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Quality of Work Life and Its Related Factors: A Survey of Nurses

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Abstract

Background: Improving the quality of work life (QWL) is a comprehensive process essential to attracting and retaining employees, especially in health care.

Objectives: The purpose of the present study was to determine quality of nursing work life and its related factors at nurses Kashan city hospitals in 2014.

Methods: This cross-sectional study was conducted on 157 ICU nurses from September to November, 2014 at 4 educational hospitals of Kashan, Iran. A three part questionnaire was used in this study: demographic and professional characteristics, quality of nursing work life (QNWL), and the national aeronautics and space administration task load index (NASA-TLX). Data were analyzed using the t-test, the Mann-Whitney U test, and the chi square and Fisher's exact test with SPSS software, version 16.

Results: The majority of the participants (N = 112) were female (83.3%), and the mean age of the subjects was 33 $\pm$ 6.98 years. Age, education, job position, job location, and a second nursing job in another hospital were found to predict QNWL. Among the six subscales of NASA-TLX, frustration and mental demand had the lowest and highest rating score, respectively. Temporal demand, frustration, and effort levels were significantly correlated with QNWL.

Conclusions: It is necessary to pay more attention to the QNWL and its related factors, especially nursing workload, to improve quality of care.

Keywords: Nurses, Critical Care, Quality of Life, Workload

1. Background

Improving job satisfaction is important for all organizations to attract and retain skilled personnel (1). Some believe that job satisfaction is not a proper indicator of feelings about work and the work environment. They suggest that quality of work life (QWL) might be a better indicator in this field (2). QWL is different from job satisfaction (3), which is only one QWL factor (3, 4). QWL was first introduced in the 1930s (5). Despite its importance, an accepted definition for QWL has not yet been introduced (6).

Brooks et al. explained that QWL is a process by which the organizations' personnel and stakeholders learn how to work better together to simultaneously improve staff quality of life and organizational productivity (7, 8). Improving QWL is a comprehensive process and is essential to attracting and retaining personnel (9-11). QWL can improve work commitment and productivity (10, 12), the psychosomatic health of employees (13, 14), professional performance (15), and job satisfaction (4, 16).

On the other hand, work environments, work design, social factors, and the work and home life balance are factors that can influence work life (15). QWL has received increasing attention in health care (8). Nurses are a group of health care personnel that are working under complicated, dynamic, and stressful conditions (17). They are vital to patient care (18). Use of technical and complicated equipment is another challenge in these units (17). These factors increase both the physical and mental workload (19).

Many studies have reported dissatisfaction of nursing conditions in Iran (9, 10, 12, 16, 20). The reasons for this issue have not been investigated sufficiently or comprehensively. There are many factors that can influence QNWL. Identifying these factors can help managers increase productivity and enhance quality of care in health care settings. In separate investigations, Dehghan Nyieri et al. (10) and Koushki et al. (12) mentioned that QNWL had no significant relationship with age, sex, work experience, or job location, a result in contrast to that of some other studies (8, 13, 21). Thakkar in India (21) and Almalki et al. in Saudi Arabia (22) found that QNWL had no significant relationship with education; however, Moradi et al. reported a significant relationship between these two variables (8).

On the other hand, heavy workload and insufficient social support can lead to anxiety (23). Heavy workload is one of the chief job stressors reported by ICU nurses (19). Heavy workload can have negative effects on nurses, other ICU

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personnel, and patients (19, 24). Physical and mental workload can decrease QNWL (25).

2. Objectives

The present study was designed to determine QNWL and related factors for nurses working at 4 Kashan city hospitals in 2014.

3. Methods

This cross-sectional study was carried out from September to November, 2014 at intensive care (ICU), cardiac care (CCU), dialysis units, and emergency departments (ED) at four educational hospitals, four ICUs, two CCUs, two dialysis units, and four EDs.

A three part questionnaire was used in this study: demographic and professional characteristics, QNWL, and the national aeronautics and space administration task load index (NASA-TLX).

The demographic and professional characteristics identified were age, sex, education, marital status, work experience (in years), job location (ICU, CCU, ED, or dialysis), job position (nurse, head nurse, or supervisor), employment type (permanent, temporary, contract, or compulsive governmental service), satisfaction with flexibility of work shift, whether participants had a second nursing job at another hospital, and whether participants had another job besides nursing.

Brooks' QNWL statements contain 40 items in four subscales, (a) work life-home life defined as the interface between the nurses' work and home life, (b) work design of nursing work and real work performance, (c) work context or the practice settings and (d) work world or influences on the practice of nursing. Respondents determine how much they agree or disagree with each item.

A lower score indicates a low overall QNWL, whereas a high score indicates a high QNWL. This variable was measured as the dependent variable. The validity and reliability of this instrument for use in the Iranian setting were obtained by Azarang et al. (26). Cronbach's alpha for the total scale was 0.97, and the dimensions ranged from 0.50 to 0.87 (26).

Mental workload was evaluated by NASA-TLX. A score of zero indicates the lowest mental workload, and 100 indicates the highest mental workload in these six dimensions. Face validity and reliability of the NASA-TLX technique were confirmed (α = 0.897). In this study, the reliability of the three-part questionnaire was assessed by test re-test, and Cronbach's alpha was calculated as 0.88 in 20 nurses.

Nurses who had more than one year of work experience and did not have any psychosocial or psychosomatic problems were included in this study. Nurses who submitted an incomplete questionnaire were excluded.

3.1. Data Analyses

Data were statistically analyzed using SPSS for Windows version 16, and data were described by frequencies, means, and standard deviations. The appropriate test was considered (two-tailed Student's t-test or Mann-Whitney U). To denote the relationship between QNWL and other qualitative variables, the chi square test and Fisher's exact test were used. A significance level of 0.05 was considered for all tests.

4. Results

A total of 157 questionnaires were retrieved. Of the subjects, 89 (56.7%) had high scores, and 68 (43.3%) had low scores for QNWL.

The majority of the sample (N = 112) were female (83.3%), and 43.9% (n = 69) were between the ages of 20 and 30 years; 80.9% of the participants were married, and 76.4% had a bachelor's degree in nursing (Table 1). Of the critical care nurses, 57 (36.3%) had low satisfaction with the flexibility of their work shifts. Only 49 (31.2%) of the critical care nurses were employed permanently (Table 2).

Table 1. Demographic Predictive Variables in Two Groups (Low and High QNWL)

Variables	Low QNWL, No. (%)	High QNWL, No. (%)	P
Age, y			
20 - 30	39 (56.5)	30 (43.5)	0.009
30 - 40	20 (30.3)	46 (69.7)	
40 - 50	9 (40.9)	13 (59.1)	
Sex			
Male	22 (48.9)	23 (51.1)	0.371
Female	46 (41.1)	66 (58.9)	
Education			
Associate's degree	3 (20)	12 (80)	0.001
Bachelor's degree	65 (48.9)	68 (51.1)	
Master's degree	0 (0)	9 (100)	
Marital status			
Single	14 (46.7)	16 (53.3)	0.680
Married	54 (42.5)	73 (57.5)	

Table 2. Professional Predictive Variables in Two Groups (Low and High QNWL)

Variables	Low QNWL, No. (%)	High QNWL, No. (%)	P
Job position			
Nurse	61 (43.9)	78 (56.1)	0.0001[a]
Head nurse	7 (87.5)	1 (12.5)	
Supervisor	0	10 (100)	
Job location			
ICU	12 (35.3)	22 (64.7)	0.026
CCU	17 (60.7)	11 (39.3)	
Dialysis	6 (23.1)	20 (76.9)	
Emergency room	33 (47.8)	36 (52.2)	
Work experience, year			
< 10	43 (44.3)	54 (55.7)	0.219
10 - 20	8 (28.6)	20 (71.4)	
> 20	7 (53.8)	6 (46.2)	
Have second nursing work in another hospital			
Yes	0	7 (100)	0.019[a]
No	68 (45.3)	82 (54.7)	
Have another job besides nursing			
Yes	4 (28.6)	10 (71.4)	0.243
No	64 (44.8)	79 (55.2)	
Employment type			
Permanent	19 (38.8)	30 (61.2)	0.053
Temporary	25 (37.9)	41 (62.1)	
Contract	16 (69.6)	7 (30.4)	
Compulsive governmental service	8 (42.1)	11 (57.9)	

[a]Fisher's exact test.

According to the chi square tests, QNWL had a significant relationship with age and education (P = 0.001). Therefore, older personnel, especially those in the age range of 30 - 40 years, had higher QWL, and nurses with associate's degrees and master's degrees reported a better QNWL than others. The QNWL had no significant relationship with the marital status or sex of the participants (Table 1).

Chi square tests showed a significant relationship between QNWL score and job location (P = 0.026) (Table 2): Nurses in dialysis units reported a better QNWL than others. In addition, job position had a significant relationship with QNWL (P = 0.0001): There were significant differences among the QNWL scores for all job positions (nurse, head nurse, and supervisor) (Table 2).

A significant relationship was also found between QNWL and the factor of having a second nursing job in another hospital (P = 0.019); nurses working at multiple hospitals had better QNWL. Other measured variables had no significant relationship with QNWL (Table 2).

Among the six subscales of NASA-TLX, frustration and mental demand had the lowest and highest rating scores, respectively. According to Student's t-test and Mann-Whitney U analysis, temporal demand, frustration, and effort levels had significant relationships with QNWL (P = 0.0001, P = 0.002, and P = 0.037, respectively). Therefore, if temporal demand, frustration, and effort levels decrease, QNWL increases (Table 3).

Table 3. NASA Score Subscales in Two Groups (Low and High QNWL)

NASA-TLX	Low QNWL	High QNWL	P
Mental demand	79.2 ± 20.3	82.6 ± 15.4	0.478[a]
Physical demand	67.7 ± 29.4	62.9 ± 26	0.168[a]
Temporal demand	74.4 ± 24	55.9 ± 20.4	0.0001[b]
Performance	79.5 ± 19.3	79.5 ± 17.8	0.582[a]
Frustration	52.9 ± 27.9	40.2 ± 21.4	0.002[b]
Effort	83.3 ± 15.1	78.9 ± 14.4	0.037[a]

[a]Mann- Whitney U test.
[b]Two-tailed student's t-test.

5. Discussion

The results of the present study show that the critical care nurses had an adequate work life (56.7%). In other studies, QNWL in different hospitals was evaluated from poor to good (8, 13, 22, 26-28).

In this study, we found that age, education, job location, and job position had significant relationships with QNWL. Shermont and Krepcio in North Carolina found that acceptable pay, good mentors and colleagues, attractive benefits, flexible scheduling, and positive interactions with physicians were the top five reasons for high QWL cited by registered nurses (29).

In the current study, personnel within the age range of 30 - 40 years had higher quality of work life. The studies of Mogharab et al. (13) and Thakkar (21) confirm this finding. However, Dehghan Nyieri et al. (10) and Koushki et al. (12) had contrasting results. It seems that nurses with higher levels of experience had better adaption to work environments.

There was a significant relationship between education and QNWL in our study: Nurses who had a bachelor's of science degree indicated lower QWL. This result is similar to the findings of Moradi et al. (8). However, neither Thakkar (21) nor Almalki et al. (22) found such a relationship. It seems that nurses with higher education levels had higher expectations for their working life and thus experienced more boredom, especially when their work environment did not meet their expectations (26).

There was a significant relationship between job position and QNWL. As a result, head nurses indicated lower QWL. This finding was similar to those of several studies (13, 21, 22).

Our findings showed a significant relationship between QNWL and job location. There is no similar or dissimilar finding for this factor. In our study, dialysis unit staff had better QWL, which might be due to the higher nurse to patient ratio in these units. The QNWL differences in various units could also be attributed to the unit's circumstances. Factors such as unit size, number and type of patients, hospital policies, and physical environment may affect QNWL (8). Work setting specialization and lower levels of stress may also be related to QNWL (26).

Having a second nursing job in another hospital was also positively correlated with QNWL, which could be attributed to higher salary and expanded social interactions. However, Vagharseyyedin et al. found no correlation between these two variables (11).

We did not find any significant relationship between QNWL and other dimensions of NASA-TLX.

There are several instruments to evaluate QWL; we used Brooks' questionnaire, which we believe to be comprehensive. However, other instruments might be considered in future research.

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Footnotes

Authors' Contribution: Zohereh Sadat and Mohammad Sadegh Aboutalebi contributed to the planning and prepared the first draft and critical revisions of the manuscript. Zohreh Sadat supervised the study and conducted data analysis. Mohammad Sadegh Aboutalebi was involved in data collection, and Negin Masoudi Alavi contributed to the study conception and design, supervised the study, and assisted in the critical revision of the manuscript.

Conflicts of Interest: The authors declare no conflicts of interest in this study.

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