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QUALITY OF WORK LIFE AMONG NURSES WORKING AT A PROVINCIAL GENERAL HOSPITAL IN VIETNAM: A CROSS-SECTIONAL STUDY

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Abstract

Aim: To measure the overall level of quality of work life (QWL), and its association with personal and work-related factors among nurses working at a provincial general hospital in Vietnam. **Design:** A cross-sectional study. **Methods:** One hundred and sixty nurses were selected by stratified random sampling. Questionnaires were used to survey personal factors, job position, salary, and working years, including work life dimensions. The reliability of the instrument used for the survey was tested using Cronbach alpha, which yielded an index of 0.925. Data were analyzed using the Chi-square test ($p < 0.05$), and Pearson's and Spearman's correlation coefficient. **Results:** The overall score of QWL among nurses was moderate, scaled at 3.04 (± 0.55). A weak positive correlation between QWL and age ($r = 0.196$), working years ($r = 0.204$), and care-giving responsibilities at home ($r = 0.179$) was revealed. Educational level was most strongly associated with QWL ($r = 0.515$), and a multiple linear regression analysis confirmed that the standardized coefficient was highest for education (0.365). **Conclusion:** The majority of the nurses had a moderate level of overall QWL, with education the key associated factor. Our findings may help to improve the nursing profession, and, hence, the quality of healthcare in Vietnam.

Keywords: nurse, provincial hospital, quality of work life, Vietnam.**Introduction**

The quality of healthcare in a healthcare setting is extremely dependent on nurses, and is undoubtedly associated with their quality of work-life (QWL). QWL is the degree to which nurses are able to satisfy important personal needs through their experiences in their work organization while achieving the organization's goals (Brooks & Anderson, 2005). Direct care provider, advocator, educator, case manager, change agent, and consultant are some of the various roles in nursing practice (Moopayak, 2008). As it could affect the standard of nursing care for patients at all levels, enhancing QWL of nurses is crucial (Brooks et al., 2007; Laschinger et al., 2001; Nayeri et al., 2011). While the concept of QWL originated in the 1930s, it has received increasing attention in healthcare settings in recent decades. A numbers of factors can have an impact on the QWL of nurses. However, the most frequently examined are factors related to work environment and socio-demographic variables (Almalki et al., 2012). Some studies have found that QWL has

positive relationships with education level, gender, age, and marital status (Almalki et al., 2012; Moradi et al., 2014; Nayeri et al., 2011; Venkataraman et al., 2018). While others have found that elderly dependents and children have a relationship to QWL among nurses (Almalki et al., 2012; Venkataraman et al., 2018). In terms of work-related characteristics, working year and working shifts have been shown to have a significant relationship to nurses' QWL (Chow, 2015; Kaddourah et al., 2018; Moradi et al., 2014; Venkataraman et al., 2018). Monthly income appears to be a strong predictor of QWL in some studies (Kelbiso et al., 2017; Komjakraphan et al., 2017). Additional benefits have also been reported to impact the quality of nurses' working life (Chow, 2015; Vagharseyyedin et al., 2011). Major determinants found to reduce QWL of nurses include unsuitable duty hours, failure to offset the needs of work and family, lack of breaks, and lack of nurses (Shazly & Fakhry, 2014). Collaborators, promotion opportunities, and workplace also affect QWL among nurses (Brooks & Anderson, 2004, 2005; Brooks et al., 2007).

Nurses desire supportive resources and structures, and an expanded nursing and non-nursing staff to help them carry out their responsibilities (Brooks &

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Anderson, 2004; Chow, 2015; O'Brien-Pallas et al., 2004; Pineau Stam et al., 2015). Additionally, nurses wish to have more self-governance and greater recognition from their organizations (Brooks & Anderson, 2004). In Vietnam, nurses account for 23% of total health manpower; while secondary nurses (college level education) account for 86% of all nurses at four levels (central, provincial, district, and community) of Vietnamese healthcare (World Health Organization [WHO], 2016). The Ministry of Health, of Vietnam is responsible for the regulation, and formulation of plans and policies. Improving nurse education and standards, reducing the number of nurses migrating abroad, improving job recruitment policies, incentives, and workplaces (in terms of the education level and training) are vital factors that must be considered. Central and provincial level hospitals in Vietnam are overcrowded with patients, causing overtime and staffing problems. One of the reasons for this overcrowding is inadequate staffing and equipment at lower levels of healthcare (WHO, 2016). Lack of an adequate healthcare management information system has also added to workload among nurses and other health workers.

Despite the given facts, the QWL of health workers in general, and nurses in particular, is an issue that has not been well researched in Vietnam. Considering their important role in providing preventive and curative healthcare, it is of vital interest to explore the QWL of nurses in the country. Therefore, we utilized eight calculated classifications derived from Walton's QWL model (1975) as a framework for estimating the level of QWL, investigating selected factors that might impact QWL, and determining their level of association with QWL among nurses (Walton, 1975). This was combined with demographic information based on a literature review to provide variables related to nurse QWL. Our results could benefit healthcare administrators by fostering more efficient and effective strategies for enhancing quality of nurses' work life for better job performance and patient care.

Aim

The objective of the study was to measure the overall level of current QWL, and its association with personal and work-related factors among nurses at a provincial general hospital in Vietnam.

Methods

Design

A descriptive cross-sectional survey was designed to meet the aims of the study. The authors made use

of STROBE reporting guidelines in the cross-sectional study.

Sample

This study was conducted in the provincial general hospital of Quang Tri province, a tertiary care hospital with a capacity of 1,000 beds. The hospital comes under Quang Tri provincial department of health services. The authors purposively selected the hospital based on the number of employees, the healthcare facilities provided, and convenience for the study. The sample size ($n = 146$) was determined using Yamane's formula, with a 5% margin of error and a 95% confidence interval (Yamane, 1973). The number of participants was further increased by 10% to cover anticipated loss of participants (Almalki et al., 2012). First, written permission was obtained from the hospital director, following ethical approval of the study by the Institutional Ethics Committee of Hue University of Medicine and Pharmacy, and Khon Kaen University. All the working nurses were approached through the chief nurse of the hospital, followed by the head nurse of each department. The purpose, objectives, risks, and benefits of the study were explained to each recruit. Participants were assured that participation was voluntary and could be withdrawn at any time during the study. Inclusion criteria for participation were a willingness to participate in the research, a minimum of one year's work experience, and the ability to read and communicate in Vietnamese. Nurses who were off duty during the study period (on study leave, maternity leave, or vacation), and nurses who participated in the pilot study were excluded. Each nurse was given a unique number, 1 through 200. Next, a random sampling method was used to select a representative sample of 160 nurses. None of the selected nurses refused to participate, after which a consent form was signed, and the survey form was distributed. The participants were requested to return the completed questionnaire within two weeks to a provided collection box. With all 160 nurses returning the questionnaire, the response rate was 100%. Data were collected from October to November, 2019.

Data collection

A self-administered questionnaire comprising of two parts, and taking approximately 30 minutes for completion, was used to survey the participants. The first part consisted of socio-demographic and work-related questions, whereas the second part was the Vietnamese version of the QWL questionnaire mentioned above (Timossi et al., 2008). The socio-demographic & work-related questionnaire consisted

of nine items, such as age, gender, marital status, educational level, working year, salary, type of staff, nurse position, and care-giving responsibility at home. The original English instrument was translated into Vietnamese. Both translation and back-translation were performed according to the recommended method (Cha et al., 2007). A panel of three bilingual experts in public health research and in health management reviewed the questionnaire and assessed its validity. In addition, a pilot study was conducted to ensure the clarity and appropriateness of the questionnaire, in which the Cronbach alpha coefficient obtained was 0.925.

The QWL survey consisted of thirty-five items to assess eight dimensions of work life, including: 1) Fair and appropriate compensation; 2) Working conditions; 3) Opportunity to use your capacities; 4) Opportunities in your work; 5) Social integration; 6) Constitutionalism; 7) Work and total life space; and 8) Social relevance. The scores were plotted on a five-point Likert scale: 1 (very dissatisfied), 2 (dissatisfied), 3 (neither satisfied nor dissatisfied), 4 (satisfied), and 5 (very satisfied). The overall score of the QWL survey can range from 35–175. Scores from 35 to 80, 81–130, and 131–175 are considered poor, medium, and high QWL, respectively.

Data analysis

The received data were processed using Epi Data 3.1 software and the Statistics Package for Social Sciences (SPSS), version 20.0. Descriptive statistics, including frequency, percentage, range, mean, and standard deviation were used to analyze data related to demographics and quality of work life. Total scores and sub-scores for QWL items and their summary statistics were computed and reported. A Chi-square test was used to test the differences between QWL and two groups of independent variables (gender and marital status variables). One-way analysis was used to test for statistically significant differences between QWL and other groups of independent variables, such as education level, type of staff, nurse position, and care-giving responsibility at home. Pearson's correlation was used to measure correlations that might exist between two variables measured on interval scale or ratio scale (age, working year, and salary). Spearman's correlation was applied to measure correlations that might exist between two variables measured on a binary scale or nominal scale (marital status, education level, type of staff, position, and care-giving responsibility at home). In addition, multiple linear regression was used to analyze whether one or more predictor variables explained the outcome

of the dependent variable. All statistical tests were considered significant at $p < 0.05$.

Results

Socio-demographic and work-related characteristics among nurses

The demographic characteristics of the participants in the current study are presented in Table 1. The mean age of respondents was 32.1 (± 7.6) years, ranging from 22 to 55 years. The largest proportion of participants were in the 20–29 years age group (45.6%), while another 36.9% of nurses were in the 30–39 years age group. With regards to gender, most nurses in this study were female (91.2%). The largest percentage of participants (70%) were married, and 30% single. None of the participants in this study were divorced or widowed. Three-year nurses (nurses with three years of nursing courses after high school) accounted for the highest percentage of participants (57.5%), while two-year nurses (nurses with two years of nursing courses after high school) and nurses with a bachelor degree had almost equal proportions. The percentage of nurses with a master degree/specialization was extremely low (0.6%).

The number of working years ranged from 1 to 33 with over half of the participants having worked between 1 to 9 years (57.5%). The percentage of nurses with more than 20 years' work experience was the lowest (11.9%). With regards to type of staff, those on permanent job represented the highest proportion (90%), followed by long-term contracts (8.8%), and short-term contracts (1.2%). The majority of the respondents were staff nurses (92.5%), followed by chief nurses (6.9%), and deputy heads of department (0.6%). None of the participants were in the position of department head or hospital manager. Regarding care-giving at home, a total of 73 participants (45.6%) had either childcare or elderly care responsibility, while 56 participants (35%) had responsibility for both, and 31 participants (19.4%) were free of these responsibilities. Our survey revealed that the mean salary per month among enrolled nurses was 5,890,000 Vietnamese dong (SD = 2,235,000), ranging from 2,500,000 to 15,000,000 Vietnamese dong.

QWL level and QWL dimensions among nurses

The overall QWL score among the majority of nurses (68.1%) was at a moderate level, while a high level was observed in only 11.2% of the participants. The mean QWL of nurses was 106.27 (SD = 19.14); the lowest score was 73 and the highest was 145. Table 2 summarizes the statistics of QWL dimensions. The lowest mean score, 2.21 (± 0.41),

Table 1 Socio-demographic and work-related characteristics of nurses (n = 160)

Characteristics	n	%
Age (Years) (mean = 32.1; SD = 7.6; range = 22–55)		
20–29	73	45.6
30–39	59	36.9
40–49	23	14.4
50–60	5	3.1
Gender		
male	14	8.8
female	146	91.2
Marital status		
single	48	30
married	112	70
Educational level		
two-year nurse	33	20.6
three-year nurse	92	57.5
bachelor of nurse	34	21.2
master/specialized nurse	1	0.6
The number of working years (mean = 9.2; SD = 7.78; range 1–33)		
1–9 years	92	57.5
10–20 years	49	30.6
> 20 years	19	11.9
Type of staff		
short-term contract	2	1.2
long-term contract	14	8.8
permanent	144	90
Nurse position		
staff	148	92.5
chief nurse of department	11	6.9
deputy head of department	1	0.6
Care-giving responsibility at home		
no	31	19.4
child care or elderly care	73	45.6
child care & elderly care	56	35
Salary (Vietnamese Dong) (mean = 5,890,000 ± 2,235,000; min. = 2,500,000; max. = 15,000,000)		

max. – maximum; min. – minimum; n – number of sample; SD – standard deviation

Table 2 Descriptive statistics for work life dimension (n = 160)

Dimensions	mean ± SD	min.	max.
A fair and appropriate compensation	2.21 ± 0.41	1.50	3.50
Your working conditions	2.90 ± 0.64	1.50	4.50
The use of your capacities at work	3.07 ± 0.67	2.00	4.00
Opportunities that you have at work	3.06 ± 0.60	1.75	4.25
The social integration at work	3.23 ± 0.58	2.00	4.75
The constitutionalism (respect to law) at work	3.13 ± 0.75	2.00	5.00
The space that work occupies in your life	3.00 ± 0.75	2.00	4.00
Social relevance and importance of your work	3.60 ± 0.78	2.00	5.00

max. – maximum; min. – minimum; n – number of sample; SD – standard deviation

was observed for fair and appropriate compensation, and the highest mean, 3.6 (± 0.78), was recorded for social relevance and importance of your work. The mean score for total QWL was 3.04 (± 0.55).

Association of factors with QWL among nurses

Following analysis of factors linked to quality of work life among nurses, we found a significant relationship between marital status, educational level, nurse position, and care responsibilities at home.

The QWL score of female nurses was significantly higher than male nurses ($p = 0.002$); married nurses had significantly higher QWL than nurses with single status ($p < 0.001$) (Table 3). There was no significant relationship between type of staff and the QWL of nurses ($p = 0.099$). As shown in Table 4, a weak positive correlation between QWL and age ($r = 0.196$; $p = 0.013$), the number of working years ($r = 0.204$; $p = 0.01$), and care-giving responsibilities

at home ($r = 0.179$; $p = 0.024$) was observed. There was a moderate positive correlation between QWL and marital status ($r = 0.312$; $p = 0.001$), monthly income ($r = 0.3333$; $p = 0.001$), and job position ($r = 0.402$). Educational level among nurses had a strong positive correlation to QWL ($r = 0.515$; $p = 0.001$) in the study. No significant correlation was established between type of nursing staff and QWL ($p = 0.064$).

Table 5 shows a multiple linear regression analysis of QWL determinants. The standardized coefficients (β) for education level was the highest (0.365), followed by gender (0.351), and monthly salary (0.322); whereas number of working years had the lowest (-0.343), indicating that it made least contribution to QWL. The R-square of 0.48 implied that the six predictor variables explained about 48% of QWL.

Table 3 Factors related to quality of work life among nurses (n = 160)

Variables	mean ± SD	p-value
Gender		
male	89.43 ± 22.89	p = 0.002
female	107.89 ± 18.03	
Marital status		
single	97.38 ± 16.03	p < 0.001
married	110.09 ± 19.16	
Educational level		
two-year nurse	89.42 ± 15.75	p < 0.001
three-year nurse	107.25 ± 16.72	
bachelor nurse	119.15 ± 16.46	
master/specialized nurse	135.00	
Type of staff		
short-term contract	87.00 ± 16.97	p = 0.099
long-term contract	100.36 ± 19.78	
permanent	107.12 ± 18.98	
Nurse position		
staff	104.01 ± 17.82	p = 0.000
chief nurse of department	134.27 ± 11.92	
deputy head of department	134.00	
Care-giving responsibility at home		
no	95.77 ± 17.91	p = 0.001
childcare or elderly care	109.01 ± 18.70	
childcare & elderly care	108.52 ± 18.68	

n – number of sample; SD – standard deviation

Table 4 Correlation between socio-demographic and work related characteristics and QWL among nurses (n = 160)

Variables	Correlation coefficient (r)	p-value
Age	0.196	0.013
Marital status	0.312	0.001
Educational level	0.515	0.001
The number of working years	0.204	0.01
Salary	0.333	0.001
Type of staff	0.147	0.064
Nurse position	0.402	0.001
Care-giving responsibility at home	0.179	0.024

Discussion

The current study aimed to assess the QWL of nurses working in a tertiary care setting in Vietnam, and results showed that the majority of the nurses had a moderate level of QWL. Our finding is in line with a study that explored QWL among emergency nurses in Jordan but contradicts a study from Saudi Arabia

in which primary healthcare nurses were not satisfied with their QWL (Almalki et al., 2012; Suleiman et al., 2019). Clearly the QWL of nurses differs between healthcare settings across the world, depending mainly on personal and work-related factors.

We found that education level was the most influential factor for QWL. Importantly, the Ministry of Health, Vietnam, issued a circular stipulating that

two-year nurses would not be recruited after the year 2021 (Ministry of Health, 2015). This development might have contributed to lower QWL scores for two-year nurses compared to nurses with post-graduate degrees in our study. However, this could also be explained by a number of previous nursing studies which found that highly educated individuals develop higher satisfaction with their work (Rambur et al., 2005; Yin & Yang, 2002). In particular, Kelbiso et al. (2017) showed that nurses with bachelor or master degrees had higher QWL than those with lower qualifications (Kelbiso et al., 2017).

In the present study, a higher job position was the second most influential factor for QWL. The QWL of manager nurses was higher than that of staff nurses. In the context of Vietnam, the high salary and exemption from night shift duty enjoyed by manager nurses might have contributed to this result. Other studies have found no significant relationship between quality of nurses' work life and job position (Kaddourah et al., 2018; Suleiman et al., 2019). Salary was ranked third among the factors with an impact on QWL. Our results regarding salary and QWL indicated that when a participant's salary increased by 1,000,000 Vietnamese Dong (43 US Dollar), their QWL score increased by 0.333 points. A possible explanation is that nurses with higher monthly income are more likely to be able to help fulfil their own and family members' needs. This result was consistent with previous studies in which life satisfaction score was positively correlated with nurses' incomes (Mirfarhadi et al., 2013). Additionally, working years correlated with QWL level, such that every additional year on the job increased the QWL score of nurses by 0.204 points ($r = 0.204$). It seems that nurses with greater work experience feel less occupational stress and more stability in their job, and thus experience better QWL.

We observed that an increase in age significantly contributed to higher QWL scores ($r = 0.196$), and that married nurses had higher QWL score than those who were single ($r = 0.312$). This may be attributable to the lack of the skills among single nurses and younger nurses in coping with challenges in the workplace. In line with our findings, previous studies using bivariate analysis showed that higher age was a significant factor contributing to higher QWL scores, while others studies were unable to establish a significant association between marital status and QWL (Kaddourah et al., 2018; Komjakraphan et al., 2017; Moradi et al., 2014; Suleiman et al., 2019).

Female nurses had higher QWL scores than their male counterparts. This observation may be linked to

salary, since it was one of the dimension with the lowest score in our research. In Vietnam, men are often expected to be the main breadwinner and need to support the family with sufficient earnings. Vietnamese women have traditionally been regarded as more self-sacrificing than men, which could explain higher satisfaction levels among female nurses. Our finding is similar to selected published studies (Almalki et al., 2012; Kaddourah et al., 2018; Komjakraphan et al., 2017; Moradi et al., 2014; Suleiman et al., 2019; Venkataraman et al., 2018). In addition, a study has shown that absence of dependent individuals at home is a significant factor contributing to higher QWL scores (Venkataraman et al., 2018). We also observed a weak positive correlation between care-giving responsibility at home and QWL ($r = 0.179$). It has been reported elsewhere that nurses with children are more satisfied with their QWL compared to those with no children (Almalki et al., 2012). The results of multivariate linear regression analysis confirms, on top of correlation analysis, that education level, monthly income, nurse position, working years, and marital status are influential factors in QWL among nurses. These predictor variables described about 48% of QWL. According to Kelbiso et al. (2017), 23.1% of the QWL of nurses is related to educational level, monthly income, and work unit (Kelbiso et al., 2017). Our score, which is more than two times higher, may be due to extra factors in the study.

Vietnam is a member country of the Association of Southeast Asian Nations (ASEAN) with 10 nations sharing similar socio-demographic and healthcare systems. Similar to many other middle and low income countries, Vietnam lacks human resources in health, including nurses. Since QWL has an important impact on attracting and retaining employees, our findings could be valuable for health policymakers and nurse administrators in such middle and low income countries, especially in the ASEAN region. Since Vietnamese nurses are also recruited in Asian and European countries, such as Germany, knowledge of QWL among Vietnamese nurses could be vital in increasing successful recruitment (Peters & Braeseke, 2016).

Limitation of study

The current study has certain limitations. Firstly, the design of this study was as a cross-sectional survey, which limits observations of change over time. Secondly, the study was conducted among nurses working in public hospitals, and, therefore, it might not be possible to extend the findings to private hospitals. Thirdly, although we have compared QWL

scores according to gender or marital status, it is important to note that most of the nurses were female, and 70% of the participants were married. Fourthly, tests regarding validity of the Vietnamese version of the QWL or psychometric properties of the Vietnamese version of the QWL questionnaire were not carried out in the study. However, we did perform translation and back-translation of the questionnaire from English to Vietnamese, using recommended methods (Cha et al., 2007). Moreover, content validity was assessed by a panel of three bilingual experts in public health research and health management. Finally, the data were collected through a self-report questionnaire, which may not reflect the real picture of QWL. Future studies, including interventions with larger sample size covering every region of Vietnam, are recommended.

Conclusion

The level of QWL among the majority of nurses was moderate, and a higher educational (university) level was the most influential factor. Our results could be used as a guide for the development of regulations and practical strategies aimed at improving the current standard of the nursing profession, and the quality of healthcare in Vietnam and other countries with a similar socio-economic status.

Ethical aspects and conflict of interest

This study was approved by the Institutional Ethics Committee of Hue University of Medicine and Pharmacy, Vietnam (H2019/393) and the Center for Ethics in Human Research, Khon Kaen University, Thailand (HE 622195). Permission to use the research instrument was obtained from the original author.

In addition, written consent was received from participants, and their identity was protected during the study. They were identified only by an assigned numerical code in the dataset. The participants had the right to refuse to answer any of the questions, and to withdraw from the study at any time (before data analysis). All data remained confidential, and was used for research purposes only.

No conflict of interest has been declared by the authors.

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Author contributions

Concept and study design (LTHV, KV, NVQH), data collection, data analysis and interpretations (DVH, LTHV, TNMD, TTML), processing the draft of the manuscript (LTHV, DVH), critical revision of the manuscript (LTHV, KV, NVQH), article finalization (LTHV, TTML).

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