

## The Level and Sources of Occupational Stress and Coping Strategies among Nurses Working In the Emergency Department (ED)

Mrs. Jeyalindha Christopher<sup>1</sup>, Mr. T. S. Ravikumar<sup>2</sup>, Mrs. Grace Rebekah<sup>3</sup>

<sup>1</sup>Professor, College of Nursing, Christian Medical College, Vellore, South India

<sup>2</sup>Professor, College of Nursing, Christian Medical College, Vellore, South India

<sup>3</sup>Lecturer, Department of Biostatistics, Christian Medical College, Vellore, South India

Corresponding Author: Mrs. Jeyalindha Christopher

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**Abstract:** Job stress among nurses working in the Emergency Department (ED) impacts quality care provided to patients and affects the well being of nurses too. In order to overcome the stress, the nurses adopt various coping strategies that help them to continue to work in the same setting. The present study was undertaken to assess the level and sources of stress and the coping strategies among staff nurses working in the ED of a private tertiary care teaching hospital in South India. The objectives of the study were to assess the level and sources of stress and coping strategies adopted by nurses and to find their association with selected demographic variables. A descriptive research design was undertaken and the data collection was carried out among the nurses working in the ED. The subjects were chosen using consecutive sampling technique and the sample size was 50. The data was collected using a self administered questionnaire which had 3 sections. The analysed data showed that the mean stress score was 2.2 and 50% of the subjects experienced stress level below the mean score and the commonest source of stress identified was inadequate emotional preparation to work in ED (mean 2.25). The overall stress score had statistically significant association with the place of basic nursing education ( $p = 0.05$ ). The coping strategy which was adopted frequently by nurses was positive reappraisal (mean 1.97) and coping did not have statistically significant association with demographic variables. The Pearson's correlation between stress and coping had a weak positive relationship ( $r = 0.017$ ).

**Key words:** Nurses, Emergency Department, Stress, Coping strategy

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### I. Introduction

The complex and fast moving world places a huge demand on the health care systems. The rapidly changing health care systems and technology have increased the public expectations of the health care facility posing a great demand on the health care professionals. Certain health care professions experience more stress than other professions and Nursing is one such profession. The nurses who work in ED are at risk for experiencing stressful events every day and the common sources of stress are overcrowding, increased patient care demands, suffering and death of patients, shift work, long standing hours, shortage of resources, etc. Stress is responsible for a decline in quality patient care, the satisfaction and well-being of nurses, stagnation of personal development, increased errors and high financial costs (Ribeiro, Pompeo, Pinto and Ribeiro 2015). In most instances the ED nurses have also learnt to adopt coping strategies like problem-oriented approaches to deal with job stress rather than emotion oriented approaches (Liu, Pan, Wen, Chen, and Lin 2010).

### II. Background

The present study was conducted in the Emergency Department (ED) of a private tertiary care teaching hospital in South India. The Emergency Department treats approximately 200 - 230 patients per day with varying severity of illnesses / injury. It has a well established, software based nurse run triage which follows a 3 tier priority system. The emergency care is always a team based care and nurses are considered as an important member of the team. Nurses play a major role in emergency assessment, resuscitation, treatment process, monitoring patients with trauma and non trauma related injuries / illnesses, counseling and teaching patients on various aspects of health. The nurses are exposed to suffering and death of patients, overcrowding, crisis situations, mass casualty incidents, shortage of resources, etc. A study done by Ross Adjie, Leslie, & Gillman (2007) found the top five stressors for ED nurses and they are handling mass casualties, caring for patients with acute illness, violence against staff, heavy workload and poor skill mix and the death of patients. According to Ribeiro, Pompeo, Pinto and Ribeiro (2015) the nursing professionals in the urgency and emergency care unit adopt coping strategies to handle the stress and the coping strategies which was used frequently was problem

solving and the least used was confrontation. Admitting the fact that the nurses who work in ED experience stress, the present study was planned to assess the level and sources of stress experienced by nurses working in ED and their coping strategies, hence interventions could be adopted to reduce the stress and enhance healthy coping strategic skills.

### III. Objectives of the study

1. To identify the level and sources of occupational stress experienced by nurses working in the Emergency Department
2. To assess the coping strategies adopted by the nurses working in the Emergency Department
3. To find association between the level of stress experienced by nurses with selected demographic variables
4. To find association between the coping of nurses with selected demographic variables
5. To determine the correlation between the occupational stress and coping of nurses working in the Emergency Department

### IV. Methodology

A descriptive research design was undertaken and the data collection was carried out among the nurses working in the ED. The subjects were chosen using consecutive sampling technique once they fulfilled the sampling criteria i.e. registered nurses with minimum of 3 months experience in the ED. The sample size was 50. Individual written consent was obtained by the investigator from the subjects after explaining the purpose of the study and providing the information sheet. The instrument was a self administered questionnaire which had 3 sections and was distributed to all those who were willing to participate in the study. The participants were given an opportunity to complete the questionnaire after their duty time in a relaxed manner and return it immediately. They were explained the importance of making their own ratings on the questionnaires and not the group ratings based on the discussion.

**Section - A :** Demographic profile of the subjects.

**Section B:** Expanded Nursing Stress Scale to assess the level and sources of stress

**Section C:** Ways of Coping (Revised) Scale to assess the Coping strategies

**Expanded Nursing Stress Scale (ENSS)** by Susan E. French (1999) is a standardized tool and permission was obtained to use the tool in the study. The tool was found to be reliable ( $r = 0.84$ ). There are a total of 57 items in the Expanded Nursing Stress Scale and are divided into 9 subscales namely Death and Dying, Conflict with physicians, Inadequate emotional preparation, Problems with peers, Problems with supervisors, Workload, Uncertainty concerning treatment, Patients and their families and Discrimination. The 57 items were arranged in a 5 point Likert response scale. The responses are 'never stressful' (1), 'occasionally stressful' (2), 'frequently stressful' (3), 'extremely stressful' (4), and 'does not apply' (0). In order to compute total stress score, the scores on all 57 items are added together. In order to measure scores on specific subscales, the appropriate items scores are added together. Higher the score, greater the frequency of stress on any subscale.

**Ways of Coping Scale – Revised** by Folkman & Lazarus, (1985) is a standardized tool and was used to assess the coping strategies adopted by the nurses in the ED. The Cronbach – alpha for the total score was 0.88. The tool has 66 items on a 4 point likert scale and the responses are 'Not Used' (0), 'Used Somewhat' (1), 'Used Quite A Bit' (2), and 'Used a Great Deal' (3). To determine the predominant methods used for coping, the tool has 8 subscales, each one being a method of coping strategy like Confrontive coping, Distancing, Self controlling, Seeking social support, Accepting responsibility, Escape – avoidance, Planful problem solving and Positive reappraisal. In order to measure scores on specific subscales, the appropriate items scores are added together. Higher the score, greater the frequency of coping strategy adopted.

### V. Results

The descriptive and inferential statistics were used to analyze the data.

**Table: 1** Distribution of demographic characteristics of Nurses

S.No.	Demographic characteristics	No	Percentage
1.	Age :		
	<26yrs	13	26
	26-30Yrs	21	42
	>30yrs	16	32
2.	Gender:		
	Male	9	18
	Female	41	82
3.	Marital status:		
	Single	25	50
	Married	25	50

4.	No. of children:		
	Nil	6	24
	1	12	48
5	Support from Spouse:	Yes	84
		No	16
6.	Qualification:		
	BSc.Nursing	7	14
	Post Basic BSc Nursing.	3	6
7.	Place of basic Nursing education:	Mission	73
		Private	27
8.	Total years of experience:	Less than 2	16
		2-5	32
		5-10	34
		More than 10	18
9.	Years of experience in ED:	Less than 2	34
		2-5	26
		5-10	34
		More than 10	6
10.	Interested to work in ED:	Yes	100
		No	0
11.	Shift which is stressful:	I shift	3
		II shift	77
		Night shift	20
12.	Assignment which is stressful	Resuscitation Room	35
		Observation Bay	25
		Triage	35
		Procedure Room	5

Table 1 reveals that the majority (42%) of nurses were between the age 26 and 30 years and 82% of them were female gender. Half of them (50%) were married and 84% of the married nurses perceived that they receive support from their spouses. Most of them (80%) have completed General Nursing and Midwifery (GNM) and were trained (73%) in Mission institutions. 34% of them have 5 to 10 years of work experience in ED. The II shift duty (3:30 to 11:30 pm) was considered as the most stressful (77%) shift and the assignment of Resuscitation Room and Triage were considered stressful (each 35%).

**Table:2** Sources of stress among Nurses

S. No.	Sources of stress	Mean score	Standard Deviation
1	Inadequate emotional preparation	2.25	0.49
2	Death and dying	2.20	0.54
3	Workload	2.16	0.44
4	Patients and their families	2.09	0.40
5	Conflict with physicians	1.87	0.43
6	Uncertainty concerning treatment	1.87	0.51
7	Problems with peers	1.69	0.53
8	Problems with supervisors	1.66	0.51
9	Discrimination	1.16	0.52

Table 2 shows the sources of stress. The commonest source of stress among the nurses was inadequate emotional preparation (mean 2.25) to work in ED. The other common sources were death and dying (mean 2.20), workload (mean 2.16) and patients and their families (mean 2.16). The least common source of stress identified was discrimination (mean 1.16).

**Table: 3** Coping strategies among Nurses

S. No.	Coping strategies	Mean score	Standard Deviation
1	Positive reappraisal	1.97	0.57
2	Planful problem solving	1.74	0.55
3	Seeking social support	1.51	0.55
4	Accepting responsibility	1.48	0.54

5	Distancing	1.44	0.49
6	Self controlling	1.39	0.50
7	Confrontive coping	1.20	0.45
8	Escape avoidance	1.10	0.49

Table 3 reveals the coping strategies adopted by the nurses. The most frequently adopted coping strategy was positive reappraisal (mean 1.97). The other coping strategies adopted by nurses were playful problem solving (mean 1.74), seeking social support (mean 1.51) and accepting responsibility (mean 1.48). The least adopted coping strategy by nurses was escape avoidance (mean 1.10).

**Table 4:** Association between stress and demographic variables

Variables		Mean	SD	p value
Age in years	< 26	48.25	7.45	0.459
	26 – 30	46.37	8.11	
	> 30	49.84	9.31	
Gender	Male	48.68	6.11	0.778
	Female	47.81	8.79	
Qualification	BSc Nursing	48.87	4.04	0.918
	Post Basic BSc Nursing	46.49	3.59	
	GNM	47.92	9.14	
Experience in ED (years)	< 2	49.15	9.07	0.814
	2 – 5	47.27	9.48	
	5 – 10	46.88	7.38	
	> 10	50.44	5.48	
Place of Basic Nursing Education	Mission	49.48	8.85	0.050*
	Private	44.20	5.43	
Marital status	Single	48.09	8.50	0.918
	Married	47.84	8.32	
Perceived support from the spouse	Yes	48.35	8.50	0.532
	No	45.39	7.63	
Shift Duty	I shift	40.79	8.17	0.666
	II shift	48.05	7.30	
	Night shift	48.36	7.89	

\* Statistically significant

Table 4 shows the association between the level of stress and the demographic variables. The overall score of stress did not have statistically significant association with the demographic variables except the place of basic nursing education ( $p = 0.05$ ). Whereas, few of the subscales of stress (sources of stress) had statistically significant association with the demographic variables. Problem with peers had statistically significant association with place of basic nursing education ( $P = 0.03$ ), gender had statistically significant association with workload ( $P = 0.02$ ) and discrimination with qualification of nurses ( $P = 0.006$ ).

**Table: 6** Association between coping and demographic variables

Variables		Mean	SD	p value
Age in years	< 26	50.97	11.98	0.557
	26 – 30	49.76	14.97	
	> 30	45.90	12.45	
Gender	Male	46.02	14.26	0.490
	Female	49.46	13.26	
Qualification	BSc Nursing	46.39	15.20	0.877
	Post Basic BSc Nursing	48.99	11.17	
	GNM	49.26	13.46	
Experience in ED (years)	< 2	51.28	14.06	0.725
	2 – 5	48.72	11.99	
	5 – 10	47.59	14.68	
	> 10	42.59	9.18	
Place of Basic Nursing Education	Mission	46.20	11.50	0.054
	Private	54.27	15.51	
Marital status	Single	47.47	11.34	0.476
	Married	50.20	15.23	
Perceived support from the spouse	Yes	48.77	16.10	0.591
	No	53.28	5.91	
Shift Duty	I shift	49.49	-	0.315
	II shift	47.18	14.51	
	Night shift	55.68	10.77	

Table 6 shows the association between the coping and the demographic variables. The coping did not have statistically significant association with the demographic variables.

**Figure 1:** Correlation between Stress and Coping

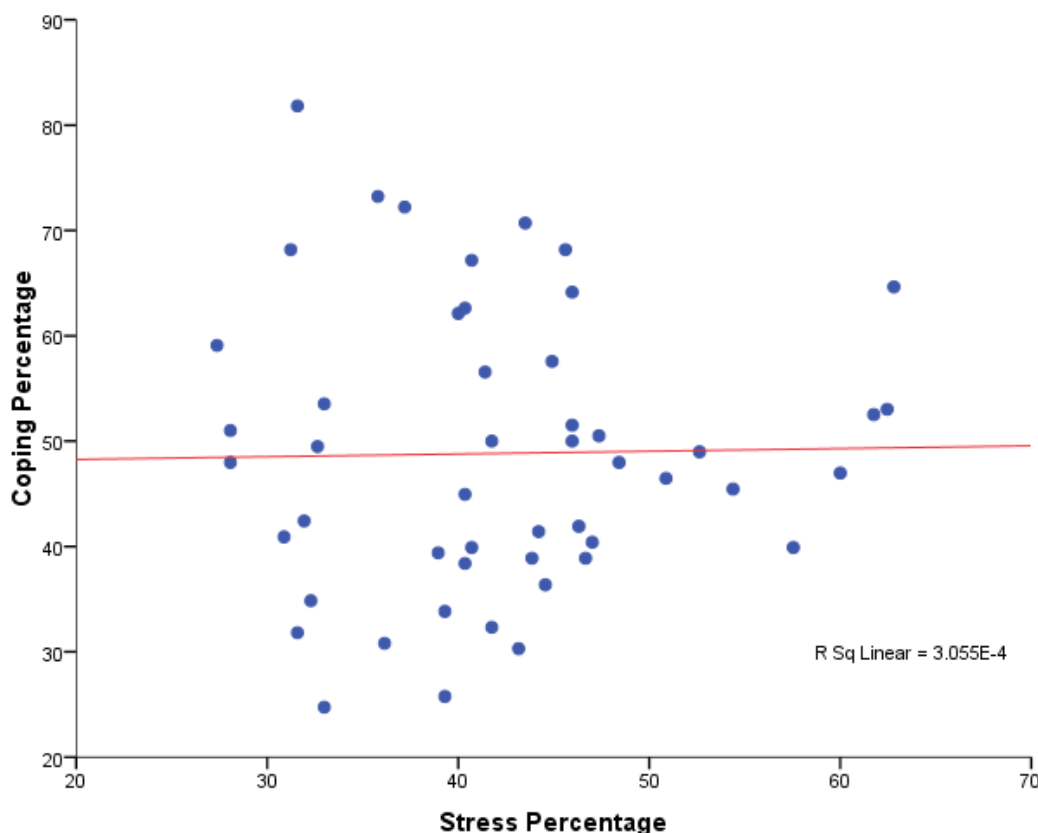


Figure 1 shows the correlation between the overall score percentage of stress and coping. It showed a weak positive correlation between the stress and coping ( $r = 0.017$ ).

## VI. Discussion

The results of the study helped us to understand the level and sources of stress experienced by the nurses working in the ED and the coping strategies adopted by them to cope with the stress.

### Level and sources of stress

In this study, the mean stress score identified among nurses working in ED was 2.2 and it was very close to the stress level (mean  $2.14 \pm 0.52$ ) identified by Habib et al (2018) in Iran among the ED nurses. In the present study, half of the nurses (50%) had stress scores below the mean stress score level and the studies done in India by Bhatia, Kishore, Anand and Jiloha (2010) and Singh, (2013) revealed that 32.2% and 19.1% of nurses experienced severe job stress respectively. The job stress definitely has an impact on the physical well being of nurses, their concentration on work, professional performance, job satisfaction, etc.. Severe stress level over a long period of time may even lead to personality disorders. Hence it is necessary to reduce the stress experienced by them in order to achieve quality patient care and job satisfaction. Understanding the sources of stress may help to reduce the stress levels.

In this study the commonest sources of stress identified was inadequate emotional preparation (mean 2.25) to work in ED. The other common sources of stress were death and dying (mean 2.20), workload (mean 2.16) and patients & their families (mean 2.16). The study done by Habib et al (2018) also identified inadequate emotional preparation as the most common source of stress. The other sources identified by them were problems with co-workers, workload and patients & their families. A study performed by Chatzigianni, Tsounis, Markopoulos and Sarafis (2018) in Greece showed that the more stressful factors were those that were related to death and dying, patients & their families and uncertainty concerning treatment. The study done by Kamal, Al-Dhshan, Abu-Salameh, Abdulas, and Hassan (2012) in Saudi Arabia described the sources of high stress as patients & their families, workload, problems with supervisors and uncertainty concerning treatment. Damit

(2007) in his study described the common sources of stress as uncertainty concerning treatment, patient & their families, workload and inadequate emotional preparation. Roopalekha-Jathanna, Latha and Prabhu (2012) performed a study in the southern part of India – Kerala exploring the sources of stress among nurses and they found patients & their families and workload were the frequent stressful events. Jose and Bhat (2013) showed in their study done in Karnataka that death & dying (mean 7.03) and workload (mean 6.9) were the commonly occurring stressors and least stressor was lack of staff support (mean 2.7). Pawar (2014) described patients & their families and problems related to supervisors and Mohite, Shinde and Gulavani (2014) described workload and problems related to supervisors were the common stressors in Maharashtra, India. Based on the literature, the more prevalent stressors among nurses were workload, patients & their families, death & dying and uncertainty concerning treatment and all these stressors were also evident in this present study. The literatures showed that definitely nurses who work in the ED experience stress and the sources of stressors were almost similar nationally and internationally. In the present study, the inadequate emotional preparation was identified as the commonest source of stress as identified by few other studies (Habib, et al 2018 & Damit, 2007). The nurses of our institution were trained in the ED to care for physical and psychological aspects of emergency care. This study finding created an insight that to reduce the level of stress among nurses they need to be trained systematically to take care of the emotional needs of patients. Training on end of life care may reduce the level of stress. The least common source of stress identified in this study was discrimination (mean 1.16). Similar findings were also identified by Bhatia, Kishore, Anand and Jiloha (2010) in India and by Damit (2002) in Brunei. Shaha & Rabenschlag (2007) stated that when addressing the nursing stressful situations, team actions play an important role. Hence, the nursing supervisors and staff nurses together should work out a strategy which would best suit to reduce the stress among the nurses.

The overall stress score did not have statistically significant association with the demographic variables except the place of basic nursing education ( $p = 0.05$ ). The studies performed by Mohite, Shinde and Gulavani (2014) in Maharashtra, Kakade, Kakade and Devi (2014) in Maharashtra and Joy, Ravindranath and Thomas (2013) in Goa also did not have statistically significant association between stress and demographic variables. Whereas, the study done by Jose and Bhat (2013) found association between stress and professional qualification ( $p = 0.02$ ) and marital status ( $p = 0.02$ ). In this present study, the subscales of stress (sources of stress) had statistically significant association with demographic variables. Problem with peers had statistically significant association with place of basic nursing education ( $P = 0.03$ ). Nurses who had done their basic nursing education in Mission institutions had more stress with peers. Workload had significant association with gender ( $P = 0.02$ ) and male gender perceived more stress with workload than the female gender. Discrimination, though it was the least common stressor had statistically significant association with qualification of nurses ( $P = 0.006$ ). Nurses who have completed GNM perceived more stress related to discrimination.

### **Coping strategies**

The most frequently adopted coping strategy in this study was positive reappraisal (mean 1.97). Positive reappraisal is a critical component of meaning-based coping that enables individuals to adapt successfully to stressful life events. It has been shown to increase happiness and resilience and to reduce negative emotions and stress. This coping strategy helps nurses to continue to work with the same stressful events though the level of stress is significant. The other coping strategies adopted were planful problem solving (mean 1.74), seeking social support (mean 1.51) and accepting responsibility (mean 1.48). The least commonly adopted coping strategy was escape avoidance (mean 1.10). This showed that the nurses working in the ED used more of positive coping strategies. A study done by Shiji, Sequera and Mathew (2016) in Mangalore among married staff nurses found that most nurses were using coping strategies like planful problem solving, confrontive coping, self control and seeking social support. The least commonly adopted strategy was escape avoidance. According to Jose and Bhat (2013) in his study done in Karnataka, found that positive reappraisal (mean 12.2), seeking social support (mean 8.8) and self controlling (mean 8.5) were the most commonly adopted coping strategies and the least was accepting responsibility (mean 4.9). The study done in Iran among emergency room nurses found that the nurses used positive reappraisal (mean 12.92), self control (mean 12.92) and seeking social support (mean 12.08) more often and rarely used coping strategies were accepting responsibility (mean 5.65) and confrontive coping (mean 7.68). In this present study the coping did not have statistically significant association with any of the demographic variables. The finding was supported by the different studies done by Shiji, Sequera and Mathew (2016), Bhatia, Kishore, Anand and Jiloha (2010), Kakade, Kakade and Devi (2014) and Zyga, S. et al (2016). Whereas, the study done by Jose and Bhat (2013) found statistically significant association between coping and demographic variables like marital status ( $p = 0.03$ ), years of experience ( $p < 0.001$ ) and experience in current working area ( $p = 0.01$ ). In this study, the correlation analysis showed that there is a weak positive correlation between the stress and coping ( $r = 0.017$ ). This brought an understanding among the nurse supervisors that the positive coping strategies have to be strengthened among the nurses. A

planned scheduled series of coping related sessions and simulation related exercise would help nurses to use more of positive coping strategies hence promote quality of care in the ED.

## VII. Conclusion

The results of the study would help the nursing supervisors to make strategic plans to reduce the level of stress experienced by the ED nurses. Taking appropriate actions to foster more positive coping strategies would influence their health and quality of nursing care. Reducing stress and enhancing coping strategies are vital not only for quality emergency care but also for the future of nursing profession.

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