A Correlational Study to Assess the Percieved Stress and Professional Quality of Life among Nicu Staff Nurses at Selected Hospitals of Bagalkot, with View to Develop an Interventional Package

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Abstract	Original Research Article

Background: NICU is a high-stress environment with strained relationships, high turnover, disorganization, and constant emergencies. Nurses face emotional and physical demands, leading to compassion fatigue, burnout, and secondary traumatic stress, which negatively impact their professional quality of life and their ability to manage patient and family concerns. *Methods*: A Non-Experimental Descriptive research design, was used for present study. The samples of 100 NICU Staff nurses were selected by purposive sampling technique method. Data was collected by self-structured questionnaires, Perceived stress scale (PSS-14) and Professional quality of life scale (ProQOL-5). The data analysis done by using descriptive and inferential statistics. *Results:* Findings of the study revealed that 13(13%), 83(83%) and 4(4%) nurses had experienced of low, moderate and high-level stress respectively. domains of Professional quality of life (ProQOL-5) had shown majority of nurses (61(61%), 77(77%) and (82(82%) were having moderate level of compassion satisfaction, burnout, and secondary traumatic stress respectively. correlation between perceived stress and domains of professional quality of life revealed that significantly weak negative (r = -0.321), weak positive (r = 0.220), and weak positive (r = 0.230) correlation with compassion satisfaction, burnout and secondary traumatic stress respectively. "Number of night shifts in month" and "family monthly income" were associated with perceived stress, while "work experience in NICU" associated to professional quality of life. *Conclusion*: The study concludes that NICU nurses experience moderate stress, negatively impacting their professional quality of life. Implementing stress management strategies is essential to improve their well-being and job satisfaction.
Keywords: Assess, Professional quality of life, Perceived stress, Interventional package, NICU.

INTRODUCTION

A newborn or neonate, is a child under 28 days of age. Neonatal nursing is a subspecialty of nursing that works with newborn. infants born with a variety of problems ranging from prematurity, birth defects, infection, cardiac malformations, and surgical problems [1]. The neonatal intensive care unit (NICU) has a highly stressful work environment owing to damaged working relationships, professional incapacity, a high shift rotation, a chaotic work environment, a constant demand for attention, and a significant number of emergencies [2].

Stress is defined as any discomfort perceived by the individual that is stimulated by activities perceived as too intense and frequent, which exceed a person's coping capabilities and resources to manage. Successfully management or minimization of stress depends on the individual's ability to identify and adapt using coping strategies [3].

Nurse burnout is a serious job-related condition that can have major consequences for nurses and their patients [4]. Working unit was determinants of work-related stress. Nurses who had worked in ICU and Operation Room had more stressed than nurses who had worked in OPD. The reason might be due to lack of time for relaxation, and working in ICU makes nurses too

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busy, and providing care for critically ill patients itself makes stress. Additionally, nurses who had worked in OR and ICU need more effort to ensure patient safety than nurses working in OPD [5].

The term professional quality of life (ProQOL) refers to both positive and negative emotions that an individual comes across in his/her job as a helper. ProQOL includes the positive emotion of compassion satisfaction and negative emotion compassion fatigue [6].

Considering factors related to staff nurses who are working in NICU facing situations like work - overload, aggression of patients' family members, shortage of staff and lack of support from seniors. Patients are ignored due to shortage of staff and over burden in Bagalkot district. fact that individual studies may have inadequate statistical power because of sample size, we sought to provide cross sectional data on the prevalence and predictors of stress and its effects on patients and staff in selected Hospitals in Bagalkot district and to provide the necessary reference data on improving professional quality of life of staff nurses working in NICU.

MATERIALS AND METHODS

Research approach quantitative research approach. The present study is Non experimental descriptive design. A purposive sampling technique were used to select of 100 staff nurses from BVVS HSK Hospital and Research Centre, Bagalkot, Shanti Hospital Bagalkot and sanjeevini children hospital Bagalkot. Written consent was taken from participants for the study. Self-structured questionnaires for Socio demographic variables, Standardized perceived stress scale (PSS-14). Standardized professional quality of life scale (ProQOL-5) were used as tool for data collection. The data was analyzed by using descriptive and inferential statistical.

Study design: The study design adopted for this study was Non experimental descriptive design.

Setting of the study: The present study was conducted at BVVS HSK Hospital and Research Centre, Bagalkot, Shanti Hospital Bagalkot and sanjeevini children hospital Bagalkot.

Participants: In the present study participant were the NICU staff nurses who are working in the BVVS HSK Hospital and Research Centre, Bagalkot and shanti hospital Bagalkot. who met the inclusion criteria were selected as sample for the study.

Instruments: The study was conducted using a Structured Questionnaires with items related socio demographic data of NICU staff nurses and perceived stress scale 14 (PSS14) to assess the level of perceived

stress, Perceived quality of life scale-5 (ProQOL) to measure the professional quality of life.

Description of data collection instruments
   Part I: Questionnaires to assess socio-demographic data of NICU staff nurses
   PART II: Perceived stress scale 14 (PSS14) will be used to assess the level of perceived stress
   Part II1: Professional quality of life scale-5 (ProQOL) will be used to measure the professional quality of life.

Data Collection Procedures: The data collection was carried out from 17-05-2024 to 30-07-2024, among NICU Staff nurses who are working in the BVVS HSK Hospital and Research Centre, Bagalkot, Shanti hospital Bagalkot and Sanjeevini Hospital Bagalkot. Permission was obtained from Dean, Medical superintendent and Managers of hospitals. Data was collected from staff nurses by explaining the purpose of this study. Written consent was obtained from the study participants. According to the convenience and duty shifts of NICU staff nurses data was collected.

Variable under study: Study variables for the present study were the perceived stress and the professional quality of life among NICU staff nurses.

Sociodemographic Variables: Age, gender, education, marital status, residence, number of children, working experience in NICU, number of night shifts in a month, family monthly income.

Statistical analysis: The obtained data were statistically examined in terms of the objectives of the study using descriptive and inferential statistics. A master sheet was prepared with responses given by the study participants. Frequencies and Percentage was used for the analysis of demographic data, and Karl-Pearsons correlational coefficient was used to determine significance of correlation between perceived stress and professional quality of life. The Chi square(x^2) test to find out the association between socio demographic variables and perceived stress and professional quality of life.

Ethical Clearance: A certificate of ethical permission was obtained from ethical committee of the institution and written consent was taken from each participant.

RESULTS
Part I. Description of Socio- demographic variables
   In this study 61% of staff nurses were in age group of 26-30 years, 18% of nurses were in age group of 21-25 years, 15% of nurses were in 31-35 years, and 6% of nurses were in age group of 36-40 years, according to their gender 78% of staff nurses were female, 22% of nurses were male. according to their educational status 59% of staff nurses had completed GNM nursing, 39% of staff nurses had completed B. Sc/Pbb.sc nursing, 2%

of staff nurses had completed post-graduation. according to their marital 54% of staff nurses were married, 46% of nurses were unmarried. according to their residence 53% of staff nurses were living in urban area, 38% of staff nurses were living in rural area, and 9% of staff nurses were living in semi urban areas. according to their number of children they were having 46% of staff nurses were having no children, 17% of staff nurses were having one child, 26% of staff nurses were having two children, and 11% of staff nurses were having more than two children. according to their years of experience in NICU 58% of staff nurses were having 1 -5 years of experience in NICU, 26% of staff nurses were having less than one year experience in NICU, 16% of staff nurses were more

than 5 years of experience in NICU. According to their number of night shifts in a month 59% of staff nurses were having ≤ 10-night shifts in month, 34% of staff nurses were having 11–20-night shifts in month, 7% of staff nurses were having > 20-night shifts in month. according to their family monthly income 54% of staff nurses were having monthly income of 10,001/- to 20,000/- rupees, 40% of staff nurses were having monthly income of > 20,000/- rupees, 6% of staff nurses were having monthly income of < 10,000/- rupees.

Part II: Assessment of perceived stress among NICU staff nurses.

Table 1: Frequency and percentage distribution of NICU staff nurses according their level of perceived stress (PSS-14), N=100

Levels of perceived stress			
Descriptions	Scores	Frequency	Percentage
Low	0-18	13	13%
Moderate	19-37	83	83%
High	38-56	4	4%

Table 1 shows that majority 83(83%) of staff nurses were having moderate level of perceived stress, followed by 13(13%) of staff nurses were having low level of perceived stress, 6(6%) of staff nurses were having high level of perceived stress.

Table 2 Mean, SD of NICU staff nurses according their level of perceived stress PSS-14), N=100

	Mean	SD	Median	Range
Perceived stress scale (PSS-14)	27.24	5.96	28	29

Table 2 depicts that mean ± SD score of perceived stress among NICU staff nurses was 27.24±5.96, median was 28 and range was about 29.

PART III: Assessment of professional quality of life among NICU staff nurses.

Table 3: Domain wise distribution of NICU staff nurses according their level professional quality of life (ProQOL-5), N=100

Domains	Compassion satisfaction		Burnout		Secondary traumatic stress	
Description	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Low	3	3%	23	23%	6	6%
Moderate	61	61%	77	77%	82	82%
High	36	36%	0	0%	12	12%

Table 3 depicts that domains of professional quality of life (ProQOL-5) such as in compassion satisfaction majority of nurses were having moderate(61(61%), 36(36%) high and 3(3%) low level of compassion satisfaction, followed by in burnout majority of nurses were having moderate 77(77%) and 3(3%) low level of burnout, then in secondary traumatic stress majority of nurses were having moderate(82(82%) , 12(12%) high and 6(6%) low level of secondary traumatic stress.

Table 4: Mean, SD of NICU staff nurses according their level of professional quality of life (ProQOL -5), N=100

Professional quality of life (ProQOL)			
	Mean	SD	Range
CS	36.76	7.48	30
BO	26.68	6.15	24
STS	31.63	6.55	31
CS: Compassion Satisfaction, BO: Burnout, STS: secondary traumatic stress, SD: Standard deviation			

Table 4 Describe those domains of professional quality of life results shown that the mean± SD and range of compassion satisfaction was 36.76±7.4 and 30 respectively, followed by burnout result was 26.68±6.15

and 24 respectively, secondary traumatic stress results was 31.63±6.55 and 31.

PART IV: Finding out the correlation between perceived stress and components of professional quality of life.

Table 5 Correlation of Perceived stress (PSS-14) with the three components of professional quality of life (ProQOL-5), N=100

Correlation of PSS-14 with three components of ProQOL-5						
	Compassion Satisfaction		**Burnout**		**Secondary traumatic stress**	
	Pearson's r value	**p value**	**Pearson's r value**	**p value**	**Pearson's r value**	**p value**
PSS-14	-0.312	0.0015*	0.220	0.0278*	0.230	0.02133*
*: significant at P<0.05						

Table 5 shown that correlation of components of professional quality of life (ProQOL-5) with perceived stress (PSS-14) such as compassion satisfaction had shown (r = -0.321 at p<0.05) significantly weak negative correlation, followed by burnout had shown (r = 0.220 at p<0.05) significantly weak positive correlation, secondary traumatic stress had shown (r = 0.230 at p<0.05) significantly weak positive correlation. Hence, the study depicts that there was a significant correlation between level of perceived stress (PSS-14) and Professional quality of life (ProQOL-5).

PART V: Finding out the association between level of perceived stress & professional quality of life among NICU staff nurses with their selected socio demographic variables.

Table 6: Association between Perceived stress (PSS-14) and selected socio demographic variables among NICU staff nurses, N=100

Sl. No	Sociodemographic variables	Perceived stress (PSS-14)				Df	χ^2 value	p value	Interpretation
		Low		Moderate + High					
		F	%	F	%				
1	**Age**					1	0.03	0.862	NS
	21-30	10	10	69	69				
	31-40	3	3	18	18				
2	**Gender**					1	0.07	0.79	NS
	Male	2	2	20	20				
	Female	11	11	67	67				
3	**Education**					1	2.93	0.086	NS
	GNM	11	11	48	48				
	UG/others	2	2	39	39				
4	**Marital status**					1	2.26	0.132	NS
	married	4	4	50	50				
	Unmarried	9	9	37	37				
5	**Residence**					1	0.78	0.377	NS
	rural	3	3	35	35				
	urban/semi urban	10	10	52	52				
6	**No. of children**					1	3.28	0.194	NS
	none	9	9	37	37				
	1--2	3	3	40	40				
	>2	1	1	10	10				
7	**Work experience in NICU**					1	0.22	0.639	NS
	0--5 years	12	12	72	72				
	>5 years	1	1	15	15				
8	**No. of night shifts in month**					**1**	**6.36**	**0.011***	**Sign.**
	≤ 10	3	3	56	56				
	>10	10	10	31	31				
9	**Family monthly income**					**1**	**4.01**	**0.045***	**Sign.**
	$\leq 20,000/-$	4	4	56	56				
	$> 20,000/-$	9	9	31	31				
Df: degree of freedom, *: significant at P<0.05, NS: Not significant									

Table 6 shows that the sociodemographic variables like number of night shifts in month ($\chi^2 = 6.36$) and family monthly income ($\chi^2 = 6.36$) had shown significant association with perceived stress (PSS-14) among NICU staff nurses. The other sociodemographic variables such as age, gender, education, marital status residence, number of children and work experience in NICU did not show statistically significant association

with perceived stress (PSS-14). Hence, the study depicts that there was a significant association between number of night shifts in month and family monthly income with perceived stress (PSS-14).

Table 7: Association between Professional quality of life (ProQOL-5) and selected socio demographic variables among NICU staff nurses, N=100

Sl. No	Sociodemographic variables	Compassion satisfaction				Burnout				Secondary traumatic stress			
		Df	χ^2 value	p value	Interpretation	Df	χ^2 value	p value	Interpretation	Df	χ^2 value	p value	Interpretation
1	**Age**												
	21-30		0.05	0.823	NS		3.42	0.064	NS		0.15	0.69	NS
	31-40	1				1				1			
2	**Gender**												
	Male		1.09	0.296	NS		2.16	0.141	NS		0.72	0.396	NS
	Female	1				1				1			
3	**Education**												
	GNM		0.01	0.92	NS		0.48	0.488	NS		0.79	0.374	NS
	UG/others	1				1				1			
4	**marital status**												
	married		0.36	0.58	NS		0.98	0.322	NS		0.1	0.751	NS
	Unmarried	1				1				1			
5	**residence**												
	rural		3.44	0.063	NS		0.38	0.537	NS		0.83	0.362	NS
	urban/semi urban	1				1				1			
6	**No. of children**												
	none												
	1--2		2.34	0.31	NS		0.58	0.748	NS		0.14	0.932	NS
	>2	2				2				2			
7	**work experience in NICU**												
	0--5 years		0.02	0.887	NS		**4.63**	**0.031***	**S**		0.12	0.72	NS
	>5 years	1				**1**				1			
8	**No. of night shifts in month**												
	≤ 10		0.1	0.75	NS		0.07	0.777	NS		0.17	0.68	NS
	>10	1				1				1			
9	**family monthly income**												
	≤ 20,000/-		2.16	0.141	NS		3.4	0.065	NS		0.02	0.887	NS
	> 20,000/-	1				1				1			
	Df: Degree of freedom, *: significant at P<0.05, NS: Not significant, S: Significant												

Table 7 shows that the sociodemographic variable work experience in NICU (χ^2 = 4.63) had shown significant association with burnout among NICU staff nurses. The other sociodemographic variables such as age, gender, education, marital status residence, number of children, number of night shifts in month and family monthly income did not show statistically significant association with burnout. Followed by none of sociodemographic variables had shown the statistically significant association with compassion satisfaction and secondary traumatic stress. Hence, study depicts that there was a significant association between work experience in NICU with professional quality of life component i.e. burnout.

DISCUSSION

The findings of the present study are discussed in light of previous scientific studies in this chapter and discussion regarding findings of the study is presented in accordance with the objectives of the study and hypothesis. The current study aims find out the correlation between perceived stress and professional quality of life among NICU staff nurses working BVVS

HSK Hospital and Research Centre, Bagalkot, Shanti Hospital Bagalkot and sanjeevini children hospital Bagalkot. The study found that the there is significant correlation between perceived stress and components of professional quality of life.

Current study shown related to perceived stress shown that majority 83(83%) of staff nurses were having moderate level of perceived stress, mean ± SD score of perceived stress among NICU staff nurses was 27.24±5.96, median was 28 and range was about 29.

Current study is compared with previous study. It was reported that 22 (33.8%) nurses experienced a low level of stress, 40 (61.5%) had moderate stress, and 3 (4.6%) had high stress, mean ± SD of perceived stress among staff nurses was 15.89 ± 7.065 [7].

Present study shown that the components of professional quality of life results shown that mean± SD and range of compassion satisfaction was 36.76±7.4 and 30 respectively, followed by burnout result was 26.68±6.15 and 24 respectively, secondary traumatic stress results was 31.63±6.55 and 31.

The study results were compared with study conducted on professional quality of life among nurses. It was reported that in NICU nurses mean ± SD of compassion satisfaction 40.05 ± 3.90, in burnout 20.62 ± 4.14, in secondary traumatic stress 21.57 ± 3.37 respectively [8].

Findings of the study shown that the correlation of components of professional quality of life (ProQOL-5) with perceived stress (PSS-14) such as compassion satisfaction had shown (r = -0.321) significantly weak negative correlation, followed by burnout had shown (r = 0.220) significantly weak positive correlation, secondary traumatic stress had shown (r = 0.230) significantly weak positive correlation.

The study results were found similar with study, conducted to assess the correlation between perceived stress and professional quality of life among NICU nurses. It was reported that PSS14 was negatively correlated with compassion satisfaction (r = -0.28) and positively correlated with burnout (r = 0.43) and secondary traumatic stress (r = 0.24) [9].

Findings of the study shown that the association between perceived stress with sociodemographic variables was like number of night shifts in month ($\chi 2$ = 6.36) and family monthly income ($\chi 2$ = 6.36) had shown significant association with perceived stress (PSS-14) among NICU staff nurses.

The study results were comapred with study, conducted to assess the association between perceived stress and selected sociodemographic variable, which had shown there was significant association found between the frequency of night duty $\chi 2$ = 8.531 and perceived stress [7].

LIMITATIONS: The study limited to the sample of 100 NICU staff nurses working at BVVS HSK Hospital and Research Centre, Bagalkot, Shanti Hospital Bagalkot and sanjeevini children hospital Bagalkot.

CONCLUSION

The study concludes that the majority of nurses who work in NICUs deal with moderate levels of stress, which has a negative effect on their professional quality of life. Hence, it's important concern to adopt different stress management strategies and programs to reduce stress and improve the quality of life among NICU staff nurses.

REFERENCES
1. National Association of Neonatal Nurses. (n.d.). What is Neonatal Nursing. NANN. https://nann.org/about/what-is-neonatal-nursing
2. Fogaça, M. de C., Carvalho, W. B. de, Cítero, V. de A., & Nogueira-Martins, L. A. (2008). Factors that cause stress in physicians and nurses working in a pediatric and neonatal intensive care unit: bibliographic review. *Revista Brasileira de Terapia Intensiva, 20*(3), 261–266. https://pubmed.ncbi.nlm.nih.gov/25307094/
3. Vinothkumar, M., Arathi, A., Joseph, M., Nayana, P., Jishma, Ej., & Sahana, U. (2016). Coping, perceived stress, and job satisfaction among medical interns: The mediating effect of mindfulness. *Industrial Psychiatry Journal, 25*(2), 195. https://doi.org/10.4103/ipj.ipj_98_14
4. American Nurses Association. (n.d.). Healthy work environment for nurses. ANA. https://www.nursingworld.org/practice-policy/work-environment/
5. Baye, Y., Demeke, T., Birhan, N., Semahegn, A., & Birhanu, S. (2020). Nurses' work-related stress and associated factors in governmental hospitals in Harar, Eastern Ethiopia: A cross-sectional study. *PLOS ONE, 15*(8), e0236782. https://doi.org/10.1371/journal.pone.0236782

6. Kim, K., Han, Y., Kwak, Y., & Kim, J. (2015). Professional Quality of Life and Clinical Competencies among Korean Nurses. *Asian Nursing Research, 9*(3), 200–206. https://doi.org/10.1016/j.anr.2015.03.002

7. Kannappan, S. R., & Veigas, J. (2021). Perceived Stress and Resilience among Nurses Working in a Selected Hospital at Mangalore. *Journal of Health and Allied Sciences NU*. https://doi.org/10.1055/s-0041-1736455

8. Wulandari, A. E., Susilaningsih, F. S., & Somantri, I. (2018). The Professional Quality of Life of Nurses who Work in the Intensive Care Unit and Emergency Unit. *Journal of Nursing Care, 1*(3). https://doi.org/10.24198/jnc.v1i3.18983

9. Amin, A. A., Vankar, J. R., Nimbalkar, S. M., & Phatak, A. G. (2015). Perceived Stress and Professional Quality of Life in Neonatal Intensive Care Unit Nurses in Gujarat, India. *The Indian Journal of Pediatrics, 82*(11), 1001–1005. https://doi.org/10.1007/s12098-015-1794-3