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### RESEARCH ARTICLE

## A STUDY TO IDENTIFY THE PREDICTORS OF BURNOUT AMONG CRITICAL CARE NURSES

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#### Key words:-

Burnout, Critical Care, Burnout Syndrome

### Abstract

**Introduction:** Burnout, according to the World Health Organization (WHO), is an occupational phenomenon resulting from chronic workplace stress that hasn't been effectively managed. Approximately 25 to 33 percent of critical care nurses manifest symptoms of severe burnout syndrome, and up to 86 percent have at least one of the three classic symptoms. Several factors predict burnout in critical care nurses, including individual characteristics, work-related factors, and organizational aspects. Burnout is characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment.

**Objectives:** To measure the prevalence of burnout among critical care nurses To study the association of burnout with selected demographic variables.

**Methods:** A descriptive survey study was done to determine the burnout among critical nurses work experience of more than one year of experience at Apollo Hospital. The sample selected for the present study consisted of 789 critical care staff who are experienced for more than 1 year in critical care unit of Apollo Hospitals were selected by nonprobability purposive sampling technique. The data was collected to gather the demographic and work-related questionnaire to identify contributing factors and Copenhagen burnout inventory to identify the burnout.

**Result:** It showed that maximum participants (83.7%) were female with 55.3 % participants completed B.Sc degree in nursing. Participants with critical care work experience before joining Apollo were 26.9% and about (63.6%) participants' were getting allocation ( Nurse: Patient ratio 1:2). It also showed that most of the participants (47.8%) were having shift schedule of 6.30 hours, maximum participant had low burn out (personal: 88.47%, work related 87.33% and patient related 78.33%) whereas few participant experienced high burned out which is patient related (5.20%). There was significant association between burnout and gender, critical care work experience before joining Apollo, staffing pattern and critical care experience at Apollo hospital.

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**Introduction:-**

Nowadays, the intensity of nursing care is increasing in hospitals globally due to the reduction of the length of stay to contain rising costs, which in turn, increases work burden on nurses, predisposes them to negative outcomes of health, and are likely to influence their performance and the quality of care<sup>6</sup>. Nurses are generally being considered as a high-risk category regarding work stress. Nursing is generally perceived as a stressful and demanding profession. Nurses deal with people who are suffering from major or minor health problems and life-threatening situations<sup>7</sup>.

Burnout is a nursing workplace problem worldwide due to practice in a complex organizational setting with multiple and, most of the time, conflicting goals. Burnout, defined as a work-related stress syndrome comprising symptoms of exhaustion and distant attitudes toward work, has been studied in diverse occupational settings during the past three decades<sup>8</sup>.

Health care industry is known to be stressful as there is a lot demand from the health-care professionals. Among the health-care professionals nurses are highly prone for burnout due to their work pattern and long working hours as well. Nurses are the first line of contact in a hospital; they spend most of the time with the client and their accompanists. This makes them to have a continuous exposure to the emotional strains of dealing with the sick and dying. These stressors if not addressed may lead to burnout. The current study intends to measure Burnout among nurses working in Critical Care unit.

Several factors predict burnout in critical care nurses, including individual characteristics, work-related factors, and organizational aspects. Burnout is characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment.

**The number of critical care units and staffs of critical care at Apollo is too high, for that we as a part critical care nursing council took the initiative to assess the burnout among critical care staff nurses.**

Individual Characteristics like Age and Experience, Marital Status, Lack of Specialized Training, Social Support, Psychologic Hardiness, Heavy Workload, Demanding Environments, Lack of Communication and Leadership, Interpersonal Conflicts, Insufficient Supplies and Staff, Work Schedule, Staffing Ratios, Workplace Environment can significantly contribute to burnout.

**Objectives:-**

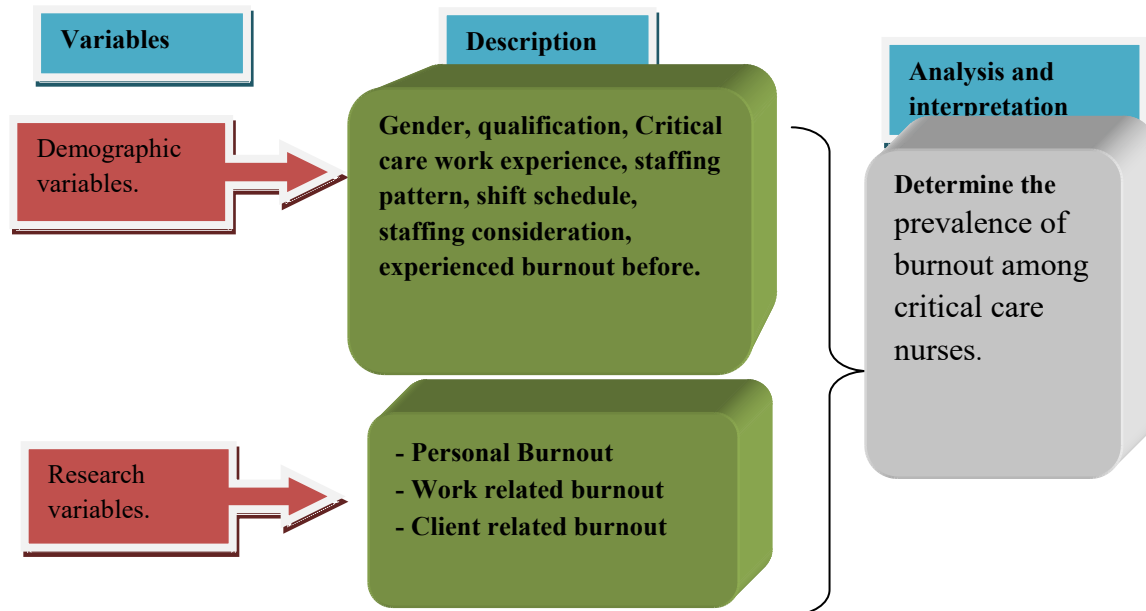
1. To measure the prevalence of burnout among critical care nurses.
2. To study the association of burnout with selected demographic variables.

**Review of Literature:-**

Elvira R S-et al<sup>1</sup> conducted a systematic review and meta-analysis on Prevalence, Risk Factors and Burnout Levels in Intensive Care Unit Nurses: A Systematic Review and Meta-Analysis among 1986 nurses through Medline, Scopus and CINAHL databases where found that prevalence for high emotional exhaustion was 31% (95% CI, 8–59%), for high depersonalization was 18% (95% CI, 8–30%), and for low personal accomplishment was 46% (95% CI, 20–74%). Within the dimensions of burnout, emotional exhaustion had a significant relationship with depression and personality factors. Both sociodemographic factors (being younger, single marital status, and having less professional experience in ICU) and working conditions (workload and working longer hours) influence the risk of burnout syndrome.

Villaranteet M D et al<sup>2</sup> evaluated a National Survey of Stress and Burnout in Critical Care Nurses: A pre-pandemic study among 270 nurses in the United States using Copenhagen Burnout Inventory (CBI) Tool .They observed thatthe mean PSS score in the study population was 18.5 (SD = 6.4), indicating moderate stress. The mean CBI score was 61.9 (SD = 16.5), indicating moderate burnout. Our study found that the overall health of the work environment was one of the most important factors associated with both stress and burnout.

A Lima A et al<sup>3</sup> conducted A scoping review on The Burnout of Nurses in Intensive Care Units and the Impact of the SARS-CoV-2 Pandemic: A Scoping Review. They found that A content analysis of the selected articles was carried out, and three categories emerged that corresponded to the dimensions of burnout according to Maslach and Leiter: emotional exhaustion, depersonalisation dimension and a lack of personal accomplishment. It was evident that nurses who worked in the ICU during the pandemic showed high levels of burnout.

**Methodology:-**

**Fig. 1:-** Schematic presentation of research design.

According to the objectives of the study quantitative approach was considered as most appropriate. Descriptive survey research design was suitable for this study. The sample selected for the present study consisted of 789(Kolkata-312, Chennai-197, Delhi-280) critical care staff who are experienced for more than 1 year in critical care unit of Apollo Hospitals. Permission of Institutional Ethics Committee (IEC Ref: IEC/BR/2025/01/03) was taken and informed consent was obtained from the participants. Non-probability purposive sampling technique was used to select the subject. Inclusion criteria were staff nurse working in critical care unit more than 1 year and involved in direct care as well as given permission to take them as sample for the study. Staff nurse who are working in critical care unit below one year were excluded from the study.

The data was collected through structured questionnaire

**Tool consists of two sections:**

**Section 1:** A demographic and work-related questionnaire to identify contributing factors. It contains total 9 questions which include Gender, Qualification, Critical care work experience, Staffing pattern, Shift schedule, Staffing consideration, and Experienced burnout before.

**Section 2:** Standardized tool (Copenhagen Burnout Inventory)

**The scoring criteria:** The scores for items within each dimension are averaged to produce a score for personal, work-related, and client-related burnout. The overall burnout score is calculated by averaging the subscale scores, resulting in a total score ranging from 0 to 100. Burnout is considered a state of varying degrees of exhaustion rather than a specific disease. While some researchers use cut-points, such as 50 points, to categorize individuals into different levels of burnout, this approach can oversimplify the results and overlook valuable nuances. Burnout exists on a continuum, from complete exhaustion to full vitality, and a cut-point may fail to capture the full spectrum of this experience.

**Results:-**

In the present study the obtained data was organized, tabulated, analyzed and interpreted under the following sections.

Section I: -This section describes demographic profile of the participants.

1. Section IIA -This section describes burnout of staff nurses, working in critical care for more than one year. Section II-A- Description and findings of burnout among critical care nurses.

2. Section II-B- Association between burned out and selected demographic variables to rule out predictors of burnout.

**Section I:**

**Table 1:-** Frequency and percentage distribution of demographic profile of the participants

**N=789**

Criteria	Frequency	Percent
<b>Gender</b>		
a) Male	129	16.3
b) Female	660	83.7
<b>Qualification</b>		
a) GNM	350	44.4
b) B.Sc / Post Basic	436	55.3
c) M.Sc	3	0.3
<b>Critical care work experience before joining Apollo</b>		
a) 1-2 year	212	26.9
b) 2-3 year	119	15.1
c) More than 3 year	158	20.0
d) Nil	300	38.0
<b>Staffing pattern (Nurse: Patient ratio)</b>		
a) 1:1	140	17.7
b) 1:2	502	63.6
c) 1:3	147	18.6
<b>Shift schedule</b>		
a) 6.30 hours	34	4.3
a) 6.30 hours;	377	47.8
a) 6.30 hours;b) 8.30hours;	3	.4
a) 6.30 hours;b) 8.30hours;c) 13 hours;	11	1.4
a) 6.30 hours;c) 13 hours;	57	7.2
a) 6.30 hours;c) 13 hours;b) 8.30hours;	1	.1
b) 8.30hours	27	3.4
b) 8.30hours;	213	27.0
b) 8.30hours;a) 6.30 hours;	7	.9
b) 8.30hours;a) 6.30 hours;c) 13 hours;	2	.3
b) 8.30hours;c) 13 hours;	12	1.5
b) 8.30hours;c) 13 hours;a) 6.30 hours;	1	.1
c) 13 hours	33	4.2
c) 13 hours;a) 6.30 hours;	5	.6
c) 13 hours;a) 6.30 hours;b) 8.30hours;	1	.1
c) 13 hours;b) 8.30hours;	4	.5
c) 13 hours;b) 8.30hours;a) 6.30 hours;	1	.1
<b>Year of Experience in critical care at Apollo</b>		
1. 12- 24 months	258	32.7
2. 24-48 months	258	32.7
3. 48 – 96 Months	133	16.9
4. More than 96 months	101	12.8
5.No Experience	39	4.9
<b>Staffing consideration in your unit</b>		
a) Patient acuity and complexity	98	12.4
b) Nurse experience and expertise	60	7.6
c) Patient census in the unit	30	3.8
d) All of the above	601	76.2
<b>Have you ever Burned out?</b>		

a) Yes	318	40.3
b) No	471	59.7
<b>How do you think we can help you to overcome the situation.</b>		
a)Foster a supportive work culture	246	31.2
b)Provide resources and tool	107	13.6
c) Promote work life balance	399	50.6
Others	37	4.7

Tableshoving the frequency and percentage distribution of demographic profile of participants. Data presented in table 1 showed that maximum participants (83.7%) were female with 55.3 % participants completed B.Sc degree in nursing. Participants with critical care work experience before joining Apollo were 26.9% and about (63.6%) participants’ were getting allocation( Nurse: Patient ratio 1:2). It also showed that most of the participants (47.8%) were having shift schedule of 6.30hours. More than 59.7% experienced burned out before and almost 50.6% think that work life balance can help to overcome the situation of burnout.

**Section II-A**

**Table2:-** Frequency percentage of the burn out among critical care nurses based on itemise analysis of the Copenhagen burn out inventory. N=789

Scoring Criteria	100% ALWAYS		75% OFTEN		50% SOMETIMES		25% SELDOM		0% NEVER OR ALMOST NEVER	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
How often do you feel tired?	103	13.05%	202	25.60%	300	38.02%	109	13.81%	75	9.51%
How often are you physically exhausted?	87	11.03%	195	24.71%	259	32.83%	136	17.24%	112	14.20%
How often are you emotionally exhausted?	96	12.17%	166	21.04%	243	30.80%	155	19.65%	129	16.35%
How often do you think: "I can't take it anymore?"	65	8.24%	121	15.34%	216	27.38%	172	21.80%	215	27.25%
How often do you feel worn out?	48	6.08%	125	15.84%	232	29.40%	196	24.84%	188	23.83%
How often do you feel weak and susceptible to illness?	46	5.83%	0	0.00%	223	28.26%	355	44.99%	165	20.91%
Do you feel worn out at the end of the working day?	84	10.65%	0	0.00%	247	31.31%	307	38.91%	151	19.14%
Are you exhausted in the morning at the thought of another day at work?	62	7.86%	0	0.00%	216	27.38%	283	35.87%	228	28.90%
Do you feel that every working hour is tiring for	54	6.84%	0	0.00%	199	25.22%	271	34.35%	265	33.59%

you?										
Do you have enough energy for family and friends during leisure time?*	78	9.89%	0	0.00%	243	30.80%	325	41.19%	143	18.12%
Is your work emotionally exhausting?	74	9.38%	0	0.00%	236	29.91%	302	38.28%	177	22.43%
Does your work frustrate you?	73	9.25%	0	0.00%	225	28.52%	274	34.73%	217	27.50%
Do you feel burnt out because of your work?	60	7.60%	0	0.00%	0	0.00%	508	64.39%	221	28.01%
Do you find it hard to work with clients?	66	8.37%	0	0.00%	183	23.19%	276	34.98%	264	33.46%
Does it drain your energy to work with clients?	66	8.37%	0	0.00%	198	25.10%	289	36.63%	236	29.91%
Do you find it frustrating to work with clients?	35	4.44%	0	0.00%	187	23.70%	245	31.05%	322	40.81%
Do you feel that you give more than you get back when you work with clients?	91	11.53%	0	0.00%	213	27.00%	297	37.64%	188	23.83%
Are you tired of working with clients?	39	4.94%	0	0.00%	174	22.05%	254	32.19%	322	40.81%
Do you sometimes wonder how long you will be able to continue working with clients?	88	11.15%	0	0.00%	225	28.52%	273	34.60%	203	25.73%

Data presented in above table depicted that Highest burnout indicators:“Do you feel burnt out because of your work?” – 64.39% responded at 25% intensity; 28.01% at 0% (nearly full burnout).

Client-related fatigue (questions 14–19) shows low 100% ratings but high 0–25%, indicating deep-rooted exhaustion and detachment.

Physical & emotional exhaustion:Items 1–3 show moderate fatigue with 50% responses around 30–38%.

Still, emotional and physical fatigue is not at extreme levels (100%).

Work–life balance:41.19% of respondents do not have enough energy for family and friends during leisure time.

Emotional responses:Over 27% feel like they “can’t take it anymore”, with a gradual increase across 0–50% intensity.

**Table 3:-** Prevalence of burnout among critical care nurses. N=789

Burnout Level	Personal Burnout		Work related Burn out		Client (Patient)related burn out	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
<b>Low Burnout</b>	698	88.47%	689	87.33%	618	78.33%
<b>Moderate Burnout</b>	65	8.23%	68	8.62%	130	16.48%
<b>High Burnout</b>	26	3.30%	32	4.06%	41	5.20%

Data presented in above table showed that **most nurses report low burnout** across all domains, with over 88% in the personal domain and 87% in the work domain.

**Client-related burnout** shows the **highest moderate burnout** level at 16.48%, and the highest high burnout level at 5.20% among the three domains.

While high burnout levels are relatively low overall, **attention may be needed in client (patient)-facing roles** due to higher moderate and high burnout proportions.

**Section II-B**

**Table 4:-** Association between burnout and gender. N=789

Chi-Square Tests						Pearson Chi-Square	p value
			Burned out		Total		
			Yes	No			
Gender	a) Male	N	18	111	129	1.084	0.298
		Col %	13.3%	17.0%	16.3%		
	b) Female	N	117	543	660		
		Col %	86.7%	83.0%	83.7%		
Total	N		135	654	789		
	Col %		100.0%	100.0%	100.0%		

Data presented in above Table showed the association between burnout and gender .

It was observed that the calculated chi2 value was more than the ‘p’ value,so there were significant association between burnout and gender of the participants.

**Table 5:-** Association between burnout and Critical care work experience before joining Apollo. N=789

Chi-Square Tests						Pearson Chi-Square	p value
			Burned out		Total		
			Yes	No			
Critical care work experience before joining Apollo	a) 1-2 year	N	43	169	212	5.237	0.155
		Col %	31.9%	25.8%	26.9%		
	b) 2-3 year	N	21	98	119		
		Col %	15.6%	15.0%	15.1%		
	c) More than 3 year	N	18	140	158		
		Col %	13.3%	21.4%	20.0%		
	d) Nil	N	53	247	300		
		Col %	39.3%	37.8%	38.0%		
Total	N		135	654	789		
	Col %		100.0%	100.0%	100.0%		

Data presented in above Table showed the association between burnout and Critical care work experience before joining Apollo .

It was observed that the calculated chi2 value was more than the ‘p’ value, so there was significant association between burnout and Critical care work experience before joining Apolloof the participants

**Table 6:-** Association between burnout and staffing pattern (Nurse: Patient ratio).

N=789

Chi-Square Tests						Pearson Chi-Square	p value
			Burned out		Total		
			Yes	No			
Staffing pattern (Nurse: Patient ratio)	a) 1:1	N	21	119	140	2.197	0.333
		Col %	15.6%	18.2%	17.7%		
	b) 1:2	N	83	419	502		
		Col %	61.5%	64.1%	63.6%		
	c) 1:3	N	31	116	147		
		Col %	23.0%	17.7%	18.6%		
Total		N	135	654	789		
		Col %	100.0%	100.0%	100.0%		

Data presented in above Table showed the association between burnout and staffing pattern (Nurse: Patient ratio) It was observed that the calculated chi2 value was more than the ‘p’ value, so there was significant association between burnout and Staffing pattern (Nurse: Patient ratio)of the participants

**Table 7:-** Association between burnout and Year of Experience in critical care at Apollo. N=789

Chi-Square Tests						Pearson Chi-Square	p value
			Burned out		Total		
			Yes	No			
Year of Experience in critical care at Apollo	1. 12- 24 months	N	56	202	258	8.412	0.078
		Col %	41.5%	30.9%	32.7%		
	2. 24-48 months	N	45	213	258		
		Col %	33.3%	32.6%	32.7%		
	3. 48 – 96 Months	N	15	118	133		
		Col %	11.1%	18.0%	16.9%		
	4. More than 96 months	N	13	88	101		
		Col %	9.6%	13.5%	12.8%		
	5.No Experience	N	6	33	39		
		Col %	4.4%	5.0%	4.9%		
Total		N	135	654	789		
		Col %	100.0%	100.0%	100.0%		

Data presented in above Table showed the association between burnout and Year of Experience in critical care at Apollo

It was observed that the calculated chi2 value was more than the ‘p’ value, so there was significant association between burnout and Year of Experience in critical care at Apollo of the participants

**Discussion:-**

**In this study,** maximum participants (83.7%) were female, 55.3%completed B.Sc degree in nursing. Participants with critical care work experience before joining Apollo were 26.9% and about (63.6%) participants’ were getting allocation ( Nurse: Patient ratio 1:2). It also showed that most of the participants (47.8%) were having shift schedule of 6.30 hours. More than 59.7% experienced burned out before and almost 50.6% think that work life balance can help to overcome the situation of burnout, Where Kumar Amit et al<sup>4</sup>conducted a study onBurnout and its correlates among nursing staff of intensive care units at a tertiary care center among 150 nurses and found thatmajority of the participants were females, unmarried and completed Diploma in General Nursing and Midwifery (GNM). Most of them had some form of training in Intensive Care but almost half of them had experience less than 1 year. Majority of the participants were level one & two nurses, working in shift duties and had contractual appointments.

The present study revealed that maximum participant had lowburn out (personal: 88.47%, work related 87.33% and patient related 78.33%) whereas few participant experienced high burned out which is patient related(5.20%),

similar study was conducted by Sahar Yaqoob Yousif<sup>5</sup>, found that a high prevalence of overall burnout among nurses, with a mean score of 2.53.

This study also showed that there were significant association between burnout and gender, critical care work experience before joining Apollo, staffing pattern, and critical care experience Apollo and a similar finding was observed by Hovland S I et al, conducted a longitudinal study and multivariate analysis showed statistically significant associations of burnout caseness with fewer years of professional experience ( $p = .041$ ) and borderline significance of perceived support by leader.

### **Limitation:-**

The study finding could not be generalized because:

1. No randomization was used for selection of sample.
2. The study was limited only to assess the burnout of critical care staff more than one year of experience.

### **Future Scope:-**

1. A similar study may be conducted on a larger sample, in different settings.
2. Longitudinal study could be conducted to assess the effect of burnout in long run.
3. A comparative study can be conducted with critical care and non-critical care staff and in Government and private Hospital.
4. After identification of existing status of the burnout, an exploratory survey can be carried out to find out the reducing factors.

### **Conclusion:-**

Findings from the present study provides an indicative picture of the burnout of critical care staff for more than one year. The High burnout was noticed among critical care staff nurses in patient related domain and suggested that potential areas that can be targeted for therapeutic intervention like improve work life balance and counselling if needed. This could enhance the improvement of patients care and gives the opportunities for various staff development program to motivate them.

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