strategies related to neurotic reactions, consisted of four items.

Factor IV: Coping strategies related to day dream and fantasy, consisted of three items.

Factor V: Coping strategies related to resign the self to the fate, consisted of five items.

This scale is a five point likert scale with response options of always (5), often (4), about half the time (3), occasionally (2), never (1). A high score indicates greater use of that particular coping strategy.

6 -The symptom checklist (SCL-90-Revised) (Elbehairy, 2004)

The SCL-90-R is a 90-item self-report symptom inventory developed by clinical psychometric research. It is designed primarily to reflect the psychological symptom pattern of psychiatric and medical patients. A preliminary version of the scale was introduced by Derogatis and his colleagues (*Derogatis et al., 1973*) and based on early clinical experiences. Psychometric analysis was modified and validated in the revised (R) form (*Derogatis et al., 1976*).

Each item of this scale “ 90” is rated on a 5-point scale of distress (0-4), ranging from non-at-all at one pole to “extremely “ at the other pole, the “90” is scored and interpreted in terms of 9 primary symptom dimensions and 3 global indices of distress that are labeled:

1.Somatization , 2. Obsessive compulsive, 3. Interpersonal sensitivity. 4. Depression.

5.Anxiety, 6. Hostility, 7. Phobic anxiety, 8. Paranoid ideation , 9. Psychoticism.

Methods:

- 1- After appraisal of the protocol of the study for ethical and scientific committee an official letter from the Dean of the faculty of Nursing- Sohag University directed to the director of Assiut University Hospital in order to get permission to conduct the study.
- 2- A pilot study was conducted at the beginning of the study. It included 10% of the total sample to investigate the feasibility of data collection tools and their clarity. The pilot study revealed that the tools used properly assess the psychological state

of the nurses. Nurses included in the pilot study were excluded from the actual study.

3-The aim of the study explained to the nurses before starting data collection.

4-Consent was taken from all nurses who reassured about the confidentiality of the obtained information to avoid misunderstanding; all ethical considerations were clarified to each one before explanation of the nature of the study.

5-The data were collected through 6 months period from January 2012 to June 2012, the investigator started to fill the first sheet after interviewing each nurse, the sheet included their socio demographic characteristics, the 2nd tool was socioeconomic status scale, the 3rd tool was assessment level of stress scale, the 4th scale was coping strategies rating scale, the 5th tool was social readjustment rating scale, and the 6th tool was Symptoms Check List -90-R scale.

6-Each participant interviewed and assessed individually. The average time taken for filling each sheet was around one hour to 90 minutes depending on the response of the nurses.

7-The data collection took a period of six months, from 1st January to 30th June 2012, 3 days a week during the morning shift from 9 am to 12pm and evening shift from 3pm to 6pm.

Statistical Analysis:

The data were computerized and verified using the SPSS (Statistical Package for Social Science) version 16.00 to perform tabulation and statistical analysis. Qualitative variables were described in frequency and percentages, while quantitative variables were described by mean and standard deviation. Analysis of collected data was done through the use of several statistical tests as: chi-square test (χ^2) was used to analyze qualitative variables and one- way analysis of variance test (ANOVA) F- test for multiple group comparisons. Statistical significance was considered at P- value <0.05.

Table (1) : Demographic characteristics of studied nurses:(n=150)

	Total group (No=150)		Burn unit (No= 14)		Medical emergency unit (No=15)		Trauma unit (No=17)		General intensive care unit (No=16)		Operation theatres (No=14)		Medicine departments (No=27)		Surgery departments (No=24)	
	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD
0-55years	31.46±7.21	32.71±6.19	27.73±5.28	26.35±5.34	29.50±6.06	29.50±5.44	35.51±8.79	32.87±7.508								
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
	68	45.3	6	42.9	6	40	10	58.8	9	56.2	7	50	9	33.3	13	54.2
	82	54.7	8	57.1	9	60	7	41.2	7	43.8	7	50	18	66.7	11	45.8
Education																
	16	10.6	1	7.1	2	13.3	3	17.6	3	18.8	-	-	3	11.1	3	12.5
Years	58	38.7	6	42.9	9	60	12	70.6	4	25	8	57.1	6	22.2	7	29.2
	76	50.7	7	50	4	26.7	2	11.8	9	56.2	6	42.9	18	66.7	14	58.3
	23	15.3	3	21.4	4	26.7	6	35.3	3	18.8	1	7.1	4	14.8	2	8.3
	121	80.7	10	71.4	11	73.3	11	64.7	13	81.2	13	92.9	20	74.1	20	83.3
Married	6	4	1	7.1	-	-	-	-	-	-	-	-	3	11.1	2	8.3
Education																
High school	119	79.3	12	85.7	12	80	7	41.2	16	100	11	78.6	23	85.2	19	79.2
	5	3.3	-	-	1	6.7	4	23.5	-	-	-	-	-	-	-	-
Diploma & Master	26	17.4	2	14.3	2	13.3	6	35.3	-	-	3	21.4	4	14.8	5	20.8
Education status level	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
196.6±41.6	9	6	1	7.1	1	6.7	1	5.9	2	12.5	1	7.1	2	7.4	1	4.2
	114	76	11	78.6	13	86.7	12	70.6	10	62.5	8	57.1	19	70.4	22	91.7
	27	18	2	14.3	1	6.7	4	23.5	4	25.0	5	35.7	6	22.2	1	4.2

NB (Above average means medium institute)

Table (2) : Frequency of stress levels among nurses: (n=150)

Stress levels	Total group (No=150)		Burn unit (No= 14)		Medical emergency unit (No=15)		Trauma unit (No=17)		General intensive care unit (No=16)		Operation theatres (No=14)		Medicine department (No=27)		Surgery department (No=24)		Neurology & Psychiatry department (No=23)	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
(32-64)	51	34	8	57.1	2	13.3	2	11.8	5	31.2	4	28.6	13	48.1	8	33.3	9	39.1
(65-95)	96	64	6	42.9	13	86.7	15	88.2	9	56.2	10	71.4	13	48.1	16	66.7	14	60.
(96-128)	3	2	0	0	0	0	0	0	2	12.5	0	0%	1	3.7%	0	0%	0	0%

P<0.05 is significant.

Table (3) : Mean scores of coping strategies among nurses :(n = 150)

Coping strategies	Total group (No=150)	Different hospital department								F
		Burn unit (No=14)	Medical emergency unit (No=15)	Trauma unit (No=17)	Intensive care unit (No=16)	Operation theaters (No=14)	Medicine department (No=27)	Surgery department (No=24)	Neurology & Psychiatry department (No=23)	
		M±SD	M±SD	M±SD	M±SD	M±SD	M±SD	M±SD	M±SD	
Denial strategies	54.1 ± 9.2	49.3±10.3	59.6±8.91	55.5±7.5	59.5±7.4	53.1±5.4	53.7±11.2	53.8±9.3	50.3±7.4	3
Minimization strategy	13.9 ± 3.4	12.3±2.9	15.6±3.5	14.1±2.3	15.3±3.8	12.7±2.9	14.4±4.9	13.8±3.4	13.2±2.8	1
Blame strategy	9.6 ± 2.7	7.1±1.7	11.3±2.8	9.4±3.2	10.9±2.5	11.0±1.8	8.9±2.6	9.8±2.4	8.9±2.3	4
Denial strategy	6.6 ± 2.3	6.6±2.6	6.8±2.0	7.9±3.0	7.0±2.2	5.6±2.3	7.1±2.5	6.3±1.7	5.8±1.4	2
Acceptance	9.6 ± 2.9	8.9±3.0	11.2±2.5	9.7±2.2	10.7±2.7	9.9±2.2	9.0±3.5	10.1±3.1	8.3±2.5	2
Acceptance of the fate	14.3 ± 3.2	14.4±4.8	14.7±2.8	14.4±3.1	15.6±2.3	13.9±1.7	14.3±4.2	13.8±2.2	14.1±2.9	0
Denial strategies	46.8 ± 11.7	48.0±9.9	49.5±7.0	49.6±9.5	52.4±9.7	28.6±6.3	44.9±10.4	50.9±9.7	47.3±13.4	8
Denial strategies	34.6 ± 10.2	33.9±7.3	35.9±5.2	35.9±8.2	39.8±8.6	19.5±4.6	33.1±9.9	38.8±9.1	36.1±12.4	7
Denial strategies	12.2 ± 3.4	14.1±4.6	13.6±3.1	13.7±3.6	12.6±3.3	9.1±2.4	11.8±3.2	12.1±2.2	11.1±3.4	3

(N.B) High scores mean higher use of this coping strategy.

***P< 0.000 is very highly significant

Table (4) : Percentage of frequency of SCL-90-R dimensions among studied nurses who exceed cut- off point ≥ 60 . (n =150)

Different hospital department																		
Total sample	Burn unit (No=14)		Medical emergency unit (No=15)		Trauma unit (No=17)		Intensive care unit (No=16)		Operation theaters (No=14)		Medicine department (No=27)		surgery department (No=24)		Neurology & Psychiatry department (No=23)			
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%		
38.0	13	92.9	10	66.7	5	29.4	5	31.2	0	0	7	25.9	7	29.2	10	43.5	3	
24.0	6	42.9	5	33.3	2	11.8	6	37.5	1	7.1	3	11.1	8	33.3	5	21.7	1	
20.7	3	21.4	3	20.0	8	47.1	16	100	0	0	0	0	1	4.2	0	0	8	
16.0	5	35.7	4	26.7	4	23.5	9	56.2	0	0	1	3.7	0	0	1	4.3	3	
9.3	4	28.6	4	26.7	3	17.6	2	12.5	0	0	1	3.7	0	0	0	0	2	
8.7	5	35.7	2	13.3	3	17.6	1	6.2	0	0	2	7.4	0	0	0	0	2	
8.0	3	21.4	1	6.7	1	5.9	3	18.8	2	14.3	1	3.7	0	0	1	4.3	1	
3.3	3	21.4	1	6.7	0	0	0	0	0	0	0	0	1	4.2	0	0	1	
2.7	2	14.3	1	6.7	0	0	0	0	0	0	1	3.7	0	0	0	0	1	

N.B: cut- off point i.e. T score on different symptoms dimension equal to 60 or more

N.B (one person may have multiple responses to different symptoms)

*** P< 0.000 is very highly significant

Table (5) : Relationship between frequency of nurses who exceed the cut-off point (≥ 60) on different symptoms dimensions of SCL- 90-R and susceptibility to mental health problem among the studied nurses. (n = 150)

Dimensions of SCL- 90- R	Social readjustment rating scale (susceptibility to mental health problem)						X ²	P-value
	Low ≤ 150		Moderate (150-299)		High ≥ 300			
	No	%	No	%	No	%		
Stomatization (no=57)	15	26.3	39	68.4	3	5.3	0.838	0.658
Obsession (no=4)	-	-	3	75	1	25	4.969	0.083
Sensitivity (no=5)	1	20	4	80	-	-	0.621	0.733
Depression (no=31)	9	29	20	64.5	2	6.5	0.301	0.860
Anxiety (no=13)	1	7.7	11	84.6	1	7.7	3.605	0.165
Hostility (no=12)	2	16.7	9	75	1	8.3	1.425	0.490
Phobia (no=14)	3	21.4	10	71.4	1	7.1	0.742	0.690
Paranoia (no=36)	10	27.8	25	69.4	1	2.8	0.658	0.720
Psychosis (no=24)	6	25	18	75	-	-	2.104	0.349

Table (6) : Relationship between frequency of nurses who exceed the cut-off point (≥ 60) on the different symptoms dimensions of SCL- 90-R and levels of stress among the studied nurses. (n=150)

Dimensions of SCL- 90- R	level of stress						X ²	P-value
	Low (32-64)		Moderate (65-95)		High (96-128)			
	No	%	No	%	No	%		
Stomatization (no=57)	21	36.8	36	63.2	-	-	2.067	0.356
Obsession (no=4)	1	25	3	75	-	-	0.258	0.879
Sensitivity (no=5)	2	40	3	60	-	-	0.171	0.918
Depression (no=31)	9	29	20	64.5	2	6.5	4.157	0.125
Anxiety (no=13)	5	38.5	8	61.5	-	-	0.381	0.826
Hostility (no=12)	3	25	9	75	-	-	0.818	0.664
Phobia (no=14)	5	35.7	9	64.3	-	-	0.322	0.851
Paranoia (no=36)	8	22.2	26	72.2	2	5.6	5.427	0.066
Psychosis (no=24)	6	25	17	70.8	1	4.2	1.560	0.458

Table (7) : Correlation between both coping strategies and different symptoms dimensions of SCL-90-R among the studied nurses (n= 150).

Items		Emotional focused strategy	Problem focused strategy
somatization	r	-.049	.103
	p	.549	.209
Obsession	r	.230**	-.051
	p	.005	.538
Sensitivity	r	.360**	.156
	p	.000	.057
Depression	r	.412**	.194*
	p	.000	.018
Anxiety	r	.147	.073
	p	.072	.372
Hostility	r	.234**	.020
	p	.004	.805
Phobia	r	.177*	-.062
	p	.031	.451
Paranoia	r	.198*	.161*
	p	.015	.049
Psychosis	r	.326**	.115
	p	.000	.160

*P<0.0 **P<0

Results:

Results of the present study showed that:-

Table (1) : illustrate that, the mean age of them was 31.46 ± 7.21 years. About half (50.7%) of nurses have more than 10 years of experience and 38.7% of nurses had years of experience ranging from 5 years to 10 years.

As regards marital status, 80.7% were married, 15.3% were single, while 4% were divorced and widowed. Regarding level of education, 79.3% of nurses graduated from secondary nursing school, while 3.3% graduated from nursing institutes, and 17.4% of them have bachelor degree and master degree of education, seventy six percent of nurses were presented at middle level of socioeconomic status.

Table (2) : The highest percentages of nurses (86.7%) were working in medical emergency unit were having middle level of socioeconomic status.

Regards to the frequency of stress levels among nurses, 64% of them experienced moderate level of stress

Table (3) : indicates that the higher mean scores of emotional focused strategies was reported by those who work at medical emergency unit (59.6 ± 8.91), followed by intensive care unit (59.5 ± 7.4), trauma unit (55.5 ± 7.5), surgery departments (53.8 ± 9.3),

medicine department (53.7 ± 11.2), operation theaters (53.1 ± 5.4), neurology & psychiatry department (50.3 ± 7.4), and lastly burn unit (49.3 ± 10.3). These differences are statistically significant.

Table (4) : shows that high percentages of nurses (64.7%) have moderate susceptibility to mental health problems, followed by 30.7% have low susceptibility to mental health problems, and lastly 4.7% have high susceptibility to mental health problems.

Table (5) : shows, frequency of nurses who exceed the cut –off point in different symptoms dimensions of SCL-90-R, in general intensive care unit, the highest percentage of nurses had symptoms of depression (100%), and 56.2% had symptoms of psychosis, 92.9% somatization and 42.9% paranoia in burn unit. Hostility symptoms were 14.3% in operation theaters and 35.7% were have anxiety symptoms in burn unit.

Table (6) : shows the relationship between frequency of nurses who exceed the cut-off point (≥ 60) on different symptoms dimensions of SCL- 90-R and susceptibility to mental health problem. High percentage of nurses who had scores that exceeds the cut off point at different symptoms dimensions of SCL- 90-R had moderate susceptibility to mental health problems. There are no significant differences among these groups.

Tables (7) : illustrate the relationship between frequency of nurses who exceed the cut-off point (≥ 60) on different symptoms dimensions of SCL- 90-R and levels of stress. There are no significant differences among these groups. However, most of nurses had moderate level of stress.

Table (8) : illustrated that Correlation between both coping strategies and different symptoms dimensions of SCL-90-R, it shows emotional focused strategy has significant positive correlation with these entire symptoms obsession $P=0.005$ at $r= 0.230^{**}$, sensitivity $P=0.000$ at $r=0.360^{**}$, depression $P=0.000$ at $r=0.412^{**}$, hostility $P=0.004$ at $r=0.234^{**}$, phobia $P=0.031$ at $r=0.177^*$, paranoia $P=0.015$ at $r=0.198^*$, and psychosis $P=0.000$ at $r=0.326^{**}$. While has insignificant negative correlation with somatization. Problem focused strategy has insignificant positive correlation with somatization, sensitivity, anxiety, and hostility. While has significant positive correlation with depression $P=0.018$ at $r=0.194^*$ and paranoia $P=0.049$ at $r=0.161$

Discussion:

Occupational stress is a recognized problem in health care workers. Nursing has been identified as an occupation that has high levels of stress. Stress is the second frequent health problem regarding the

occupational environment. It is estimated that 28% (about 1 in 3 people) of employees within European Union experience occupational stress (Andoniou, 2007).

Nurses are one of the most vulnerable professional groups to occupational stress, as they often encounter stressful situations due to the special demands of their profession (Papa Georgiou, et al., 2007). The study of occupational stress is an imperative need since it has been shown that stress has negative impact both on nurses' health and on the health organization they are occupied, with absenteeism and low quality of health care being the most frequent consequences (Ouzouni, 2005).

In the present study the mean age of nurses was 31.4 ± 7.2 years, and age ranged between 20-55 years, about more than 3 quarters were married, the majority of the studied nurses were graduated from secondary nursing school, followed by bachelor degree. Regarding years of experience, about half of the studied nurses had years of experiences more than 10 years, followed by nurses who had years of experiences ranged from 5 to 10 years of experiences. This is similar to other studies, (Hsiu-chuan, et al., 2005 and Kamel Alhawjreh, 2011) who found that the mean ages of the studied group was 33.5±7.3 years, with age ranged between 21-56 years, more than half of nurses were married, and about half of the studied nurses had years of experiences more than 10 years.

In the present study more than half of nurses had moderate level of stress. There was a significant difference between level of stress scale among nurses and their work places at different hospital departments ($p=0.035^*$). These findings are consistent with the study of Moustaka and Constantidis, (2010) who found that, according to the seven- point self report stress scale used, the majority of nurses were experienced moderate level of stress at the time of their investigation took place. In contrast, the study of Jones, et al., (1987) found that, psychiatric nurses reported high level of stress. However, the different findings between these two studies may be explained by the fact that Jones et al., (1987) carried out their study in a very specialized psychiatric hospital with extremely dangerous patients.

Concerning social readjustment rating scale, the present study showed that more than half of nurses had moderate susceptibility to mental health problems. Nurses explained that by having physical and psychological stressors including that, overload tasks at job and imbalance between personal and family problems.

In a study conducted on 89 mental health nurses has shown that among the most frequent sources of

occupational stress for nursing staff and make them more susceptibility to physical and mental health problems is the role conflict between family and work (Ouzouni, 2005).

It is clear that occupational roles in the hospital influence personal, family and social life of the nursing staff, and in particular, the life of women and of people employed for more than 10 years (Marvaki, et al., 2007).

Moreover a study contrasted with the well-being of nurses was influenced by the degree of stress within the profession as a whole. When 'the system' was overstretched or challenged, individuals became emotionally exhausted and experienced feelings of depersonalizations (Bussing & Glaser, 1999).

In the present study showed that about one third of nurses were experienced somatization symptoms; and this appeared most clearly at burn unit as the majority of nurses reported somatization. This high percentage is mostly of organic nature as osteoarthritis; also most of nurses who worked at burn unit were more than 35 years old. Higher numbers of somatization symptoms in nurses are consistent with results of (Özgür, et al., 2011) who found that, somatization was seen in women more than men. Since the somatization symptoms appear frequently in females, so we expected that somatization was high in nurses as it is a female profession (Özgür, et al., 2011).

Similarly, in the study done with nurses by Yrlmaz, et al., (2006), who reported that somatization, anger, hostility and symptoms of interpersonal sensitivity were found higher than other subscales.

According to other psychiatric symptoms among nurses were generally found a little high as paranoid ideation 24.0%, depression 20.7%, and psychoticism 16.0%, phobia 9.3%, while anxiety, hostility, interpersonal sensitivity and obsessive compulsive symptoms were less than 10%. This was contradictory with the study of (Özgür, et al., 2011) who found that, psychological symptoms among nurses were generally found high. Moreover, they experienced high obsessive compulsive symptoms, paranoid ideation, somatization, hostility, interpersonal sensitivity, and anxiety levels in more than half of the nurses.

According to Symptoms Check List -90-R scale, the present study showed that high percentage of nurses who need psychiatric help at different dimension of SCL- 90-R had moderate susceptibility to mental health problems, and there were no significant differences among studied nurses between Symptoms Check List -90-R and their different susceptibility to mental health problems. This might be explained by that high percentage of nurses had moderate level of stress.

These findings were inconsistent with the study of **Leiter & Harvie (1996)** who found that, susceptibility to mental health problems such as burnout and stress frequently manifested as physical conditions and, as a result, nurses tend to report higher rates of physical disability than other occupational groups. Another study focusing specifically on mental health problems, **Borrill, et al., (1996)** found that, 28% of nurses in the nursing hospital staff were suffered from minor mental health problems, generally identified as anxiety and depression.

Most of nurses had moderate level of stress, consequently, they might experience moderate susceptibility to mental health problem, and accordingly higher percentage of the nurses who exceed the cut off point on different dimensions of SCL-90-R have moderate susceptibility to mental health problem and moderate level of stress. This may be due to the link between psychosomatic complaints and stress that can be understood in the light of fact that some physical diseases are believed to have been derived from the stresses and strains of everyday living. For example lower back pain and high blood pressure, which appear to be partly related to stresses in every day life (**Schwarzer, 2001**).

This result matched with the finding of **Kane, (2009)** who reported that Western medical thinkers have long been aware of the mind's influence over the body. In support for somatic complaints in general comes from the reality that the incidence of psychosomatic diseases among those nurses who subjected to severe stress.

The current study revealed that, emotional focused strategy has significant positive correlation with all different symptoms dimensions of SCL-90-R except somatization has non significant negative correlation. However, problem focused strategy has non significant positive correlation with somatization, sensitivity, anxiety, and hostility. While has significant positive correlation with depression and paranoia. Also, problem focused strategy has non significant negative correlation with phobia and obsession. This might be due to most nurses suffered from somatization were married and have the responsibility to look after the family, the spouse as well as the children and household works has to be done so they used of emotion-focused coping strategies more and this is reflected negatively in the form of physical symptoms.

Problem focused strategy has positive correlation with all different symptoms dimensions of SCL-90-R except obsession and phobia has negative correlation, this could be interpreted by that excessive use of problem focused coping strategies are associated with

increase scores at paranoia, depression, and sensitivity.

In the present study revealed that there was significant positive correlation between nurses' mean scores at total emotional focused strategies and their mean score at stress level. This finding was consistent with the findings of **Tyson and Pongruengphant, (2004)** who reported that registered nurses in Medical wards experienced high level of stress from a lack of adequate support or opportunities to participate in making decision directly affecting their patients and increasing for using emotional focused coping strategies.

Conclusions:

Based on the results of the present study, it can be concluded that, high percentage of nurses had moderate level of stress and these level of stress revealed to the nature of work at different hospital departments especially at medically emergency unit, trauma unit, and operation theaters.

Nurses utilized emotional focused coping strategies more than problem focused coping strategies especially at medical emergency unit, Intensive care unit, and trauma unit.

Recommendations:

From the previous conclusion, the following recommendations are suggested:-

- 1- Educational programme should be applied for nurses who were graduated from secondary nursing school at hospitals to teach them stress management techniques as a coping method for relieving stress during work.
- 2- Physical and psychological examination should be done for nurses periodically to detect any signs and symptoms of physical and psychological problems caused by life and occupational stressors.
- 3- Hospital management staff should give nurses opportunity to participate in decision making for patient's care, and to be responsible about the consequences of their decision, this make them use problem focused coping strategies more than emotional focused coping strategies.
- 4- Developing a good interpersonal relationship and communication technique between management staff and nurses to avoid occupational conflict and role ambiguity.
- 5- Regular shifting nurses from burn unit, medical emergency unit, trauma unit and general intensive care unit and replacing them by new nurses to relieve their stress and avoid their

complaints of psychosomatic disorders and symptoms.

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