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| RESEARCH ARTICLE

Factors Associated With Nurse's Professional Quality Of Life

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| ABSTRACT

Nursing is a profession characterized by substantial difficulties and challenges, highlighting the need to prioritize and enhance their professional quality of life. To assess nurses' professional quality of life and identify associated factors. A cross-sectional descriptive study was conducted with 202 nurses at a Grade I public hospital in southern Vietnam. Self-assessment surveys were administered using a structured questionnaire, incorporating the ProQOL scale. Statistical analyses included T-tests, ANOVA, Pearson, and linear regression with significance at $p < 0.05$. Most responses indicated an average professional quality of life among nurses. Significant correlations were observed among the components of professional quality of life; gender was associated with compassion satisfaction while on-call duty was linked to secondary traumatic stress in nurses. Nursing administrators should prioritize enhancing nurses' professional quality of life.

| KEYWORDS

Nursing, professional quality of life, ProQOL

| ARTICLE INFORMATION

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1. Introduction

In modern society, population growth and aging have increasingly exacerbated work-related pressures and health issues (World Health Organization, 2019). The rising demand for healthcare services and the need to enhance care quality pose significant challenges to the healthcare sector, particularly in developing countries with underdeveloped healthcare systems and persistent workforce shortages. This situation leads to overburdened hospitals and healthcare centers, while the number of patients continues to rise (World Health Organization, 2024).

Within the healthcare system, nurses constitute a significant proportion of medical personnel. According to the World Health Organization (WHO), there were 27.9 million nurses globally in 2020, of whom 19.3 million were professional nurses, accounting for approximately 59% of healthcare workers. Most hospitals report that nurses comprise 50-60% of their total workforce, ensuring continuous 24-hour care for inpatients. This underscores the critical role of nurses as the healthcare professionals most frequently interacting with and closely connected to patients (Suaib et al., 2019; World Health Organization, 2020).

Nevertheless, nursing remains a highly demanding and stressful profession, imposing significant physical and mental strain on nurses, while their compensation often does not match the workload and responsibilities they bear (Shdaifat et al., 2023).

Prolonged burnout and emotional exhaustion can negatively impact nurses' job performance and mental well-being (Maddigan et al., 2023; Maillet & Read, 2024). A 2023 survey conducted by AMN Healthcare revealed that only 15% of hospital nurses intended to remain in their current positions over the next year, while 36% expressed a desire to switch to another workplace, although still within the nursing profession (AMN Healthcare., 2023). Furthermore, a WHO report projected a global shortage of nearly 18 million healthcare workers by 2030, predominantly in low- and middle-income countries (Boniol et al., 2019).

With over a decade of hospital experience, the researcher observes that nursing is an exceptionally challenging profession. Through discussions with colleagues, many nurses expressed dissatisfaction with their remuneration and indicated a desire to seek employment offering better conditions and income. This issue is prevalent in Vietnam's nursing sector, where nurses are required to undertake numerous non-clinical tasks amid rapidly increasing healthcare demands. Studies on the professional quality of life among nurses in Vietnam remain limited. However, some research indicates that the professional quality of life among Vietnamese nurses is at a moderate level, with factors such as age, marital status, income, years of experience, working hours, and department significantly influencing compassion satisfaction, burnout, and secondary traumatic stress (Nguyễn et al., 2022; Phạm et al., 2023; Tran et al., 2023).

The Ministry of Health of Vietnam has projected that by 2030, the nursing workforce shortage will become critical, underscoring the urgent need to improve the working environment for nurses (Ministry of Health, 2022). Based on this premise, our study was conducted to assess the professional quality of life and explore factors related to it among nurses at a Grade I public hospital in southern Vietnam. We hope that the findings of this study will enhance understanding of the professional quality of life of nurses. Additionally, several recommendations are provided for nursing administrators to serve as a foundation for developing policies and solutions aimed at supporting nurses, ensuring their job satisfaction, and promoting the sustainable development of their careers.

2. Methodology

2.1. Study design

A cross-sectional study design was conducted

2.2. Sample size and Data gathering

A stratified random sampling method was employed to select 202 nurses working at a Grade I puplic hospital in southern Vietnam. Data were collected from August to September 2024. Inclusion criteria: Nurses directly involved in patient care with at least one year of work experience and who agreed to participate in the study.Exclusion criteria: Nurses who were absent during the data collection period or who provided incomplete responses on the survey were excluded.

Before participation, the study's objectives, benefits, potential risks, confidentiality measures, and the voluntary nature of involvement were clearly explained to all eligible individuals. Those who agreed to participate provided written informed consent. They were then asked to complete the questionnaires, which required approximately 20 minutes, and return them directly to the data collector.

2.3. Demographic Profiles

Participants were asked to provide demographic information, including gender, age, in a realtionship, professional qualifications, years of work experience, average monthly income, weekly working hours, on-call duty, and children.

2.4. Assessment of Professional Quality of Life

The professional quality of life (ProQOL) of nurses was assessed using the ProQOL Version 5.0 questionnaire, developed and refined by Stamm (Stamm, 2010). This tool encompassed three main components: Compassion Satisfaction-CS (10 items), Burnout-BO (10 items), and Secondary Traumatic Stress-STS (10 items). Each item was rated on a 5-point Likert scale, with responses ranging from "1 = never, 2 = rarely, 3 = sometimes, 4 = often, to 5 = very often". The questionnaire was translated into Vietnamese, and its reliability and validity were evaluated, demonstrating suitability for research in Vietnam, as reported by Tran and colleagues (Tran et al., 2023). The total score for each component ranges from 10 to 50 and is categorized into three levels: high (≥42 points), moderate (23–41 points), and low (<23 points).

2.5. Data Analysis

Data were entered using Microsoft Excel 2010 and analyzed using Jamovi software version 2.5.3. Descriptive statistics were performed, including frequencies and proportions for qualitative variables, and means with standard deviations (M±SD) for quantitative variables. Analytical methods included the independent two-sample Student's t-test, ANOVA, Pearson correlation, and multiple linear regression (applied for relationships with $p<0.2$). These tests were used to examine associations between participant characteristics and professional quality of life, with a significance threshold set at $p<0.05$.

2.6. Ethical Considerations

This study adhered to the ethical principles for medical research outlined in the Declaration of Helsinki (World Medical Association, 2013) and was approved by the Biomedical Research Ethics Committee of Trinity University of Asia with approval number TUA-IERC-015-R02 dated August 9, 2024. Participants were thoroughly informed about the study's objectives and benefits, assured of their voluntary participation, and guaranteed that personal information would be kept confidential and not used for purposes beyond this research.

3. Results

3.1. Participant's demographic profile

The majority of nurses were female, accounting for 85.6%, with a mean age of 35.7 ± 8.52 years. Among them, 59.4% were aged between 31 and 45 years. A total of 72.8% of nurses were married, and 51.5% had a professional qualification of bachelor's degree or higher. More than 50% of nurses had over 10 years of work experience, yet 70.8% reported an income of 10 million VND or less per month. Additionally, 42.1% of nurses worked more than 48 hours per week. On-call duty was reported by 74.3% of nurses, and 68.8% of nurses had children.

Table 1. Participant's demographic profile

Variable		Frequency (n)	Percentage (%)
Gender	● Male	29	14.4
	● Female	173	85.6
Age (M±SD: 35.7±8.52)	● ≤30	55	27.2
	● 31-45	120	59.4
	● >45	27	13.4
In a relationship	● Yes	142	72.8
	● No	53	27.2
Professional qualifications	● Associate degree and below	98	48.5
	● Bachelor degree and above	104	51.5
Working experience (Years) (M±SD: 12.1±8.32)	● ≤10	100	49.5
	● >10	102	50.5
Average monthly income (milion VND)	● ≤10	143	70.8
	● >10	59	29.2
Weekly working hours (M±SD: 52±12.3)	● ≤48	117	57.9
	● >48	85	42.1
On-call duty	● Yes	150	74.3
	● No	52	25.7
Children	● Yes	139	68.8
	● No	63	31.2
Total		**202**	**100**

3.2. Nurses' professional quality of life

Nurses with a moderate level of ProQOL were predominant, with proportions of CS, BO, and STS at 74.8%, 76.2%, and 75.7%, respectively. The corresponding mean scores were 38, 25.5, and 27.7 points.

Table 2. Nurses' professional quality of life

ProQOL/Level	High n (%)	Moderate n (%)	Low n (%)	M±SD
Compassion satisfaction	1 (0.5)	151 (74.8)	50 (24.7)	38±5.77
Burnout	48 (23.8)	154 (76.2)	0 (0)	25.5±4.8
Secondary traumatic stress	45 (22.3)	153 (75.7)	4 (2)	27.7±6.58

3.3. Factors associated with nurses' professional quality of life

Table 3 shows a negative correlation between CS and BO, indicating that higher CS scores are associated with lower BO levels. Conversely, a positive correlation was observed between BO and STS, with higher BO scores linked to more severe STS. These differences were statistically significant, with $p<0.001$.

Table 3. The correlation between Compassion Satisfaction, Burnout, and Secondary Traumatic Stress

	Compassion Satisfaction		Burnout		Secondary Traumatic Stress	
	r	P	r	p	R	p
Compassion Satisfaction	-	-	-0.499	**<0.001**	-0.1	0.157
Burnout	-	-	-	-	0.592	**<0.001**

Table 4. Factors associated with Compassion Satisfaction

The T-test and ANOVA analyses of factors related to nurses' CS revealed that gender, age, years of work experience, average monthly income, and having children had p<0.2. However, the multiple regression model, adjusted for factors including gender, years of work experience, average monthly income, and having children, identified that gender was indeed related to nurses' CS.

Variable		Compassion Satisfaction			
		M±SD	t/f	p	p Adjust
Gender	Male	35.8±5.99	-2.26[t]	**0.025**	**0.04**
	Female	38.4±5.66			
Age	≤30	37.5±5.82	2.88[f]	0.063	N/A
	31-45	37.8±5.8			
	>45	40.3±5.14			
In a relationship	Yes	38.2±5.82	1.06[t]	0.293	N/A
	No	37.2±5.75			
Professional qualifications	Associate degree and below	38.4±5.98	0.943[t]	0.347	N/A
	Bachelor degree and above	37.7±5.56			
Working experience (Years)	≤10	37.5±5.96	-1.41[t]	0.161	0.701
	>10	38.6±5.54			
Average monthly income (milion VND)	≤10	37.7±5.81	-1.35[t]	0.177	0.515
	>10	38.9±5.61			
Weekly working hours	≤48	38.5±5.57	1.28[t]	0.201	N/A
	>48	37.4±6.01			
On-call duty	Yes	38±5.73	-0.353[t]	0.724	N/A
	No	38.3±5.92			
Children	Yes	38.4±5.69	1.47[t]	0.142	0.414
	No	37.2±5.87			

Legend: t: test value for the independent sample T-test, f: test value for ANOVA, N/A: not analyzed in multivariate regression.

Female nurses had a higher mean CS score (38.4±5.66) than male nurses (35.8±5.99), with a p-value of 0.04. Age, in a relationship, professional qualifications, years of work experience, average monthly income, weekly working hours, on-call duty, and having children were not associated with CS among nurses.

Table 5. Factors associated with Burnout

Variable		Burnout			
		M±SD	t/f	p	p Adjust
Gender	Male	26.3±5.24	0.682[t]	0.496	N/A
	Female	25.6±4.73			
Age	≤30	26.3±5.58	0.983[f]	0.379	N/A
	31-45	25.7±4.51			
	>45	24.7±4.28			
In a relationship	Yes	25.6±4.42	-0.995[t]	0.321	N/A
	No	26.4±5.45			
Professional qualifications	Associate degree and below	25.3±5.03	-1.14[t]	0.255	N/A
	Bachelor degree and above	26.1±4.56			
	≤10	26.4±5.27	1.88[t]	0.061	0.23

Working experience (Years)	>10	25.1±4.21			
Average monthly income (milion VND)	≤10	26±4.91	1.39[t]	0.165	0.774
	>10	25±4.46			
Weekly working hours	≤48	25.9±4.5	0.552[t]	0.582	N/A
	>48	25.5±5.2			
On-call duty	Yes	26.1±4.7	1.96[t]	0.051	0.076
	No	25.5±4.94			
Children	Yes	25.4±4.55	-1.3[t]	0.194	0.615
	No	26.4±5.28			

Legend: t: test value for the independent sample T-test, f: test value for ANOVA, N/A: not analyzed in multivariate regression.

The analysis results showed that gender, age, in a relationship, professional qualifications, working experience, average monthly income, weekly working hours, on-call duty, and having children were not associated with BO among nurses.

Table 6. Factors associated with Secondary Traumatic Stress

Variable		Secondary Traumatic Stress			
		M±SD	t/f	p	p Adjust
Gender	Male	27.3±6.4	-0.307[t]	0.759	N/A
	Female	27.8±6.62			
Age	≤30	28.5±7.15	1.68[f]	0.193	N/A
	31-45	27.7±6.64			
	>45	26.1±4.75			
In a relationship	Yes	27.3±6.49	-1.6[t]	0.112	0.306
	No	29±6.5			
Professional qualifications	Associate degree and below	27.3±7.13	-0.747[t]	0.456	N/A
	Bachelor degree and above	28±6.02			
Working experience (Years)	≤10	28.2±7.34	1.04[t]	0.299	N/A
	>10	27.2±5.72			
Average monthly income (milion VND)	≤10	28.2±6.82	1.7[t]	0.091	0.163
	>10	26.5±5.82			
Weekly working hours	≤48	28.3±6.66	1.52[t]	0.13	N/A
	>48	26.9±6.41			
On-call duty	Yes	28.3±6.11	2.2[t]	**0.029**	**0.045**
	No	26±7.57			
Children	Yes	27.3±6.63	-1.14	0.256	N/A
	No	28.5±6.44			

Legend: t: test value for the independent sample T-test, f: test value for ANOVA, N/A: not analyzed in multivariate regression.

In the other analysis, the T-test results showed that weekly working hours were significantly higher among nurses who participated in shifts (55.4 ± 12.4) compared to those who did not (42.4 ± 4), with $p<0.001$, leading to its exclusion from the final model. The multiple regression model, adjusted for factors such as in a relationship, average monthly income, and on-call duty, confirmed that on-call duty was significantly associated with STS among nurses. Nurses who participated in on-call duty had a higher mean STS score (28.3±6.11) than those who did not (26±7.57). Age, gender, in a relationship, professional qualifications, years of work experience, average monthly income, weekly working hours, and having children were not associated with STS among nurses.

4. Discussion

4.1. Professional Quality of Life among Nurses

The mean CS score among nurses was 38±5.77, which was higher than the results reported in a meta-analysis of 79 studies (Xie, Wang, et al., 2021) and also higher than the findings of Bahari et al. (2022), Tran et al. (2023), but slightly lower than the study by Pham et al. (2023). This score reflected a moderately high level of CS, indicating professional happiness linked to supporting others. It contributed to emotional resilience and empathy in patient care, essential factors in maintaining professional engagement and optimism (Maillet & Read, 2024; Ruiz-Fernández et al., 2020; Stamm, 2010). Strategies to sustain and enhance this index are necessary to ensure job satisfaction in nursing care roles.

Nurses reported an average BO score of 25.5±4.8, which was lower than the meta-analysis findings from 79 studies by Xie, Wang, et al. (2021) and the study by Bahari et al. (2022), but slightly higher than Tran et al. (2023) and significantly higher than

Pham et al. (2023). These differences might result from sample size, work environment, study population, or timing. However, the overall BO score remained in the low to moderate range. BO, characterized by fatigue, overload, cynicism, and feelings of hopelessness (Stamm, 2010), negatively impacted ProQOL, leading to adverse attitudes, reduced work efficiency, and lower quality of care (Bahari et al., 2022; Oliveira et al., 2019). Qualitative research focusing on groups with low BO scores is necessary to develop tailored intervention programs aimed at reducing BO.

The study results showed that STS among nurses was moderate, with a mean score of 27.7±6.58. This score was slightly higher than in previous studies (Bahari et al., 2022; Phạm et al., 2023; Tran et al., 2023; Xie, Wang, et al., 2021), but still within the moderate range. STS reflects the psychological distress experienced from witnessing or hearing about others' traumatic experiences (Stamm, 2010). In high-stress environments such as emergency care, intensive care units, and oncology, nurses frequently face patients' suffering and loss, which could lead to symptoms resembling post-traumatic stress disorder, such as intrusive thoughts, emotional numbness, and avoidance behaviors, ultimately reducing ProQOL. Implementing mindfulness-based interventions and training programs to help nurses manage emotions and improve adaptability to work environments is essential.

4.2. Factors Associated with Nurses' Professional Quality of Life

Inferential statistical analysis revealed that CS helps reduce occupational BO among nurses, while high BO levels increase STS. These findings align with previous studies (Bahari et al., 2022; Xie, Wang, et al., 2021), emphasizing the importance of maintaining and enhancing CS as an effective "vaccine" against stress and BO in nursing. Simultaneously, strategies to reduce BO and STS, such as increasing staffing, optimizing on-call schedules, and regulating weekly working hours, should be prioritized.

Nine factors, including gender, age, in a relationship, professional qualifications, years of work experience, average monthly income, weekly working hours, on-call duty, and having children, were examined for their association with nurses' ProQOL. The results showed that gender was associated with CS, while weekly working hours and on-call duty were associated with STS.

Gender and Compassion Satisfaction

Female nurses reported significantly higher mean CS scores than male nurses ($p=0.04$). Research by Ruiz-Fernández et al. (2020) attributed this difference to psychosocial factors and gender roles in healthcare. Nursing was recognized as a female-dominated profession (Bahari et al., 2022; Boniol et al., 2019; Xie, Wang, et al., 2021). Women were often expected to exhibit more empathy and care, which may serve as positive motivators in professional settings. Moreover, women may connect with patients more effectively through emotional sensitivity, enhancing their sense of satisfaction in supporting others. Strengthening communication and emotional management skills for male nurses and conducting further research to develop gender-specific support policies are essential.

On-call duty and Secondary Traumatic Stress

Nurses participating in on-call duty had significantly higher STS scores than those who did not ($p<0.001$). This can be attributed to the increased exposure to critically ill or deceased patients during on-call duty. Additionally, on-call duty often suffered from insufficient staffing compared to regular hours, leading to a lack of peer support, while fatigue and sleep deprivation exacerbated the psychological distress associated with STS (Bae et al., 2022; Dall'Ora et al., 2023; Xie, Wang, et al., 2021). On the other hand, the study results indicated no association between weekly working hours and secondary traumatic stress among nurses. However, another analysis revealed that nurses who participated in on-call duty had significantly longer weekly working hours compared to those who did not, with a statistically significant difference ($p < 0.001$). Tran et al. (2023) found no association between daily working hours and STS but observed that nurses working >8 hours/day had higher BO risks than those working ≤8 hours/day. Extended shifts of ≥8 hours/day and ≥48 hours/week are common in nursing. Numerous studies have shown that prolonged working hours increase BO, reduce job performance, compromise patient care quality, and lower job satisfaction among nurses (Bae et al., 2022; Dall'Ora et al., 2023; Maddigan et al., 2023; Maillet & Read, 2024; Scott-Marshall, 2024; Shdaifat et al., 2023; Wu et al., 2013). While extended working hours may aid nurses in adapting to STS, they can also contribute to BO. Further research is needed to explore this factor. Healthcare facilities should balance work hours to ensure nurses do not exceed 48 hours per week, increase recruitment, and organize training programs providing coping strategies for STS. As caregivers, nurses develop heightened empathy toward patients, but this empathic connection may lead to BO and STS without proper adaptation and coping mechanisms. Developing training programs focused on coping with BO and STS is essential to enhance nurses' ProQOL.

Strengths and Limitations

This study provided valuable insights into the professional quality of life among nurses and its associated factors, a field that had seen limited research in Vietnam. However, the study had certain limitations, including a relatively small sample size. Future research was recommended to expand the sample and conduct in-depth interviews with nurses to explore related factors more thoroughly.

5. Conclusion

Most responses indicated that the ProQOL among nurses was at a moderate level. There were correlations between the components of ProQOL, with gender being associated with CS, while on-call duty was associated with STS. Training programs are

necessary to equip nurses with skills and expertise to better adapt to their work environment, maintain CS, and enhance their ability to cope with BO and occupational stress.

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Authors Contributions

NVP, NVT, EDE, LTCT designed the study and analysed the data. LKT, LHH, DVT, TXQ, DTNM and TTN did the data collection. NVP, NVT, LTCT wrote the manuscript and all of the authors prepared for the manuscript. All authors read and approved the final manuscript.

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