

# Critical Care Intern Nurses Stressors and Their Management Strategies

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## **Abstract:**

*Nursing has been identified as a stressful occupation. The transition from a student to new graduate can be stressful and "is a reality shock". Novice nurses have specific stressors that might be different from other nurses and today they feel that they are most frustrated by the lack of care and concern of others. Therefore, this study was conducted.*

**Aim of the study:** *to identify the critical care intern nurse stressors and their management strategies.*

**Design:** *descriptive research design was used to conduct this study.*

**Settings:** *Intensive care units of Alexandria Main University Hospital (Casualty Care Unit and General Intensive Care Unit) and health insurance hospital.*

**Methods:** *The subject of the study consisted of all critical care intern nurses working in all above mentioned settings at the study time (80 nurses). Two tools were used to collect the data: Tool I : intern nurse stressors questionnaire and Tool II: intern nurse stress management questionnaire tool.*

**Results:** *This result indicated that intern nurses perceived high to extreme level of stress. Among the three stress subscales; work management was perceived as the extreme level of stress followed by interpersonal relationships, and workload. Self-control was the most common management strategy of stress used by intern nurses.*

**Conclusion:** *high stress is prevalent among intern nurses. Major stressors of interns were related to work management, followed by interpersonal relationship and workload. Intern nurses are coping with their stressors by self-control and cognitive strategies.*

**Keywords:** - Intern –Novice nurses, stress, Critical care, stress management.

## **Introduction:**

Stress is an internal state which can be caused by physical demand on the body or by environmental and social situation which is evaluated as potentially harmful, uncontrollable or exceeding our resource for coping<sup>(1)</sup>. It is a universal epidemic which affects everyone irrespective of gender, age, occupation or class. Experts have termed it as the "millennium plague". The term stress applies in majority of the work events and it is very commonly seen in the nursing profession as well<sup>(2)</sup>. Nursing has been identified as a stressful occupation<sup>(3)</sup>. Every day, nurses must work against the clock, sudden switch back and forth, from intense to mundane tasks, and confront stark suffering, grief and death in a way that few people do (Farrington 1995)<sup>(4)</sup>. Stress has a cost for individuals in terms of health, well-being and job dissatisfaction, as well as for organizations in terms of absenteeism and turnover, which in turn may impact upon the quality of patient care. Previous researches have identified a variety of stressors that depend upon the

clinical specialty<sup>(5)</sup>. Intensive care units (ICU) are stressful environment due to high patient mortality and morbidity, daily confrontations with ethical dilemmas, and a tension-charged atmosphere<sup>(6)</sup>.

Critical care nurses (CCNs) undergo a lot of stress compared to nurses in other specialties<sup>(7)</sup>. They are repeatedly exposed to work-related stresses in the ICU, including addressing specific needs at the end of life, performing cardiopulmonary resuscitation, postmortem care, and prolonging life by artificial support to critically ill patients<sup>(6)</sup>. In addition, they are increasingly being challenged to integrate sophisticated technologies and interventions, implement care based on contemporary evidence while simultaneously caring for the whole person by dressing the psychosocial challenges and ethical conflicts associated with critical illness and delivering care not only to the patient but also to the patient's family.<sup>(8)</sup>

Novice nurses experience more stress at the beginning of their clinical practice. As most newly graduated nurses

realize the differences between the university and the workplace. This could be shocking for the newly graduated nurse. Reality shock results in high levels of stress in novice nurse. This condition can impact their physical, emotional and mental status and even their health<sup>(9)</sup>.

The nursing internship is an excellent opportunity to address the 'reality shock'. Internship year is an opportunity for newly graduate nurses or intern nurses, it helps them to develop their management competencies and skills like clinical decision making, collaboration, teaching, planning, communication, critical thinking, and caring<sup>(10)</sup>. In Egypt, internship nursing students are in the fifth year of their nursing faculty study which focus on field experience only. At this time the students pass through extensive and comprehensive clinical training in the field of experience under faculty supervision and evaluation, while carrying full duties and responsibilities in their assigned clinical practice. Interns seek guidance and advice from their preceptors without any courses or classes<sup>(11)</sup>.

New graduates were found to demonstrate stress regarding competence, confidence, making errors and adjusting toward new workplace environment and to complain of lack of support and problems with organization, completion of tasks and quality of work<sup>(12)</sup>. Researchers (Casey et al) report that the most difficult stresses and challenges experienced by new graduates during the training period in their transition from student to nurse include lack of confidence in skill performance, deficits in critical thinking and clinical knowledge, relationships with peers and preceptors, struggle with being dependent on others yet wanting to be independent, frustration with the work environment, organization and priority- setting skills and communicating with physicians for many graduates<sup>(13)</sup>.

The effect of prolonged, unmanaged stress can have a negative impact on nurses' personal or professional lives, causing physical and psychological changes, such as job stress, anger, anxiety, insecurity, dissatisfaction and frustration (Kawano 2008)<sup>(14)</sup>. There is a growing need for reasonable and practicable guidance in relation to the management of work-related stress and health<sup>(15)</sup>. The person's attempts to manage stressful situation is called coping<sup>(1)</sup>. Coping is a multi-dimensional construct consisting of thoughts and behaviors that individuals use to manage situations that are deemed stressful<sup>(16)</sup>. Different strategies may be used to cope with stress. If the coping strategy adopted by the person was healthy, the stress is resolved, if not, the anxiety associated with the stress persists and he could later develop some mental illness (Lyon, 2000)<sup>(17)</sup>. Effective coping strategies for stress are very important and can turn a highly stressful situation into a manageable one<sup>(18)</sup>. The most frequently used coping strategies according to work stress checklist reported by Lee (2003)

include being organized, helping others, continuing education, ensuring up-to- date knowledge about equipment and drug regimes, maintaining social communication, being more tolerant, talking with others, make an effort to relax, and having a hobby<sup>(19)</sup>.

Previous research related to stress among nurses has highlighted several complex issues; however, a deeper assessment of stress in critical care intern students is lacking. Therefore, this study will be conducted to identify the critical care intern nurse stressors and their management strategies to help them to cope with excessive stress and improved satisfaction and protect nurses against burnout.

### Aim of the study:

This study aims to: identify the critical care intern nurse stressors and their management strategies

### Research Question:

1. What are the stressors of critical care intern nurses?
2. What are the management strategies used by critical care intern nurses?

### Materials and Method

#### Materials

**Design:** a descriptive research design was used in this study.

**Setting:** This study was carried out at the ICUs of Alexandria Main University Hospital, namely: the casualty care unit (unit I) and the general intensive care unit (unit III).

**Subjects:** A convenient sample of 80 intern nurses who were trained in the following critical care units (*Alexandria critical care medicine department units namely Unit I, Unit III and Triage ICU, Health Insurance Hospital (Gamal Abdel Nasser general ICU)*).

**Tools:** Two tools were used to collect the data of this study: tool one: "*Intern nurses stress questionnaire*", this tool was developed by the researcher after reviewing the relevant literatures<sup>(20-22)</sup>. It is used to assess the stressors that face the intern nurses during their training in the critical care units. It included three parts: part one included demographic and work related characteristics as sex, age, supervisor qualifications, intern nurses to patients ratio or number of assigned patients, part two included grading of stress level as perceived by interns using numerical stress scale, While part three included Intern nurse stress scale that used to assess possible stressors that face the intern nurses in the previously mentioned settings and it consisted of three parts and included 47 items: part one included stressors related to workload and nature of work in intensive care units (17 items), part two included the stressors relates to

interpersonal relationship (13 items), part three included stressors related to unit management (17 items). A five-point Likkert scale was used where 0 =no stress, 1= mild stress, 2= moderate stress, 3=high stress and 4 =extreme stress. The total score of this scale was obtained by summing up responses for 47 items and range from 0 to 188. The higher score responses represent the higher level of perceived occupational stress.

**Tool Two: "Stress management strategies"** it was developed by the researchers after reviewing the relevant literatures to assess the strategies that intern nurses used to manage their stress<sup>(15,16,19)</sup>. It composed of 5 parts and included 18 items: work management strategies (3 items), interaction strategies (3items), self-control strategies (5items) emotional strategies (2items) and cognitive strategies (5 items). Intern nurses were also asked to indicate on a five-point Likert scale how often these strategies were used where 0= Never, 1= rare, 2=sometimes, 3=often and 4= very often. The total score of this scale was obtained by summing up responses for 18 items and range from 0 to 72. The higher score responses represent more coping of perceived stress.

#### Method:

First, researchers contacted the internship management authorities to explain the purposes and procedures of this study to get permission to conduct this study. Second, tools were developed by the researchers after reviewing the related literatures, Pilot study was done on 5 % of sample before starting the data collection to test the feasibility and applicability of these tools, and then data collection tools were modified accordingly. Then tools were reviewed by a jury of 5 experts in the field of the study for face and content validity.

In addition, tools were tested for reliability using Cronbach's alpha reliability method on a sample of 8 subjects. The correlation coefficient was (0.95) for Stress questionnaire and (0.90) for stress management scale which was accepted. Then, researchers started to give each participant the questionnaire to fill it. Informed consent has been obtained from each intern nurse before he/she participates in the study, after complete explanation of the study purpose and patient's privacy has been considered during collection of data. The anonymity, the confidentiality, and the right to refuse participating in the study have been assured. The collection of data started from December 2013 till March 2014.

**Limitations of the study:** This study was conducted in three ICUs from one geographical area and also the small sample size. Therefore, the results cannot be generalized to the general population.

**Statistical analysis:** The raw data was revised, coded and fed to statistical software IBM SPSS version 10. Data was analyzed by using the appropriate statistical test to identify the stressors and its management strategies among critical care intern nurses and the results were illustrated using descriptive tables, with the relevant tests of significance.

#### Results

Table (I) illustrates distribution of the study sample according to demographic and work related characteristics. It was observed that near two thirds of intern nurses (65%) were females, more than two thirds of them (71%) had a nurse patient ratio of (1:2) and more than three quarters (80%) had another work beside the internship training, majority of them (75) had 1-5 years of experience and (77.5%) had graded the internship stress as a high stress.

**Table (I): Distribution of the study sample according to demographic and work related characteristics**

Demographic and work related characteristics	Categories	N	%
Age	Less than 22 Years	1	1.3
	(22 - 25) Years	78	97.5
	(more than 25) Years	1	1.3
Sex	Male	28	35
	Female	52	65
Years of experience	Less than 1 Year	15	19
	(1 - 5) Year	60	75
	(5 - 10) Year	5	6
Presence of another work	Working	64	80
	Non-Working	16	20
Supervisor qualifications	Technical nursing institute	8	10
	Bachelor degree of nursing	51	63.8
	Others	21	26.3
Intern nurse : Patient ratio	(1 : 1)	14	17.5

	(1 : 2)	57	71.3
	(1 : 3)	6	7.5
	More than 3	3	3.8
Stress Grading	No	3	3.8
	Mild	5	6.3
	Moderate	10	12.5
	High	62	77.5

Table (II) and (III) represent distribution of the study sample according to stress and stress management strategies scales respectively. It was noted that work management subscale had the highest mean of stress among the others subscales of

stress and self-control were the most commonly management strategies used by intern nurses to control their stress.

**Table (II): Distribution of the study sample according to Stress Scale**

Stress Scale					
Item	N	Min.	Max.	Mean	SD
Work Load Subscale Score	80	15	104	46	17.3
Interpersonal Relationship Subscale Score	80	6	70	30.5	11.1
work Management Subscale Score	80	12	88	48.3	12.6
Total Stress Scale Score	80	54	212	124.9	36

**Table (III): Distribution of the study sample according to Stress management Scale**

Stress management Scale					
Item	N	Min.	Max.	Mean	SD
Work management strategies Subscale	80	3	14	7.8	2.4
Interaction strategies Subscale	80	3	29	7.8	3.3
Self-control strategies Subscale	80	3	41	13.3	6.1
Emotional strategies Subscale	80	0	8	4.7	1.7
Cognitive strategies Subscale	80	5	20	12.5	3.7
Total Stress Management Strategies subscale	80	22	74	46.1	12.8

**Tables (IV) shows intern nurses stress scale.** As regard workload stressors, it was observed that the most commonly reported stressors are dealing with critically ill patients, dealing with patients in emergency conditions; carrying out doctors' oral orders, poor quality of care secondary to high work load, receiving of new admitted patients, not familiar to operate medical apparatus and assessment of patients' critical condition. As regard interpersonal relationship stressors, it was observed that the most commonly reported

stressors are non-cooperative patients or families, patient's manipulation for nurses, work with unfriendly physicians, planning and application of time schedule and communication with faculty of nursing staff. As regard unit management stressors, it was observed that the most commonly reported stressors are faculty support, availability of sleep time (napping time), having less authority for the assigned duties, lack of information needed to carry out their job and coverage of the shortage in other units.

**Table (IV): Distribution of the study sample according to intern nurse stress scale**

		No stress		Mild stress		Moderate stress		High stress		Extreme stress	
		0		1		2		3		4	
		N	%	N	%	N	%	N	%	N	%
	<b>1.Work load subscale</b>										
1	Dealing with critically ill patients	3	3.8	13	16.3	16	20.0	35	43.8	13	16.3
2	Dealing with patients in emergency conditions	0	0.0	9	11.3	19	23.8	33	41.3	19	23.8
3	Receiving of new admitted patients	0	0.0	15	18.8	14	17.5	30	37.5	21	26.3

4	Caring of patients with unknown or infectious disease	0	0.0	7	8.8	19	23.8	29	36.3	25	31.3
5	Number of patient assigned to me	1	1.3	14	17.5	13	16.3	27	33.8	25	31.3
6	Listen, speak, read & write medical terminology	9	11.3	8	10.0	19	23.8	24	30.0	20	25.0
7	Caring of dying patients and their families	0	0.0	15	18.8	13	16.3	23	28.8	29	36.3
8	Not familiar to operate medical apparatus	2	2.5	11	13.8	16	20.0	30	37.5	21	26.3
9	Unable to hand over to the next shift correctly	11	13.8	10	12.5	12	15.0	25	31.3	22	27.5
10	Doing nursing professional reports & records	13	16.3	11	13.8	10	12.5	20	25.0	26	32.5
11	Take or carry out doctors' oral orders	5	6.3	11	13.8	11	13.8	33	41.3	20	25.0
12	Unfamiliar with routine	7	8.8	12	15.0	9	11.3	24	30.0	28	35.0
13	Interpretation results for examination or tests	9	11.3	13	16.3	16	20.0	21	26.3	21	26.3
14	Assessment of patients' conditions	7	8.8	12	15.0	14	17.5	30	37.5	17	21.3
15	Feeling that you don't have time to do everything that others ask you to	8	10.0	11	13.8	14	17.5	23	28.8	24	30.0
16	Inability to influence your superior's decisions and actions that affect you	4	5.0	8	10.0	20	25.0	25	31.3	23	28.8
17	Poor quality of care secondary to high work load	3	3.8	4	5.0	13	16.3	32	40.0	28	35.0
	<b>2. Interpersonal relationship subscale</b>										
1	Work with unfriendly colleagues	2	2.5	8	10.0	20	25.0	25	31.3	25	31.3
2	Patients or families with special need	0	0.0	10	12.5	21	26.3	28	35.0	21	26.3
3	Non-cooperative patients or families	0	0.0	12	15.0	15	18.8	22	27.5	31	38.8
4	Work with unfriendly physicians	1	1.3	8	10.0	18	22.5	23	28.8	30	37.5
5	Patient's manipulation / guidance for nurses	1	1.3	11	13.8	20	25.0	31	38.8	17	21.3
6	Direct supervision from senior staff	7	8.8	5	6.3	20	25.0	21	26.3	27	33.8
7	Planning and application of time schedule	5	6.3	7	8.8	15	18.8	30	37.5	23	28.8
8	Interaction with medical personal	7	8.8	8	10.0	13	16.3	27	33.8	25	31.3
9	Incorporate with team work	7	8.8	6	7.5	18	22.5	29	36.3	20	25.0
10	Communication with preceptor	8	10.0	1	1.3	24	30.0	21	26.3	26	32.5
11	Communication with faculty staff	8	10.0	8	10.0	13	16.3	22	27.5	29	36.3

**Table (IV): Cont.**

		No stress		Mild stress		Moderate stress		High stress		Extreme stress	
		0		1		2		3		4	
		N	%	N	%	N	%	N	%	N	%
<b>3.Work management subscale</b>											
1	Head nurse let me work independently	7	8.8	7	8.8	11	13.8	26	32.5	29	36.3
2	Using private time doing official affairs	4	5.0	5	6.3	18	22.5	21	26.3	32	40.0
3	Leadership styles of head nurse and supervisors	3	3.8	8	10.0	15	18.8	25	31.3	29	36.3
4	Unfamiliar with location of appliances	2	2.5	9	11.3	16	20.0	21	26.3	32	40.0
5	Availability of supplies and equipment's	1	1.3	6	7.5	19	23.8	24	30.0	30	37.5
6	Faculty support	1	1.3	2	2.5	12	15.0	22	27.5	43	53.8
7	Management of preceptors for problems	2	2.5	3	3.8	18	22.5	22	27.5	35	43.8
8	Availability of preceptors	0	0.0	3	3.8	22	27.6	26	32.5	29	36.3
9	Educational abilities of preceptors	3	3.8	2	2.5	18	22.5	28	35.0	29	36.3
10	Evaluation of preceptors	3	3.8	3	3.8	22	27.5	22	27.5	30	37.5
11	Calling you to cover the shortage in other unit	2	2.5	5	6.3	15	18.8	25	31.3	33	41.3
12	Availability of sleep time (napping time)	1	1.3	8	10.0	7	8.8	29	36.3	35	43.8
13	Availability of specific well equipped room for intern	2	2.5	4	5.0	13	16.3	32	40.0	29	36.3
14	You have less authority for assigned duties	1	1.3	4	5.0	16	20.0	34	42.5	25	31.3
15	Lack of clarity of job description and responsibilities	1	1.3	3	3.8	14	17.5	30	37.5	32	40.0
16	Lack of information needed to carry out your job	3	3.8	5	6.3	11	13.8	34	42.5	27	33.8

Table (V) represents distribution of the study sample according to stress management strategies. As regard to work related strategies, it was observed that the most commonly used strategy is developing of a plan of action to follow it. As regard to interaction strategies, it was observed that the most commonly used strategy is acceptance of sympathy and understanding from others. As regard to self-control strategies, it was observed that the most commonly

used strategy is trying of interns to be feeling better by eating and drinking. As regard to emotional strategies, it was observed that the most commonly used strategy is keeping their feelings to themselves. As regard to cognitive strategies, it was observed that the most commonly used strategy is stand on ground and fight for what they want and waiting to see if the problem resolves itself and conform to what is expected

**Table (V): Distribution of the study sample according to intern nurses stress management strategies**

		Never		Rare		Sometimes		Often		Very often	
		0		1		2		3		4	
		N	%	N	%	N	%	N	%	N	%
<b>1.Work management strategies</b>											
1	Recognition of stressors & sensual cues of stress & try to avoid them	0	0.0	9	11.3	27	33.8	35	43.8	9	11.3
2	Develop of a plan of action to follow it	4	5.0	10	12.5	18	22.5	40	50.0	8	10.0
3	Application of time management strategies	0	0.0	12	15.0	22	27.5	36	45.0	10	12.5

2.Interaction strategies											
1	Ask advice from colleagues / peers	2	2.5	7	8.8	25	31.3	35	43.8	11	13.8
2	Accept sympathy and understanding from others	2	2.5	10	12.5	22	27.5	39	48.8	7	8.8
3	Conform to other expectations of me	5	6.3	6	7.5	24	30.0	36	45.0	9	11.3

Table (V): Cont.

	3.Self-control strategies	0 never		1 rare		2 sometimes		3 often		4 very often	
		0		1		2		3		4	
		N	%	N	%	N	%	N	%	N	%
1	Use personal strategies like exercise or recreational activity (relaxation techniques)	6	7.5	13	16.3	13	16.3	40	50.0	8	10.0
2	Get sleep (power nap/ cat nap)	4	5.0	8	10.0	22	27.5	39	48.8	7	8.8
3	Get day off / vacation or excuse	3	3.8	8	10.0	27	33.8	39	48.8	3	3.8
4	Try to make myself feel better by eating, drinking	4	5.0	9	11.3	20	25.0	42	52.5	5	6.3
5	Medications/ nicotine/ caffeine	7	8.8	4	5.0	26	32.5	36	45.0	7	8.8
4. Emotional strategies											
1	Crying and tears	13	16.3	13	16.3	18	22.5	23	28.8	13	16.3
2	Keep my feelings to myself	1	1.3	11	13.8	19	23.8	39	48.8	10	12.5
5.Cognitive strategies											
1	Clarify my responsibilities in relation to the problem	6	7.5	7	8.8	23	28.8	33	41.3	11	13.8
2	Stand my ground and fight for what i want	2	2.5	8	10.0	21	26.3	40	50.0	9	11.3
3	Don't try to control the uncontrollable	0	0.0	5	6.3	31	38.8	35	43.8	9	11.3
4	Wait to see if the problem resolve itself and conform to what is expected	3	3.8	16	20.0	13	16.3	40	50.0	8	10.0
5	Try to forget the whole thing	6	7.6	9	11.4	18	22.8	35	44.3	11	13.9

Table (VI) illustrates the relationship between stress scale score and intern nurses' demographic and work related characteristics. It was found that there was a significant relationship between age, the qualifications of supervisor,

years of experience, number of assigned patients per shift, working in another place beside internship training and perceived stress of intern nurses.

Table (VI): Relationship between stress scale score and intern nurses' demographic and work related characteristics

Variable	Categories	Mean	N	SD	F	P
Age	Less 22 years	39.5	1	14.5	0.85	0.43
	(22-25) years	45.1	78			
	(more than 25) years	63.4	1			
Sex	Male	44	28	13	0.30	0.58
	Female	45.9	52	15.3		
Years of Experience In ICU	Less than 2 Years	51.9	23	12	2.49	0.05
	(2-4) Years	44.3	26	14.7		
	More than 4 Years	40.1	31	14.4		
Working in another place	Yes	44.2	64	14.3	1.85	0.17
	No	49.7	16	14.9		
Supervisor qualifications	Technical nursing institute	40.6	8	12.8	5.02	0.00
	Bachelor degree of nursing	42.6	51	15		
	Others	53.4	21	10.4		
Number of assigned patients / shift	1 Patient	51.1	14	11.1	2.16	0.10
	2 Patients	42.8	57	14.9		
	3 Patients	49.9	6	14.3		
	More than 3 patients	56.2	3	9.7		

Table (VII) illustrates the relationship between stress management strategies and intern nurses' demographic characteristics. There was a significant relationship between

previous sex, years of experience, supervisors' qualifications, number of assigned patients per shift, and the stress management strategies

**Table (VII): Relationship between stress management scale and intern nurses' demographic and work related characteristics**

Variable	Categories	Mean	N	SD	F	P
Age	Less 22 years	65.2	1	17.7038	0.07	0.92
	(22-25) years	61.9	78			
	(more than 25) years	68	1			
Sex	Male	57.9	28	16.3	2.42	0.12
	Female	64.2	52	17.8		
Years of Experience In ICU	Less than 2 Years	70.8	23	16.1	4.88	0.00
	(2-4) Years	56.1	26	16.6		
	More than 4 Years	57.9	31	15		
Working in another place	Yes	60.1	64	17.3	3.78	0.05
	No	69.5	16	16.6		
Supervisor qualifications	Technical nursing institute	50.3	8	18	4.90	0.01
	Bachelor degree of nursing	60.4	51	17		
	Others	70.5	21	15.2		
Number of assigned patients / shift	1 Patient	74.1	14	11.4	4.42	0.00
	2 Patients	57.8	57	17.7		
	3 Patients	68.5	6	3.9		
	More than 3 patients	72.2	3	24		

## Discussion:

Many studies examined what nurses' perceived as occupational stress, especially in clinical settings. However, intern or newly-graduated nurses have specific stressors that might be different from staff or other nurses. Therefore, this study aims to identify critical care intern nurses stressors and their management strategies.

Regarding demographic and work related characteristics, the findings of this study revealed that the majority of intern nurses were female and in their early twenties. This indicates that the ongoing trend of a female-dominated profession in Egypt and male gender in the field of nursing is still low in numbers. In the same line which was discussed by Abd El-Halem et al. in 2011, that there is still an insignificant number of male gender in nursing work<sup>(23,24)</sup>. Also this study revealed that the majority of intern nurses had 1 to 5 years working experience and this is not expected as they are still intern nurses and it is expected to have less experience but this result reflects that the majority of interns working in private hospitals or other places since they joined to faculty of nursing because of our economic status, and also their experience may be due to that some of them had diplomas or other degrees in nursing. Concerning number of assigned patients, this result shows that the majority of intern nurses were assigned to provide nursing care to 2 patients and this means that intern nurse: Patient ratio is 1:2.

However in many instances, the ratio is more than 1:2 and this is due to shortage of staff, and the absence or sickness of the main staff.

The nursing internship period in Egypt is considered a stressful time of transition among graduate nursing students, due to extensive shortages among nursing employees in health settings and they become a major part of hospital staffing<sup>(11)</sup>.

The findings of this study revealed that the majority of intern nurses perceived a high level of stress and this may be due to limited knowledge and skills to deal with critically ill patients and emergency situations, in addition to, immature interpersonal relationships, lack of confidence and extensive work load relating to shortage of nursing and dependence of health setting in public or private hospitals totally on intern and they consider intern nurses as an urgent and magical solution to the shortage of nursing. This is similar to Mehta et al 2005<sup>(25)</sup> findings that the majority of the subjects (81.1 %) had greater stress because of the shortage of staff and this contradicts with the results of the many studies which revealed that the nursing students and interns experience moderate stress during their academic and clinical studies (Chan, So,& Fong, 2009; Sikander & Aziz, 2012; Kaur et al., 2009; Nancy,2011; Khater et al., 2014<sup>(26-30)</sup>).

In this study intern nurses reported that the extreme stress of work management and lack of faculty support are the most common causes of stress in management subscale followed by lack of sleep time (napping time). This may be related to their young age, low experience, inappropriate and lack of communication skills, rigid and inflexible law and no rest period between working in private and general university hospitals due to our economic status. This is against to other studies of newly-graduated nurses which do not mention these as major stressors (Ellerton & Gregor 2003; Oermann & Garvin, 2002<sup>(31, 23)</sup>).

Results of this study revealed that there was a significant relationship between intern nurses stress and their socio-demographic data. This may be due to the young age, low experience, work overload, increased number of patients and ICU environment itself. Moreover, these results indicate that intern nurses age, experience, supervisors' qualifications, and nurse to patient ratio are significant factors contributing to stress. This is supported by (Parikh et al. 2004)<sup>(32)</sup> findings that occupational stress of nurses appears to vary according to job characteristics and (Ernst et al., 2004; Oermann & Garvin, 2002)<sup>(33,23)</sup> findings that type of unit, grade, years of work, shift patterns were factors theoretically related to occupational stress. On contrary to Bassiuni N etal (2006)<sup>(34)</sup> findings that there was no significant relationship between nurses' perception of job-stress and their socio-demographic characteristics. Also the result of this study contradicts with the results of Nancy (2011)<sup>(29)</sup>, Sikander and Aziz (2012)<sup>(27)</sup> which found no association among the demographic variables and levels of stress. However Khater et al., (2014)<sup>(30)</sup> reported that student's age is negatively associated with the stress level.

Managing stress effectively can significantly improve the quality of life that is reflected on the performance and conduct. Stress management is the ability of an individual to manage the perceived pressures they face on day to day basis<sup>(35)</sup>. The results of this study revealed that the self-control strategies of stress management were rated as the highest score, followed by cognitive strategies subscale with mean average. Trying of intern nurses to be feeling better by eating and drinking is the most common coping method in self-control strategies followed by using personal strategies like exercise or recreational activity and relaxation techniques. In some studies, newly-graduated nurses who had preceptors seemed consistently to gain confidence more quickly and feel better about themselves as nurses (Meinecke, 2000; Ulrich, 2003)<sup>(36,37)</sup> and this means that preceptors may decrease stress level however, really there is a shortage in preceptors in our clinical setting and this is due to most of them travelled out of our country because of our economic status and most of them are married and they take vacation to care for their children and they consider this as a chance to travel and work in another country. In addition to,

work overload of available preceptors and increased their age and high sickness, lack of support and motivation increase their absenteeism. This reflects dependence of interns on themselves in managing their stress. This is supported by Woalston (2005)<sup>(38)</sup> stated that exercise, sleep, frequent relaxation and increased assertiveness could be a blue print for anyone suffering from job stress.

Result of this study revealed that there was no significant relation between age of intern nurses and their stress management strategies. This result may be due to that majority of intern nurse (97.5%) in the same age group and their age ranged between 22 to 25 years old and all of them are younger. **This is against Laal et al (2010)<sup>(39)</sup> findings that older age nursing staff more coped with stress than the younger.**

**In relation to years of experience, results revealed that** there was a significant relation between experience of intern nurses and their stress management strategies. Similar to Laal M, Aliramaie N(2010)<sup>(39)</sup> findings that the nurses with 5-9 years experience of working more coped with stress than those with less job experience. On the other hand, there was a significant difference between those who worked in another place and stress management strategies, and those working only in one place are more coped with stress than others. This is supported by Laal et al (2010)<sup>(39)</sup> findings that there was significant difference between those working in a hospital with the other one, as those working only in their study hospital who less coped with stress as they were dealing more with the patients in intensive and emergent stage, as caring trauma patients can have a significant effect on personal and social life.

Regarding to supervisor qualifications, results revealed that there was a significant relation between supervisor qualifications and intern nurses' stress management strategies and intern nurses who are under supervision of who holds a diploma degree or others more coped than others. This result reflects dependence of intern nurses on themselves in management of their stress and coping more with it when they are under supervision of supervisors holding diploma degree or others whose main concern is presence or absence of intern nurses not on patients 'care. This is against Miller & Jablin (1991)<sup>(40)</sup>, who reported that newcomers usually search for information to reduce their feelings of uncertainty through interpersonal sources and their supervisors and coworkers often serve as consultants because the latter are familiar with new employees' jobs and interact with new hires regularly and this reflects the relation between preceptors and intern nurses.

**Moreover, this result revealed that** there was a highly significant relation between **numbers of assigned patients** and coping of nurses with stress and the nurses who

assigned to one patient were more coped with stress than others who assigned to 2 or 3 or more patients. This indicates that **numbers of assigned patients** are a real factor affecting coping of intern to stress. This may be due to less number of assigned patients which means less workload, less duties, more adequate time to provide care, adequate rest, adequate sleep period and less stress and also more coping with stress.

**Conclusion and recommendations:** Based on the findings of this current study, it can be concluded that the transition from a student to a new graduate nurse is a challenge and "is a reality shock", critical care intern nurses perceived a high and extreme level of stress, unit management subscale was rated as the extreme level of stress, and age, years of experience, supervisor's qualifications, nurses to patients ratio numbers of assigned patients are significant contributing factors of stress. In addition to, self-control strategy was the most often used strategy by critical care intern nurses to manage stress.

**In light of the current study findings, the following recommendations are suggested:** The result of this study should be considered when dealing with intern nurses in clinical setting, In service educational programs should be conducted for critical care nurses regarding: Stress in ICU, its sources, consequences on nurses especially intern nurses as new graduate nurses, coping strategies with stress. Moreover, educators and nursing administrators should take in their consideration that critical care intern nurses exposed to many sources of job stressors and should identify the coping strategies of intern nurses

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