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Unseen Struggles: A Correlational Study on Stress, Fatigue, and Burnout Among ICU Nurses

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ABSTRACT

Staff nurses working in the ICU are at the forefront of patient care, responsible for monitoring patients' conditions, administering treatments, and providing emotional support to both patients and their families. Intensive Care Units (ICUs) are critical departments in healthcare settings that cater to patients with severe, life-threatening illnesses or injuries. Given the potential consequences of stress, fatigue, and burnout on nurses' well-being and patient care, healthcare institutions have started recognizing the need for preventive measures and support systems. The objective of the study was to assess the perception of stress, fatigue and burnout among nurses working in ICU, to correlate the perception of stress, fatigue and burnout among nurses working in ICU and to associate the perception of stress, fatigue and burnout among nurses working in ICU with their demographic variables. The research approach was quantitative and the research design was non-experimental descriptive research design. The samples were selected by non– probability method and the sample size was 60 staff nurses working in ICU. The study was conducted at SRM General Hospital and Research Centre, Kattankulathur, Chengalpattu District. The study finding concludes that majority of level of perception of stress among the staff nurses, 50(83.33%) had average stress, 7(11.67) had high stress and 3(5.0%) had less stress. In relation to level of fatigue shows that among the staff nurses, 29(48.34%) had less fatigue, 26(43.33%) had average fatigue and 5(8.33%) had high fatigue respectively. Regarding level of burnout shows that among the staff nurses, 54(90%) had average burnout, 4(6.67%) had high burnout and 2(3.33%) had less burnout. Positive correlation was observed between stress and burnout. Hence, there is a need of hospitals administration to emphasize on the strategies which can increase the satisfaction of the nurses decrease the level of stress, fatigue and ultimately decreases the job burnout.

Keywords: *Assess, Nurses, Stress, Burnout, Fatigue*

1. INTRODUCTION

The intensive care unit (ICU) plays a crucial role in providing specialized and intensive medical care to critically ill patients, making it one of the most challenging and demanding departments within a hospital. Staff nurses working in the ICU are at the forefront of patient care, responsible for monitoring patients' conditions, administering treatments, and providing emotional support to both patients and their families.

The nature of the ICU environment, with its high-stress and high-pressure situations, can significantly impact the well-being and mental health of the nursing staff. Constant exposure to critical medical conditions, long working hours, heavy workloads, and the need for quick decision-making can lead to various negative consequences, including stress, fatigue, and burnout. This includes discussion with patient family and relatives about the risk of death, to disclose deaths especially in an unexpected situation and to discuss end of life issues.

When stress persists for an extended period of time, it can result in burnout, which can then lower personal wellbeing, raise absenteeism, increase mistakes, and eventually damage patient care.

A significant corpus of study, in addition to certain broad indicators, has been conducted on stress in nursing. For instance, early 1980s occupational death data showed that female nurses' suicide rates were far higher than the country as a whole. Furthermore, it was shown that a nurse's life expectancy at 45 years old was 26.9 years, just one year longer than a miner who worked underground. It has been shown that critical care unit nurses experience high levels of stress. One of the factors

contributing to the rise in psychological illness among working adults is burnout. When Fredeunberger first proposed the idea of burnout in 1974, it was more frequently observed in professions where employees had direct contact with clients; yet, over time, it was also observed in other fields.

NohaSelim Mohamed Elshaer, Mona ShawkyAlyMoustafa , Mona WagdyAiad , et,al (2018) was conducted a cross sectional study to assess the job satisfaction and burn out among 82 nurses. This study was conducted to determine the relationship between job stress and burnout syndrome among nurses and healthcare technicians at the surgical emergency department and intensive care unit of Critical Care department at the Alexandria University . Hospital Data was collected by an interview questionnaire using selected subscales of NIOSH Generic job stress Questionnaire and Maslach Burnout Inventory of Health and human service Questionnaire. The relationship between BOS and job stress was examined using bivariate and multivariate analyses. Results showed that although majority of participants reported variation of workload (84.15%), quantitative overload (76.8%), responsibility for peoples' life (69.5%) and lack of perceived control (63.41%), yet, 85.4% were satisfied with their job. Moreover, high levels of emotional exhaustion was reported by the majority of participants (80%), while less than one third reported either high levels of depersonalization or low levels of personal accomplishment domains of BOS. In multiple regression analysis, skill underutilization, variation in workload, and intra group conflicts were negatively associated with BOS domains. While, job satisfaction and responsibility for peoples' life were positively associated with personal accomplishment domain of BOS. Critical care HCWs had high BOS.

Sujatha R. Kannappan, Jacintha Veigas (2021), The purpose of this study was to evaluate perceived stress and resilience in nurses employed at a particular hospital. The researchers selected 65 nurses using the non probability sampling method and the descriptive correlation methodology. The Connor-Davidson resilience measure, the perceived stress scale, and demographic characteristics were used to gather data. Researchers discovered that nurses had an intermediate level of resilience (73.8%) and a moderate level of stress (61.5%). They also observed a slight connection (p-value of 0.071 and estimated value of 0.226) between felt stress and resilience. A correlation was observed between the frequency of night work, educational attainment, and the perception of stress.

Odvorica, E. , Rrmoku, B. , Metaj, A. and Gashi, H. (2020) The purpose of this research was to evaluate the stress levels of nurses employed at Central Intensive Care and Emergency Clinics. Ninety nurses participated in the study, forty-five of whom worked in central intensive care and forty-five of whom worked in emergency clinics. The Emergency Nurse Stress Questionnaire was used by the study as a tool to collect data. The Operational Police Stress Questionnaire served as the model for this questionnaire. The cohort of nurses ranged in age from 20 to 62. Of the respondents, 33.3% had recently finished secondary school, 58 (64.4%) were married, 40 (44.4%) were in the 20–30 age group, and 60 (66.6%) held a bachelor's degree.

2. MATERIALS AND METHODS

Quantitative non experimental research approach used with a descriptive design. The study is conducted in SRM Medical College Hospital and Research Centre, Kattankulathur, Chengalpattu District. Convenient sampling technique sampling technique is adopted. The tool utilized is structured questionnaire to assess the demographic variables and standardized tools used to evaluate the perception in stress, fatigue and staff nurses burnout in ICU such as Perceived Stress Scale , Compassion Satisfaction and Fatigue (PROQOL) Version 5 (2009) and Professional Quality Of Life Scale (PROQOL) respectively.

3. RESULTS

Demographic variables of staff nurses working in ICU

The staff nurses, 55(91.7%) were aged between 21 – 30 years, 49(81.7%) were female, 43(71.7%) were unmarried, 46(76.7%) had no parental status, 54(90%) were graduates, 29(48.3%) had an experience as a ICU nurse for more than 12 months, 38(63.3%) were staying in hostel, 34(56.6%) were residing in urban area, 38(63.3%) had an income of Rs.12,000 – 15,000 per month and 14(23.4%) had an updated family income of Rs.49,962 – 74.255 per month.

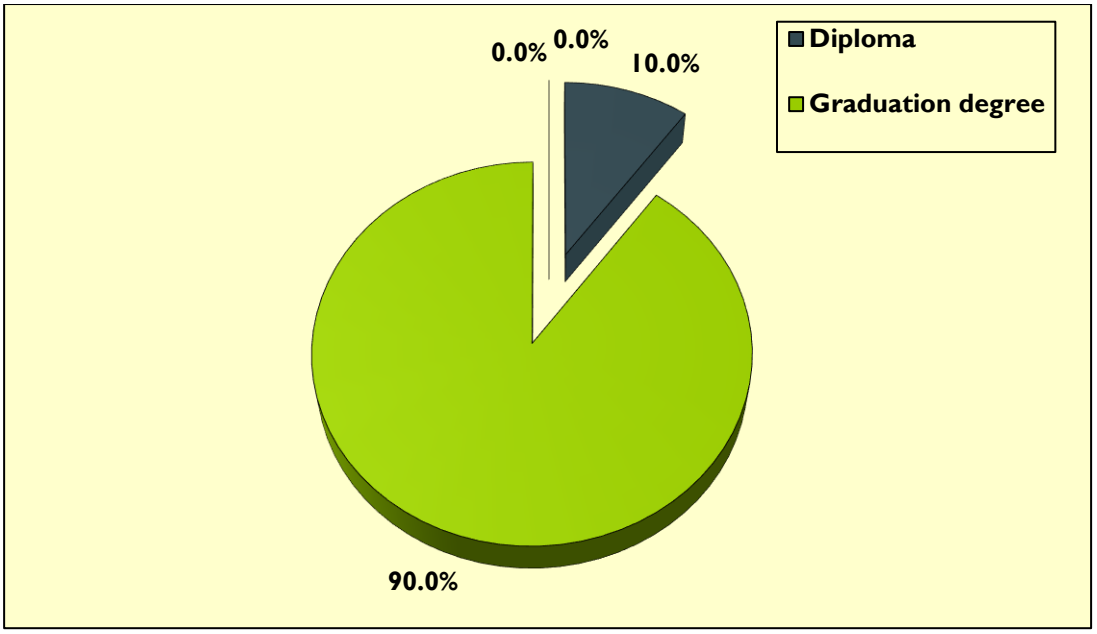

Figure 1 Frequency and percentage distribution of level of stress among the staff nurses

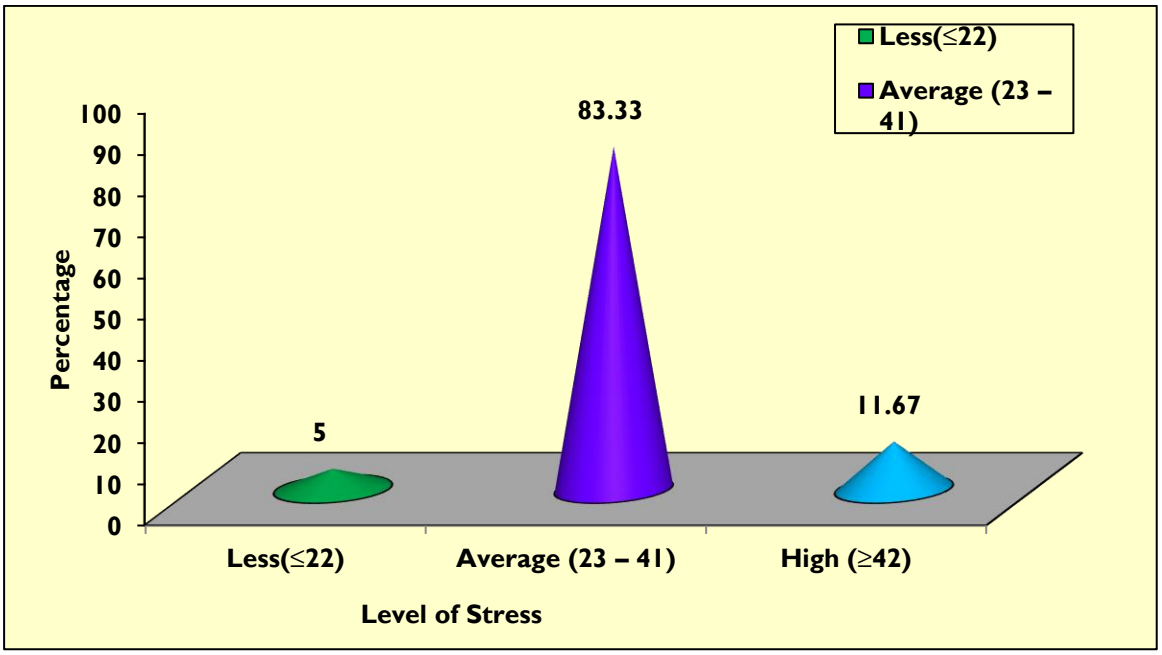

Figure 2 Percentage distribution of level of stress among the staff nurses

The Figure 2 shows that among the staff nurses, 50(83.33%) had average stress, 7(11.67) had high stress and 3(5.0%) had less stress.

Frequency and percentage distribution of level of fatigue among the staff nurses

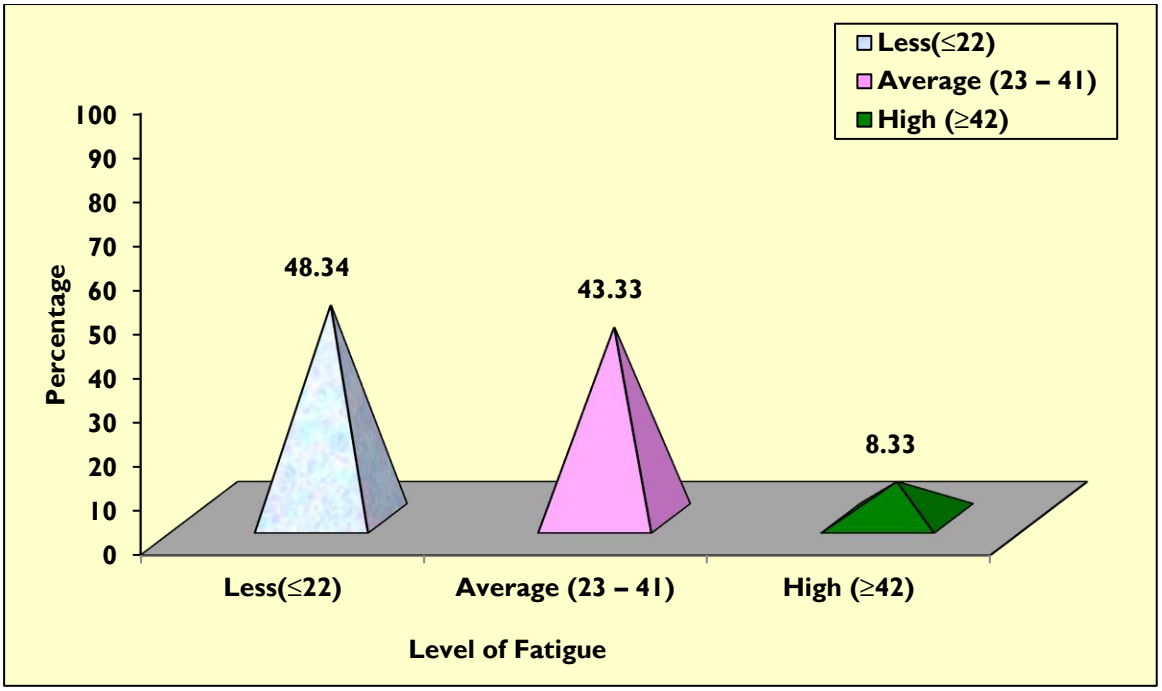

Figure 3 Percentage distribtion of level of fatigue among the staff nurses

The Figure 3 shows that among the staff nurses, 29(48.34%) had less fatigue, 26(43.33%) had average fatigue and 5(8.33%) had high fatigue.

Frequency and percentage distribution of level of burnout among the staff nurses

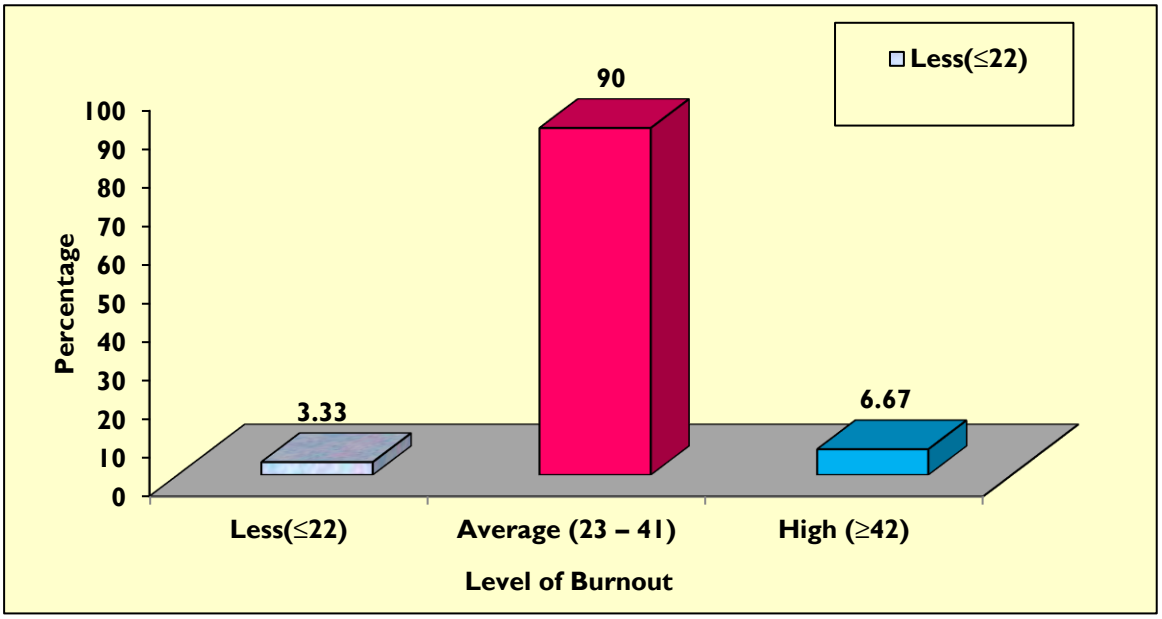

Figure 4 Percentage distribution of level of burnout among the staff nurses

The figure 4 shows that among the staff nurses, 54(90%) had average burnout, 4(6.67%) had high burnout and 2(3.33%) had less burnout.

Table 1: Correlation between the stress, fatigue, burnout among the staff nurses n = 60

		Stress	Fatigue	Burnout
Stress	Pearson Correlation	**-.425****	**.400****	**.342****
	p-value	.001	.002	.008
Fatigue	Pearson Correlation	**.400****	**-.339****	**-.291***
	p-value	.002	.008	.024
Burnout	Pearson Correlation	**.342****	**-.339****	**.839****
	p-value	.008	.008	.000

**-Significant at 5% level **-Significant at 1% level*

The table 1 shows that a positive correlation was observed between stress, burnout which infers that when perceived increases ultimately burnout and stress among the staff nurses increases and negative correlation was observed between fatigue and burnout which clearly infers that when stress, burnout and secondary traumatic stress increases then it decreases the fatigue among the staff nurses.

Table 2: Association of level of stress, fatigue and burnout among staff nurses with their selected demographic variables n = 60

Demographic Variables	Frequency	Stress Chi-Square & p-value	Fatigue Chi-Square & p-value	Burnout Chi-Square & p-value
Aged		χ^2=2.138	χ^2=2.147	χ^2=1.697
between 21 and 30 years	55	d.f=1	d.f=2	d.f=2
between 31 and 40 years old	5	p=0.144	p=0.342	p=0.428
41 to 50 years old	-	N.S	N.S	N.S
Gender		χ^2=0.557	χ^2=2.477	χ^2=2.239
Male	11	d.f=1	d.f=2	d.f=2
Female	49	p=0.456	p=0.290	p=0.326
		N.S	N.S	N.S
Marital status		χ^2=0.016	χ^2=2.319	χ^2=1.724
Married	17	d.f=1	d.f=2	d.f=2
Unmarried	43	p=0.898	p=0.314	p=0.422
Separated	-	N.S	N.S	N.S
Parental status		χ^2=1.863	χ^2=3.357	χ^2=2.236
Yes	14	d.f=1	d.f=2	d.f=2

Demographic Variables	Frequency	Stress Chi-Square & p-value	Fatigue Chi-Square & p-value	Burnout Chi-Square & p-value
No	46	p=0.172 N.S	p=0.187 N.S	p=0.327 N.S
Educational qualification				
Diploma	6			
Graduation degree	54	χ^2=1.333 d.f=1 p=0.248 N.S	χ^2=5.464 d.f=2 p=0.065 N.S	**χ^2=7.737 d.f=2 p=0.021 S***
Intermediate specify	-			
Master or higher	-			
Experience as a ICU Nurse		χ^2=0.338 d.f=2 p=0.844 N.S	χ^2=5.348 d.f=4 p=0.253 N.S	χ^2=7.354 d.f=4 p=0.118 N.S
3 – 6 months	10			
6 – 12 months	21			
More than 12 months	29			
Type of stay		χ^2=0.230 d.f=1 p=0.632 N.S	χ^2=3.344 d.f=2 p=0.188 N.S	χ^2=1.431 d.f=2 p=0.489 N.S
Hostel	38			
Outside	22			
Type of dwelling		χ^2=1.214 d.f=2 p=0.545 N.S	χ^2=4.890 d.f=4 p=0.299 N.S	χ^2=1.448 d.f=4 p=0.836 N.S
Rural	16			
Urban	34			
Semi-urban	10			
Income (Per month)		χ^2=4.787 d.f=2 p=0.091 N.S	χ^2=2.987 d.f=4 p=0.560 N.S	χ^2=8.892 d.f=4 p=0.064 N.S
12,000 – 15,000	38			
15,000 – 18,000	17			
More than 18,000	5			
Updated monthly family income (in Rupees)				
>199,862	8	χ^2=8.471 d.f=6 p=0.206 N.S	χ^2=15.515 d.f=12 p=0.214 N.S	**χ^2=27.945 d.f=12 p=0.006 S****
99,931-199,861	10			
74,756-99,930	8			
49,962-74,755	14			
29,972-49,961	6			
10,002-29,972	11			

Demographic Variables	Frequency	Stress Chi-Square & p-value	Fatigue Chi-Square & p-value	Burnout Chi-Square & p-value
<10,001	3			

**-Significant at 5% level **-Significant at 1% level*

The table 2 shows that the demographic variables updated monthly family in come and education qualification showed statistically noteworthy correlation between the degree ofburnout among staff nurses at p<0.001. The other demographic variableslike age, gender, Status of marriage, parental status, experience for working, kind of stay, type in residence, income could not demonstrate a statistically meaningful correlation with the degree of stress, fatigue and staff nurses' burnout.

4. DISCUSSION

The findings evidenced that the assessment of level of perception of stress reveals that among the staff nurses, 50(83.33%) had average stress, 7(11.67) had high stress and 3(5.0%) had less stress. In relation to level of fatigue shows that among the staff nurses, 29(48.34%) had less fatigue, 26(43.33%) had average fatigue and 5(8.33%) had high fatigue respectively. Regarding level of burnout shows that among the staff nurses, 54(90%) had average burnout, 4(6.67%) had high burnout and 2(3.33%) had less burnout. Regarding correlation between the stress, fatigue, burnout among the staff nurses reveals that a positive correlation was observed between stress and burnout which infers that when perceived increases ultimately burnout and stress among the staff nurses increases and negative correlation was observed between fatigue and burnout which clearly infers that when stress, burnout and secondary traumatic stress increases then it decreases the fatigue among the staff nurses. The study findings reveals that the demographic variables updated monthly family income and education qualification showed statistically significant association with staff nurses' degree of burnout atp < 0.001.

5. CONCLUSION

It should come as no surprise that nursing is one of the most stressful professions, with high rates of employee burnout, absenteeism, and staff turnover. The numerous causes of stress and burnout among ICU nurses were the main focus of the current investigation. The study finding concludes that majority of level of perception of stress among the staff nurses, 50(83.33%) had average stress, 7(11.67) had high stress and 3(5.0%) had less stress. In relation to level of fatigue shows that among the staff nurses, 29(48.34%) had less fatigue, 26(43.33%) had average fatigue and 5(8.33%) had high fatigue respectively. Regarding degree of burnout among staff nurses demonstrates, 54(90%) had average burnout, 4(6.67%) had high burnout and 2(3.33%) had less burnout. Hence, there is a need of Hospital administration should place a focus on tactics that can raise nurses' job happiness decrease a level of stress, fatigue and eventually lessens burnout from the task.

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DECLARTION OF CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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AUTHOR CONTRIBUTION

The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation**.**

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