

# Study on Coping Strategies and Factors Associated with Stress, Among Nurses Working in Intensive Care Unit, New Delhi, India

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## ABSTRACT

Nursing professionals working in Intensive Care Units are challenged with high level of stress evolving due to critical condition of patients as well as urgency in decision making at life threatening situations. This makes Intensive Care Units more stressful place for working. Stress affects the emotional status which results into negative feelings hindering the care provided to patients. Study aimed to assess Coping strategies and factors associated with stress among staff nurses. Results showed the major coping strategies were used by the nurses including positive reappraisal, accepting responsibility and escape avoidance. Confronting coping was least used by the nurses. Factors like positive support and healthy work environment made level of stress less among nurses working in intensive units.

**Keywords:** Stress, Coping strategies, Intensive care units, Nurses

## INTRODUCTION

Health care professionals are exposed to variety of stressors which they deal with patient's co-morbidities, high job demands from patients and their families, complex technology, urgent care, work overload and their workplace settings. Nursing profession due to this complexity is considered as a stressful profession. Nurses are exposed to intense stressors arising from the demand of their job such as poor staffing pattern, high workload, communication breakdown, death of patients and sometimes pressure from medication errors (Sexton et al., 2009). The profession also exposes nurses to unpleasant but unavoidable long working hours, lots of paper work, social vices such as physical abuse from patients and relatives.

The changing need of society, change in medical technology, extended and expanded role of nurses with modernize knowledge and skills makes today's nurses are more exposed to job related stress, which can lead to burnout, low self-esteem, absenteeism, depression, anxiety, frustration and sometimes cognitive malfunction. (Kumar, Pore, Gupta, and Wan, 2016) depicted stress among nurses was higher compared to doctors. Stress may have impact on their health, but also on the quality of care that they provide in ICUs (Farquharson et al., 2013).

According to American Psychological Association, various factors are considered as source of stress such as low salaries, heavy workloads, lack of opportunity for growth and advancement, unrealistic job expectations, job security and lack of participation in a decision-making (Stress Advocate 2009). According Geuens, Braspenninga, Bogaert, Franck (2015) environmental factors that causes stress to health care professionals on regular basis are pain, suffering,

and death of patients. To deal with increasing stress in day to day life and manage these stressors many coping strategies are used by nurses. Coping strategies are intended to maintain wellbeing, injury to write off the harmful effects of stressful situations coping is the ability or efforts made by person to overcome the stress (Lazarus 1966).

Coping strategies are cognitive and behavioural efforts to reduce existing demands, determined by the way individuals use the strategies for external and internal resources such as health, beliefs, responsibility, support, social skills, materials and basic resources to decrease the stress level. Individual may engage in some different forms of coping such as attempting to improve the concrete situation and taking actions to relative the emotion of the stressful events and not actually removing the conditions. Other form of coping such as denial may be used as a defence mechanism which may keep a pressure away from feeling overwhelmed.

## METHODS AND TOOLS

The research approach adopted in this study was Quantitative Research Approach with cross sectional research design. Study was conducted in various Intensive Care Units of selected hospitals, New Delhi. 96 nurses were selected who were working in ICUs and met the inclusion criteria. Tools used were Socio demographic profile, Ways of Coping a tool, developed by Lazarus and Folkman (University of California, San Francisco) to collect the data. Tool contained 66 items to identify a stressful encounter that occurred recently, where it took place and what happened next Reliability of tool was tested and was found to be 0.96. Ethical approval for the study was obtained from Institutional Ethical Committee. Witten informed consent was obtained from each participant.

**RESULTS****Table no- 1 Frequency and percentage distribution of nurses working in ICUs with regard to Socio- demographic profile**

Sample Characteristics	n=96	
	Frequency (f)	Percentage (%)
<b>Gender</b>		
Male	43	44.8
Female	53	55.2
<b>Marital status</b>		
Single	25	26.0
Married	71	74.0
<b>Professional qualification</b>		
General Nursing and Midwifery	65	67.7
Basic B.Sc. Nursing	23	24.0
Post Certificate B.Sc. Nursing	8	8.3
<b>Additional qualification</b>		
Yes	10	10.4
No	86	89.6
<b>Monthly income (in Rs.)</b>		
20,001-40,000	46	47.9
40,001-60,000	37	38.6
>60,001	13	13.5
<b>Type of accommodation</b>		
Hostler in campus	8	8.3
Own house	19	19.8
Living on rent	69	71.9
<b>Type of family</b>		
Nuclear	73	76
Joint	23	24

Table 1 depicts frequency and percentage distribution of the nurses working in ICUs according to their socio demographic variables. It shows that 55.2% of nurses working in ICUs were female. Seventy four percent were married. In professional qualification of nurses, 67.7% were having GNM diploma, 24% were B.Sc. and 8.3% were having Post B.Sc. nursing degree. Very few nurses (10.4 %) were having additional qualification. Nearly half (47.9%) of the nurses were having salary between ₹ 20,001- 40,000 and very few nurses (13.5%) had salary more than ₹ 60,000. Majority (71.9%) of the nurses were living on rent and 19.8% of nurses were having own house. Majority (76%) of nurses working in ICUs belongs to nuclear family.

**Table No-2 Frequency and percentage distribution of nurses working in ICUs according to their personal and professional characteristics**

Sample Characteristics	n=96	
	Frequency (f)	Percentage (%)
<b>Designation</b>		
Nurse	14	14.6
Patient Care Executive	65	67.7
Junior Nurse	17	17.7
<b>Sole Breadwinner for family</b>		
Yes	50	52.1
No	46	47.9
<b>Dependent elderly family member at home</b>		
Yes	43	44.8
No	53	55.2
<b>Chronic illness among family member</b>		
Yes	10	10.4
No	86	89.6
<b>Distance of travelling for work (in Km)</b>		
1-5	59	61.5
5-10	16	16.7
>15	13	13.5
Not applicable	8	8.3
<b>Travelling time for work ( in minutes)</b>		
<5	8	8.3
5-30	62	64.6
31-60	16	16.7
>60	10	10.4

Table 2 depicts frequency and percentage of nurses working in ICUs according to their personal and professional qualification. It shows 67.7% of the nurses were working as patient care executive, and 14.6% were having designation as nurse. Nearly half (52.1%) of them were sole bread winner for the family. More than half (55.2%) the nurses were not having dependent family members. Majority (89.6%) of nurses working in ICUs were not having any family members with chronic illness. With regard distance of travelling, 61.5% of nurses use to travel less than 5 kilometres for their work. Time taken to reach workplace was less than 30 minutes for 64.6% of nurses.

**Frequency and percentage distribution of nurses working in ICUs according to professional characteristics**

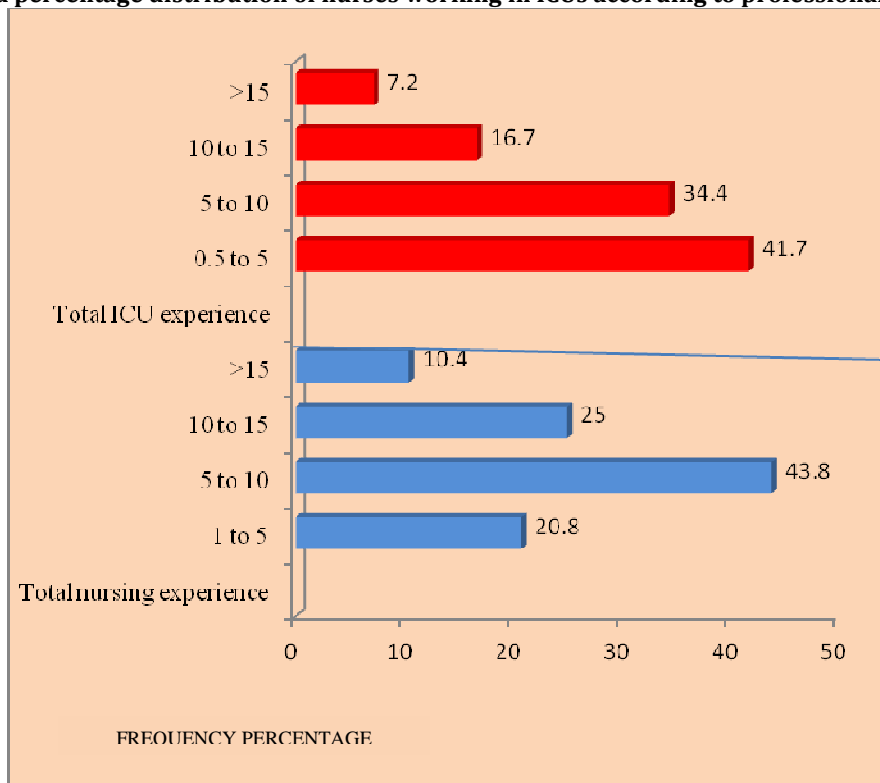


Figure no 1. Clustered bar graph showing percentage of total ICUs experience and total nursing experience of nurses working in ICUs

Figure 1 depicts less than half of the nurses (41.7%) were having ICUs experience between 0.5 to 5 years, few nurses (7.2%) were having ICUs experience more than 15 years. Nurses having total nursing experience between 5 to 10 years were 43.8%. And few (10.4%) of them were having total nursing experience more of than 15 years.

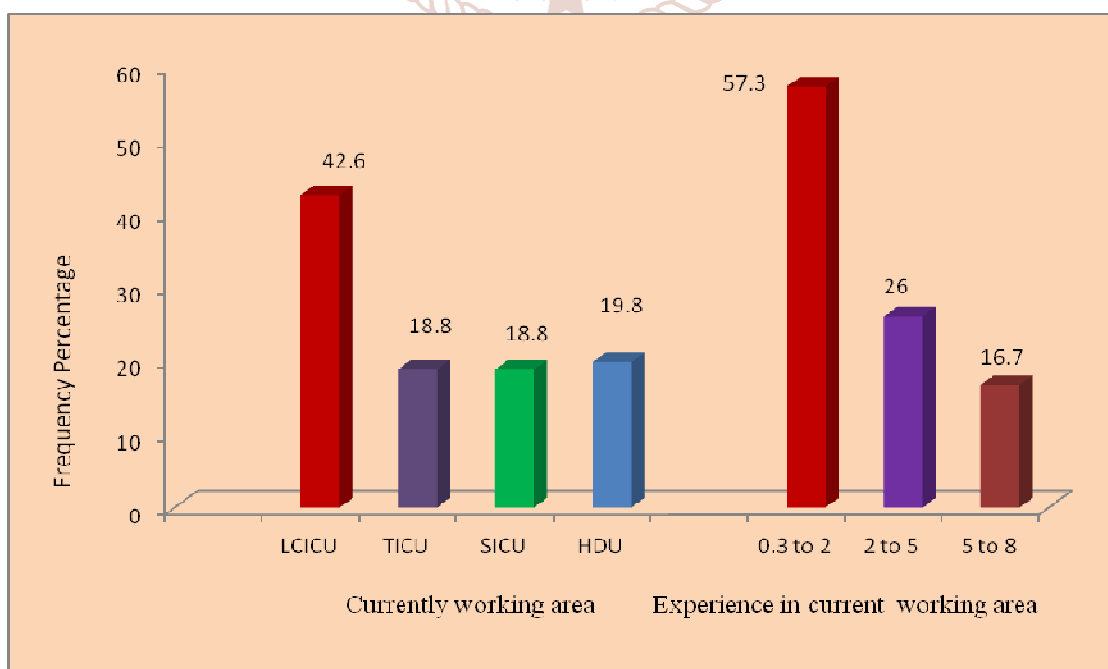


Figure no 2. Cone graph showing frequency and percentage of area of working and experience in that area of working in ICUs

Figure 2 elicit that 42.6% of nurses were working in liver coma ICU, 18.8% of nurses working in TICU as well as SICU and 19.8% of nurses were also working in HDU. More than half of the nurses (57.3%) were having experience of their working area between 0.3 to 2 years and 16.7% of the nurses were having experience between 5 to 8 years.

**Table no 3 Frequency and percentage distribution nurses working in ICUs according to working environment**

n=96		
Sample Characteristics	Frequency (f)	Percentage (%)
<b>Presence Adequate Physical facilities in ICU</b>		
Never	9	9.4
Some times	16	16.7
Most of the times	37	38.5
Always	34	35.4
<b>Conflicts with physicians</b>		
Never	69	71.9
Occasionally	27	28.1
<b>Conflicts with supervisors</b>		
Never	72	75.0
Occasionally	24	25.0
<b>Conflicts with colleague</b>		
Never	63	65.6
Occasionally	33	34.4
<b>Availability of doctor in emergency situation</b>		
Sometimes	21	21.9
Most of the times	30	31.3
Always	45	46.9
<b>Help available from supervisors</b>		
Sometimes	21	21.9
Most of the times	30	31.3
Always	45	46.9

Table 3 depicts frequency percentage distribution of nurses according to their working condition. The data indicates 38.5% of the nurses reported that most of the times they were having adequate physical facility to care patients, whereas 9.4% reported that they never had adequate facility to render their care. Nearly three-fourth of nurses (71.9%) reported that they never had conflict with physicians.

Seventy five percent reported that there were no conflicts between nurse and their supervisors. Nurses (65.6%) never had Conflicts with colleagues. More than half (65.6%) nurses reported that sometimes only doctors were present in emergency situations and half (55.2%) of the nurse said doctors were always present in emergency situations in ICUs. Less than half (46.9%) of the nurses got help from their supervisors.

#### Level of coping strategies among nurses working in Intensive Care Units (ICUs)

**Table 4 -Mean, Median, Standard Deviation, range of subscales of ways of coping strategies score**

n=96								
Components of ways of coping scale	Max. possible score	Mean	Mean %	Median	SD	Min. score	Max. score	Rank
Confrontive Coping	18	7.11	39.5	7.00	2.94	0	15	VI
Distancing	18	7.50	41.66	8.00	2.95	0	14	V
Seeking social support	18	8.51	47.27	8.00	3.55	1	18	III
problem-solving	18	7.39	41.05	7.00	3.30	0	15	VI
Self-controlling	21	8.90	42.38	9.00	3.60	0	18	IV
Positive reappraisal	21	10.83	51.57	10.00	4.49	0	21	I
Accepting responsibility	12	5.68	47.33	5.00	2.57	0	12	II
Escape-Avoidance	24	8.57	35.70	8.00	3.75	0	21	VII

Table 4 elicits coping strategies adopted by nurses working in ICUs. It is evident from data that positive reappraisal (51.57%) was the highest coping strategies used by nurses followed by accepting responsibility (47.33%) whereas escape-avoidance (35.70%) was the lowest coping strategies used by nurses working in ICUs.

**Association between coping strategies and selected socio demographic profile****Table no 5 Association of coping strategies score with socio-demographic profile of nurses working in ICUs**

n=96					
Sample Characteristics	Coping strategies Mean±SD	Df	F/t	p-value	
<b>Gender</b>					
Male	33.00±12.40	94	t=0.32	0.74	
Female	32.21±11.11				
<b>Marital status</b>					
Single	26.00±10.00	94	t=1.48	0.14	
Married	24.41±11.24				
<b>Professional qualification</b>					
GNM	30.738±11.4235	2	F=3.06	0.05	
B. Sc. Nursing	35.213±12.3475				
Post B.Sc Nursing	39.813±7.5389				
<b>Additional qualification</b>					
Yes	30.60±11.19	94	t=0.56	0.57	
No	32.79±11.74				
<b>Monthly income</b>					
20,001-40,000	31.933±10.46	2	F=0.13	0.87	
40,001-60,000	33.276±11.51				
>60,001	32.792±16.23				
<b>Type of accommodation</b>					
Hostler in campus	37.78±16.43	2	t=1.00	0.37	
Own house	30.89±11.71				
Living on rent	32.42±11.02				

p≥0.05; not significant

Table 5 depicts the association between coping strategies score and demographic profile. It is evident from data that there was no significant association found between coping strategies and demographic profile such as gender p=0.74, marital status p=0.14, professional qualification p=0.05, monthly income p=0.87, accommodation of nurse p=0.37. There was no significant association between coping strategies score and socio-demographic profile. Therefore null hypothesis was accepted and research hypothesis was rejected.

**Table 6 Association of coping strategies score with personal and professional characteristics nurses working in ICUs**

n=96					
Sample Characteristics	Coping Mean±SD	df	F/t	p-value	
<b>Designation</b>					
Nurse	30.23±15.68	2	F=0.23	0.78	
Patient Care Executive	32.81±10.43				
Junior Nurse	33.54±12.84				
<b>Sole Breadwinner for family</b>					
Yes	31.63±11.93	94	t=0.81	0.41	
No	33.57±11.38				
<b>Type of family</b>					
Nuclear	32.37±12.47	94	t=0.28	0.77	
Joint	33.17±8.75				
<b>Dependent elderly family member</b>					
Yes	30.99±10.58	94	t=1.19	0.23	
No	33.84±12.40				
<b>Chronic illness among family member</b>					
Yes	33.68±11.44	94	t=0.10	0.75	
No	32.43±11.73				
<b>Distance of travelling for work (Km)</b>					
1-5	32.89±12.06	3	F=0.39	0.75	
5-10	31.21±7.38				
>15	34.61±9.60				
Not applicable	29.52±18.38				
<b>Travelling time for work (minutes)</b>					
<5	30.35±18.13	3	F=2.01	0.11	
5-30	32.40±12.07				
31-60	32.07±6.76				
>60	36.16±9.69				

p≥0.05; not significant

Table 6 depicts association between coping strategies score and sample characteristics. The data indicates that there was no significant association found between coping strategies score and sample characteristics such as designation p=0.78, sole bread

winner for the family  $p=0.41$ , dependent family member in the family  $p=0.32$ , chronic illness among family members  $p=0.75$ , distance of travelling for work  $p=0.75$ , travelling time  $p=0.11$ . Therefore null hypothesis was accepted and research hypothesis was rejected.

**Table 7 Association of coping strategies scores with professional characteristics of nurses working in ICU**

n=96				
Sample Characteristics	Coping Mean±SD	df	F/t	p-value
<b>Total nursing experience</b>				
1-5	32.16±10.93			
5-10	34.19±10.78	3	F=0.57	0.63
10-15	30.38±13.49			
>15	31.78±12.63			
<b>Total ICU experience</b>				
0.5-5	32.10±10.16			
5-10	32.46±13.52	3	F=0.39	0.75
10-15	35.11±11.14			
>15	29.88±12.86			
<b>Working area of nurse</b>				
LCICU	30.82±10.24			
TICU	39.50±12.69	3	F=4.63	<0.001*
SICU	30.41±9.47			
HDU	31.78±13.64			
<b>Working area experience (in years)</b>				
0.3-2	32.44±11.04			
2-5	31.41±11.94	2	F=0.40	0.66
5-8	34.78±13.59			

\*  $p<0.05$ ; significant       $p\geq 0.05$ ; not significant

Table 7 depicts association of coping strategies score and professional characteristics. The data indicates that there was significant association found between coping strategies and sample characteristics such as working area of nurse ( $p=0.001$ ). It is also evident that there was no association found between coping strategies and sample characteristics such as total nursing experience ( $p=0.63$ ), total ICUs experience ( $p=0.75$ ) and working area experience in years ( $p=0.66$ ). Therefore the null hypothesis was not accepted and research hypothesis was not rejected. Further to assess the direction of association between stress score and current working area of nurses, Post- hoc test was applied (table 20)

**Table 8 Association of coping strategies score working environment of nurses working in ICU**

n=96				
Sample Characteristics	Coping Mean±SD	Df	F/t	p-value
<b>Adequate Physical facilities in ICU</b>				
Never	47.33±25.35	3	F=2.18	0.09
Some times	64.94±17.28			
Most of the times	68.86±21.75			
Always	64.06±24.79			
<b>Conflicts with physicians</b>				
Never	32.13±11.72	94	t=0.57	0.56
Occasionally	33.65±11.62			
<b>Conflicts with supervisors</b>				
Never	33.10±11.06	94	t=0.78	0.43
Occasionally	30.94±13.39			
<b>Conflicts with colleague</b>				
Never	31.37±11.82	94	t=1.39	0.16
Occasionally	34.83±11.14			
<b>Availability of doctor in emergency situation</b>				
Sometimes	28.11±10.24	2	F=2.69	0.07
Most of the times	33.95±13.37			
Always	34.30±11.35			
<b>Help available from supervisors</b>				
Sometimes	29.74±11.02	2	F=1.53	0.22
Most of the times	31.36±10.87			
Always	34.68±12.27			

\*  $p<0.05$ ; not significant

Table 8 shows association of coping strategies score and nurses working in ICUs working environment. It is evident that there was no significant association found between coping strategies and sample characteristics such as adequate physical facilities in ICUs  $p=0.09$ , conflicts with physicians  $p=0.56$ , supervisors  $p=0.43$ , colleagues  $p=0.16$ , and availability of doctors in emergency situations ( $p=0.07$ ) and help available from supervisors ( $p=0.22$ ). Therefore null hypothesis was accepted and a research hypothesis was rejected.

**DISCUSSION**

In the current study, suggests that coping positive reappraisal (51.57%) was highest coping strategies used by nurses followed by accepting responsibility (47.33%) whereas escape-avoidance (35.70%) was the lowest coping strategies used by nurses working in ICU. The findings are similar to study done by Jose and Bhatt. Ramezanli in his study reported that nurses were using emotional focused coping strategies more than problem-focused strategies. The findings show significant association between coping strategies and current working area of nurses. (TICU) had adopted more coping strategies than other nurses and were less stressed. This may be due to stable workplace environment of Transplant Intensive Care Unit. Correlation was found between stress and coping strategies among nurses working in ICUs. Supported by Liu.

**CONCLUSION**

Coping is multidimensional concept where individual perception can be affected by an individual's belief and values. People may use different coping strategies at various time points. Positive reappraisal is frequently used coping strategies among nurses. Less experience increases more stress in the professional life of a nurses. Pressure and conflicts between physicians, supervisors, and colleagues contributes to amplify the stress levels. Although environment with helping and supporting colleagues and availability of doctors while handling difficult situation make a difference in coping with stressful situations.

**RECOMMENDATIONS**

Periodic assessment of nurses working in intensive care units for stress must be implemented in all hospitals. Provision of counselling services for the staff would be the great idea to identify and treat stress and stress related disorders and miss happenings in the health care environments. Development of stress free workplace, for sharing problems without fear of being punished or judged. Deep breathing and other relaxation techniques may be helpful to teach and reduce stress.

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