

Stress and Coping Strategies Among CCU and Non CCU Nurses in Selected Hospital, Kolkata

Sucheta Samanta¹, Rita Maiti²

¹Clinical Instructor, Govt College of Nursing, Kharagpur Sub - divisional Hospital, Kharagpur - 721301
Corresponding Author Email: [suchetasamanta2021\[at\]gmail.com](mailto:suchetasamanta2021[at]gmail.com)

²Senior Lecturer, Govt College of Nursing, N. R. S Medical College & Hospital, Kolkata - 700014

Abstract: Background: Nurses are angels of health care delivery system in comfortable shoes. Caring of ill person is the essence of nursing. Nursing is a highly stressful profession. As, the increased demand and advance in the nursing career, stress among nurses has also escalated. Now a day stress among nurses is a big problem. Coping strategies are used by staff nurses to combat the stress. In line with, investigator intended to study the stress and coping strategies among staff nurses working in Critical Care Unit and Non Critical Care Unit in a selected hospital, Kolkata. Material and Methods: A descriptive comparative study was adopted to assess the stress and coping strategies among staff nurses working in Critical Care Unit and Non Critical Care Unit in IPGMER and SSKM Hospital, Kolkata. 100 staff nurses were selected from IPGMER & SSKM Hospital by Non probability purposive sampling technique and data was collected by using three different tools, structured questionnaire for demographic profile, structured rating scale for job stress and structured rating scale for coping strategies. The descriptive statistics were used to analyze the data based on objectives of the study. Results: The results showed that the maximum 33 (66%) of staff nurses working in Critical Care Unit had moderate stress, followed by 15 (30%) had severe stress and majority 43 (86%) of staff nurses working in Non Critical Care Unit had moderate stress, followed by only 4 (8%) had severe stress and both majority Critical care and Non critical care nurses had career development related stress (77% CCU and 72% Non CCU) and both Critical care and Non critical care nurses used emotion focused coping strategies (78.5% CCU and 68% Non CCU). Conclusion: The study had important implication in various field of nursing education, administration and research which paves the way for further research. It was strongly recommended that a regular assessment of stress and stress reduction program can be arranged to reduce stress among nurses which helps to improve the quality of care of the patient.

Keywords: Stress, Coping strategies, Critical Care Unit, Non - Critical Care Unit

1. Introduction

Nurses are angels of health care delivery system in comfortable shoes. Caring of ill person is the essence of nursing. Nursing is generally viewed as a demanding profession.¹ As, the increased demand and advance in the nursing career, stress among nurses has also escalated. Now a day stress among nurses is a big problem. Dr. Hans Selye, born in 1942, Australia, Director of The institute of experimental medicine and surgery at the University of Montreal, coined the word stress. Coping is defined as investment of own consciousness attempt to overcome the personal and professional and interpersonal problems to minimize stress. Research on stress shows that people tend to use a number of different coping strategies (emotion - focused coping strategies, problem - focused coping strategies, positive thinking, venting, escaping etc) rather than one.^(2, 3, 4)

ICUs are the backgrounds for extremely stressful situations that resulted from the regular expectation of emergencies, high technological complexity, and concentration of severely injured patients subject to sudden changes in their general health status. Another factor that stimulated stress within the ICU were the difficulty of accepting death, scarcity of material resources (beds and equipment) and human resources, and tense decision - making processes related to the selection of patients who will be assisted.⁽⁵⁾ It is observed that Non - ICU nurses are stressed due to odor and sounds in working area, conflicts with patients and their relatives and lack of equipments and drugs.⁽⁶⁾ Occupational stress affected nurse's health related quality of life

negatively and it also influenced on patient outcome and contact with death, patients and their families, conflicts with supervisors and uncertainty about the therapeutic effect.^(7, 8, 9) In the World wide scenario, a meta - analysis on the prevalence of the work stress among nurses showed that 69% of nurses in the United Arab Emirates suffered from stress^(10, 11, 12) and Mwinga C and Mugala D founded 93% of job stress among nurses in Zambia.⁽¹³⁾ Another study from Australia reported that 41.2% staff nurses experienced work related stress.⁽¹⁴⁾ In Indian Scenario, it is observed 87.6% nurses experienced stress about 51.5% nurses experienced mild stress and 34% experienced moderate stress.^(15, 16, 17, 18, 19, 20) In, West Bengal, it is observed that maximum nurses having moderate job related stress (80.65%) followed by 8.06% severe stress.⁽²¹⁾

The investigator, during her working experience in critical and non - critical area, has come across several stress factors affecting the nursing personnel and various coping mechanism they adopt to reduce or tackle the stress and limited study was done regarding this matter. So, the researcher felt more interest to compare the stress and coping strategies among critical care and Non critical care nurses is needed in this context and as a clinician nurse want to study this.

2. Materials and Method

Research Approach: Quantitative research approach

Research Design: Comparative descriptive research design.

Setting: Final study was conducted at Critical Care Unit and General Medicine Ward in IPGMER and SSKM Hospital, Kolkata in the month of February 2022 to March 2022.

Population: Staff nurses who are working in Critical Care Unit and General Medicine ward.

Sample and Sampling Technique: Staff nurses who are working in Critical Care Unit and General Medicine ward in IPGMER and SSKM Hospital, Kolkata and who meet inclusion and exclusion criteria. Non probability purposive sampling technique is adopted for the study.

Table 1: Data collection tools and techniques

Variable to be Measured	Tool	Technique
Demographic variable	TOOL 1 Structured Questionnaire	Self - report
The level of stress	TOOL 2 Structured Rating scale	Self - report
Coping strategies	TOOL 3 Structured Rating scale	Self - report

3. Results

Description of socio - demographic characteristics:

Out of 100, both 32 (64%) of Critical Care nurses and Non Critical Care nurses belonged to the age group of 25 - 35. Majority 29 (58%) of the Critical Care Unit nurses working experience were 1 to 5 years and majority 27 (54%) of non-Critical Care Unit nurses working experience were 1 to 5 years. Majority 33 (66%) of staff nurses in non- Critical Care Unit had no children and majority 28 (56%) of staff nurses in Critical Care Unit had no children.

$n_1+n_2= 50+50$

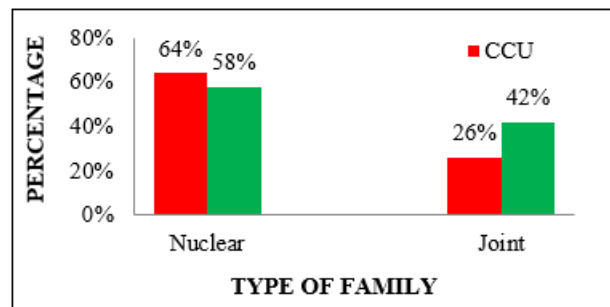


Figure 1: Bar diagram representing percentage distribution of the staff nurses as per their type of family, $n_1+n_2= 50+50$

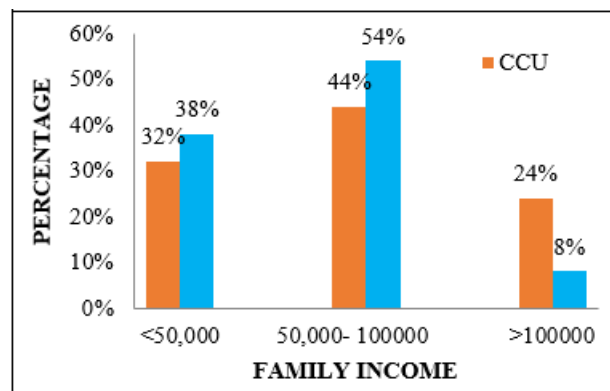


Figure 2: Bar diagram representing percentage distribution of the staff nurses as per their family income

Description of stress among CCU and Non CCU nurses:

Table 2: Distribution of staff nurses according to the level of stress score, $n_1+n_2= 50+50$

Coping Strategy	Range of score	Nurses working in	
		CCU (n=50) f (%)	Non CCU (n=50) f (%)
Mild stress	0 - 27	2 (4)	3 (6)
Moderate stress	28 - 53	33 (66)	43 (86)
Severe stress	54 - 82	15 (30)	4 (8)

NB maximum Score = 82, minimum Score = 0

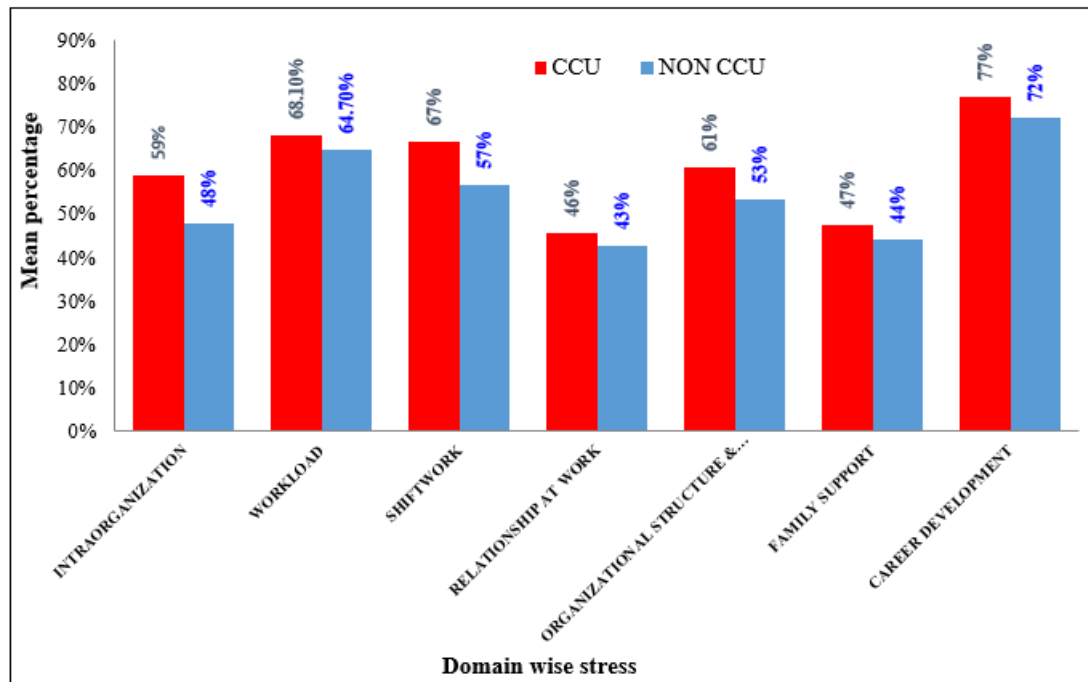
$n_1+n_2= 50+50$


Figure 3: Domain wise comparison of mean percentage stress score among staff nurses working in Critical Care Unit and Non Critical Care Unit

Description of Coping strategies adopted by CCU and Non CCU nurses:

Table 3: Distribution of staff nurses according to adopted Coping Strategy score, $n_1+n_2= 50+50$

Coping Strategy	Range of score	Nurses working in	
		CCU (n=50), f (%)	Non CCU (n=50), f (%)
Poor Coping	0 - 24	8 (16)	2 (4)
Good Coping	25 - 48	39 (78)	43 (86)
Very Good Coping	49 - 72	3 (6)	5 (10)

NB maximum Score = 72, minimum Score = 0

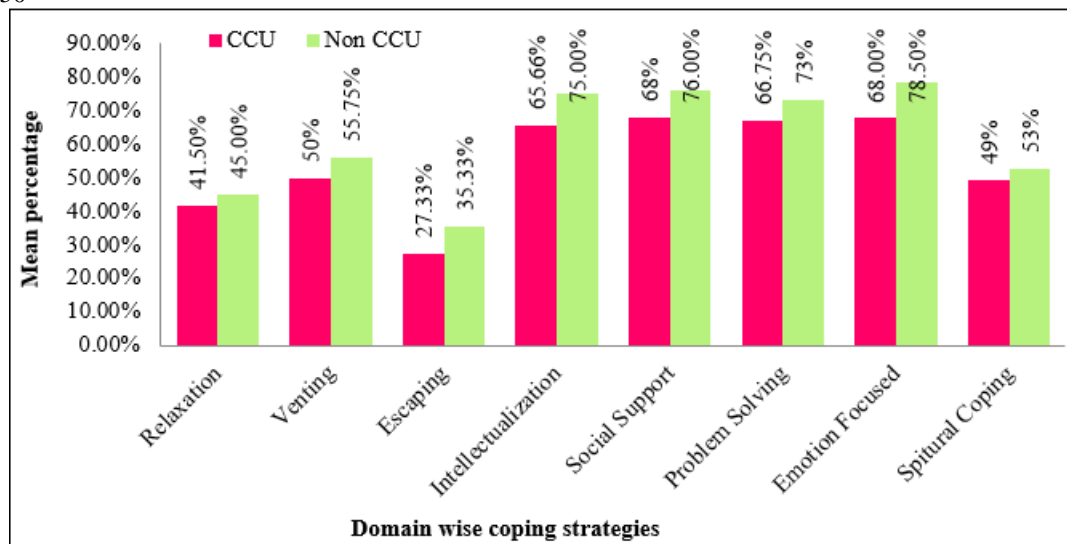
 $n_1+n_2= 50+50$


Figure 4: Domain wise comparison of mean percentage Coping Strategies score among staff nurses working in Critical Care Unit and Non Critical Care Unit

Findings related to the comparison of the level of stress among staff nurses working in Critical Care Unit and Non Critical Care Unit

Table 4: Comparison of the stress among staff nurses working in Critical Care Unit and Non Critical Care Unit, $n_1+n_2= 50+50$

Units of work	The Stress level Range of score	Mean (SD)	Mean difference	t Value
CCU	0 - 82	49.08 (11.24)	5.26	2.73*
Non CCU		43.82 (7.74)		

*t' df (98) = 1.98 * Significant $p < 0.05$

Data presented in table 5 compares the mean stress score between two units (CCU and Non CCU) using unpaired 't' test. The significant 't' value (2.73) at df 98 and 0.05 level of significance showed that the mean stress score of CCU nurses were significantly more than that of Non CCU nurses.

Findings related to the comparison of Coping Strategies adopted by staff nurses working in Critical Care Unit and Non Critical Care Unit.

Table 5: Comparison of Coping Strategies among staff nurses working in Critical Care Unit and Non Critical Care Unit, $n_1+n_2= 50+50$

Units of work	The Coping strategies Range of score	Mean (SD)	Mean difference	t Value
CCU	0.72	35.7 (8.6)	4.4	2.67*
Non CCU		40.1 (7.74)		

*t' df (98) = 1.98 * Significant $p < 0.05$

Data presented in table 9 compares the mean coping score between the two units (CCU and Non CCU) using unpaired 't' test. The significant 't' value (2.67) at df 98 and 0.05 level of significance showed that the mean coping score of Non CCU nurses are significantly more than that of CCU nurses.

Findings related to the relationship between the level of stress and Coping Strategies among staff nurses working in Critical Care Unit.

Table 6 Correlation between the level of stress and Coping Strategies among Critical Care nurses, $n_1+n_2= 50+50$

Variables	Mean (SD)	Correlation	P value
Stress	49.08 (11.24)	- 0.457	.008*
Coping strategies	35.7 (8.6)		

* Significant ($p < 0.05$)

Data presented in table 6 shows that there was moderate negative correlation ($r = - 0.457$) which was significant ($p = 0.008$) between the level of stress and coping Strategies scores of staff nurses working in Critical Care Unit.

Findings related to the relationship between the level of stress and Coping Strategies among staff nurses working in Non Critical Care Unit.

Table 7: Correlation between the stress and Coping Strategies among nurses who working in Non Critical Care Unit.

Variables	Mean (SD)	Correlation	P value
Stress	43.82 (11.24)	- 0.477	.00046*
Coping strategies	40.1 (7.74)		

* Significant $p < 0.05$

Data presented in table 7 shows that there was moderate negative correlation ($r = - 0.477$) which was significant ($p = 0.00046$) between the level of stress and coping Strategies scores of staff nurses in Non Critical Care Unit.

Finding related to the association between the Level of Stress and coping strategies among Staff nurses working in Critical Care and Non Critical Care Unit with Selected demographic variables.

There was no statistically significant association between level of stress and coping strategies among staff nurses working in Critical Care unit and non critical care unit with selected demographic variables.

4. Discussion

Major findings of the study

Findings related to the level of Stress among Staff nurses working in Critical Care Unit and Non Critical Care Unit.

- Among the Critical Care nurses 33 (66%) experienced moderate level of stress.
- 15 (30%) Critical Care nurses suffered from severe level of stress.
- Only 8% of staff nurses in the Non Critical Care Unit experienced severe stress.
- Majority 43 (86%) staff nurses working in Non Critical Care Unit experienced moderate level of stress.
- Majority 77% staff nurses working in Critical Care Unit and 72% staff nurses working in Non Critical Care Unit had more stress in the domain of career development.

Findings related to the Coping Strategies used by staff nurses working in Critical Care Unit and Non Critical Care Unit.

- Majority 39 (78%) of nurses working in Critical Care Unit had good coping Strategies.
- Majority 43 (86%) of nurses working in Non Critical Care Unit had good coping Strategies.
- Majority 68% staff nurses working in Critical Care Unit both adopted more coping strategies in the domain of emotion focused and social support.
- Majority 78.5% staff nurses working in Non Critical Care Unit adopted more coping strategies in the domain of emotion focused.

Comparison of the level of stress and Coping Strategies among CCU and Non CCU nurses.

- Critical Care nurses were having more stress than Non Critical Care Nurses.
- Staff nurses who working in Non Critical Care Unit had used more coping strategies than Critical Care Nurses.

Relationship between the level of stress and Coping Strategies among CCU and Non CCU nurses.

The level of stress and coping strategies would depend with each other in the present study.

Discussion in relation to other studies

The study findings were supported with a cross sectional descriptive study conducted by N Sutharshan, MB Nufia, et al. in February 2021 and other studies. ^(3, 15, 22) These studies

concluded that 30% of nurses had higher level of stress while 45% had moderate level of perceived stress in Critical Care Unit. Some studies supported that the stress level is higher in CCU than Non CCU and Non CCU staff nurses uses more coping strategies than CCU nurses. ^(23, 24, 25) But few studies is inconsistent to the study result and conclude that the stress level is higher in Non CCU nurses than CCU nurses. ⁽⁴⁶⁾

5. Conclusion

From the findings of the present study the researcher had come to the conclusion that staff nurses working in Critical Care Unit suffered greater stress than staff nurses working in Non Critical Care Unit.

6. Limitation

- Non – probability purposive sampling technique was used for selecting sample which reduces the scope of generalization.
- As study was conducted only in one government hospital setting generalization of the study finding is limited.
- Limited sample size is 100 which restricted the finding to be generalized.
- The time of data collection was only 4 weeks.

7. Recommendation

On the basis of the findings the following recommendation can be suggested for the future study -

- The present study findings will be motivating the other researchers to conduct new studies with different variables in large scale.
- Similar study can be conducted with different types of intervention like meditation, yoga, laughter therapy to find out the effectiveness of intervention in managing stress.
- A similar study can be replicated on different government hospital among staff nurses.

Conflicts of Interest

None

Acknowledgements

Author is deeply indebted to her guide Smt. Rita Maiti, Senior Lecturer, Government College of Nursing, for her expert guidance.

Funding

The researcher did not receive any funding from any public or private agency.

References

- [1] Rajeswari H, B Sreelekha. (2016). Stress among Nurses in a Tertiary Care Hospital. *International Journal of Indian Psychology*, 3 (2), <http://doi.org/10.25215/0302.036> DIP: 18.01.036/20160302
- [2] Jan F. (2017). Level of Stress among Staff Nurses Working In Emergency And General Wards Of Skims Hospital; A Comparative Study. *International Journal of Advanced Research*, 5 (4), 1469 - 1476.
- [3] Sutharshan N, Nufais M, Shrirajanie N, Abdul Munaff M, Kisokanth G. (2021). Perceived work - related stress and coping strategies among critical care nurses – A preliminary study from Sri Lanka. *International Journal of Occupational Safety and Health*, 11 (2), 95 - 99.
- [4] Ramezanil Somayeh, Koshkaki Afifeh, Talebizadeh, Jahromi Z, Jahromi M. (2015). A Study of the Coping Strategies Used by Nurses Working in the Intensive Care Units of Hospitals Affiliated to Jahrom University of Medical Sciences. *International Journal of Current Microbiology and Applied Science*, 4 (4), 157 - 163.
- [5] Preto Alina V, Pedrao J L. (2009). Stress among nurses who work at the intensive care unit. *Rev Esc Enferm USP*, 43 (4), 838 - 45.
- [6] Acharya S, Kaushik A, Ravikiran S, Suprasanna K, Nayak M, Baliga K. (2021). Depression, anxiety, stress and workplace stressors among nurses in tertiary health care settings. *Indian Journal of Occupational and Environmental Medicine*, 25 (1), 27.
- [7] Sarafis P, Rousaki E, Tsounis A, Malliarou M, Lahana L, Bamidis P, et al. (2016). The impact of occupational stress on nurses' caring behaviors and their health related quality of life. *BMC Nurs [Internet]*, 15 (1). <http://dx.doi.org/10.1186/s12912-016-0178-y>
- [8] Ko W, Kiser - Larson N. (2016). Stress Levels of Nurses in Oncology Outpatient Units. *Clinical Journal of Oncology Nursing*, 20 (2), 158 - 164.
- [9] Varma Mrinal Mugdh, Vohra Sandeep, Goswami Shanta, Angela S, Khurana Divyani. (2016). Addressing stress among Nurses in India. *Journal of Nursing Research Society of India*, 9 (2), 63 - 70.
- [10] Bai J, Ravindran V. (2019). Job stress among nurses. *Indian Journal of Continuing Nursing Education*, 20 (2), 92.
- [11] Najimi Arash, Goudarzi Moazemi A, Sharifirad G. (2012). Causes of job stress in nurses: A cross - sectional study. *Iranian Journal of Nursing and Midwifery Research*, 17 (4), 301 - 305.
- [12] Faraji A, Karimi M, Azizi M S, Janatolmakan M, Khatony A. (2019). Occupational stress and its related demographic factors among Iranian CCU nurses: a cross sectional study. *BMC Research Notes*, 12, 634. <https://doi.org/10.1186/s13104-019-4674-5>
- [13] Mwinga. C and Mugala. D. (2015). Prevalence and causes of stress among nurses at Ndola Central Hospital – A nurses' perspective. *International Journal of Novel Research in Healthcare and Nursing*, 2 (3), 158 - 165.
- [14] Maharaj S, Lees T, Lal S. (2018). Prevalence and Risk Factors of Depression, Anxiety, and Stress in a Cohort of Australian Nurses. *International Journal of Environmental Research and Public Health*, 16 (1), 61.
- [15] Chaudhari A, Mazumdar K, Motwani Y, Ramadas D. (2018). A profile of occupational stress in nurses. *Ann Ind Psychiatr*, 2 (2), 109. http://dx.doi.org/10.4103/aip.aip_11_18

- [16] As Kavitha. (2017). A descriptive study to assess the level of stress among staff nurses working in Critical Care Unit in selected Hospital Indore. *International Journal of Advanced Science and Research*, 2 (4), 11 - 12.
- [17] Joseph T, Angadi S, Natekar DS. (2021). A study to assess occupational stress among staff nurses at HSK Hospital and Research Centre, Bagalkot, with a view to develop an Information Guide Sheet on stress management. *Int J Sci Healthcare Research*, 6 (3), 13-8. <http://dx.doi.org/10.52403/ijshr.20210703>
- [18] Kshetrimayum N, Bennadi D Siluvai S. (2019). Stress among staff nurses: A hospital - based study. *Journal of Nature and Science of Medicine*, 2 (2), 95 - 100.
- [19] Devi Suganthra, Karunagri Karaline D. (2019). Prevalence of occupational stress and coping strategies among staff nurses in selected hospital. *Ierj*, 5 (3). <https://ierj.in/index.php/ierj/article/view/1741>
- [20] Sharma N, Takkar P, Purkayastha A, Jaiswal P, Taneja S, Lohia N, et al. (2018). Occupational Stress in the India Army Oncology Nursing Workforce: A Cross - sectional Study. *Asia Pac J Oncol Nursing*, 5, 237 - 43.
- [21] Mondal L. (2020). A co - relational study on job related stress, stress reaction and coping strategies adopted by nursing personnel providing care to PLHIVs at selected Medical College and Hospital, Kolkata. *Asian Journal of Nursing Education and Research*, 10 (2), 227.
- [22] Alharbi H, Alshehry A. (2019). Perceived stress and coping strategies among ICU nurses in government tertiary hospitals in Saudi Arabia: a cross - sectional study. *Annals of Saudi Medicine*, 39 (1), 48 - 55.
- [23] Zaher Javadi Soheila, Vafaei Marjan, Abianeh Ebrahim. (2016). Comparing Depression, Anxiety and Stress among the nurses in the Critical care and Internal Surgical units at the selected hospitals of the social security organization of Tehran in 2016. *International Journal of Medical Research and Health Science*, 5 (9), 254 - 261.
- [24] Karthic, S., Baskaran, M., & Joel, E. D. (2018). Stress and coping between the Intensive Care Unit and General Ward Nurses in selected hospital, Coimbatore. *International Journal of Psychiatric Nursing*, 4 (2), 16. <https://doi.org/10.5958/2395-180x.2018.00010.5>
- [25] Masa'Deh R, Alhalaiqa F, AbuRuz ME, Al - Dweik G, Al - Akash HY. (2016). Perceived Stress in Nurses: A Comparative Study. *Glob J Health Sci*, 9 (6), 195. <http://dx.doi.org/10.5539/gjhs.v9n6p195>
- [26] Shaiji M. (2018). Comparison of Job Related Stress, Job Satisfaction and Coping Strategies adopted by Nursing Personnel Working in Critical Care and Non - Critical Care Units. *International Journal of Nursing Education and Research*, 6 (4), 411.