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JOB STRESS AND QUALITY OF NURSE'S WORK LIFE

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ABSTRACT

Background: In the health system, one of the goals of managers is improving employee's function and the quality of services provided for costumers. Few factors may improve these services. Among these factors, quality of work life has been introduced as an effective significant factor in the quality of services provided. However, the relationship between job stress and concepts such as quality of work life has not been determined truly. Thus, this study aimed to assess the relationship between job stress and quality of nurse's work life.
Material and Methods: In this descriptive-correlational study, 300 individuals of the personnel of the hospitals of Tabriz were recruited by stratified systematic random sampling. Instruments for gathering data were Demographic characteristics and Nurses Stress Scale (NSS) and Quality of Nurses Work Life (QNWL) questionnaires. Data were analyzed by the SPSS version 13 software using descriptive statistics including: frequency, mean and standard deviation, and analytical statistics including: Pearson correlation coefficient, independent t-test, and variance analysis.
Results: Findings indicate that most nurses were highly stressed and had a positive correlation with sex and type of employment and a negative correlation with age and work experience. Also, QNWL was moderate among participants. In this study, the relationship between nurse's job stress and QNWL was negative and significant.
Conclusion: Job stress is one of the most effective factors on nurse's quality of work life that requires further deliberation regarding assessing other effective factors for making changes in nurse's quality of work life.

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Introduction

Stress is a frequent ailment in the 21 century effecting humans in every circumstance [1]. Nowadays, job stress is one of the most common and costly challenges in the workplace effecting practically everybody [2]. Job stress consists of adverse emotional affects and physical reactions. Thus, job demands are higher than employee's capabilities and resources [3]. In 1979, Karasek introduced the demand-control model, occupational stress occurs when psychological demand for work is high and control or decision making is weak. Nursing is an example of highly stressed jobs which psychological demand is high and deciding is weak [4].

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Results indicate that after backache, job stress is the second common difficulty related to work [5, 6]. According to the American National Institutes of Health survey on 130 jobs, nurse's referral to physicians for psychological health issues was rated 27 [7]. In one study, 93% of nurses were exposed to workplace stressors which had significant effect on their physical and mental health [8]. Also, every week, 7.4% of nurses do not attend work due to stress disabilities and fatigue which is 80% higher than other jobs [9]. Since stressful factors are unavoidable in nursing and the necessity to prevent psychological and behavioral factors, utilizing preparations and procedures for improving quality of life and educating opposition methods are few of the responsibilities of managers of health care organizations [10].

The phrase Quality of Work Life (QWL) was first introduced by Mayo in 1930 [11]. Quality of Nursing Work Life (QNWL) determines if nurses could fulfill their essential and subjective needs by working in health care systems and eventually reaching organizational objectives [12]. Quality of work life has a major impact on employee's behavioral reactions such as organizational identity, work satisfaction, job incorporation, job effort, job function, intention to quite work and organizational change and alteration [13].

Brooks suggested the latest version of QNWL which consists of four dimensions: First is the work life-home life dimension or the interface between the nurses' work and home life. Second is the work design dimension is the composition of nursing work, or the actual work nurses do. Third is the practice settings in which nurses work and the impact of the work environment on both nurse and patient systems is the work context dimension. Forth is the work world dimension, is defined as the effects of broad societal influences and change on the practice of nursing [12].

Nurse's high work pressure declines QWL, thus, nurses often are deprived of energy and are not able to stabilize their work life and family life [14]. Thus, we can declare that in organizations providing health services, QWL is an effective factor on employee's function and the quality of health care services provided [15]. Also in each organization, high QWL is essential for attracting and preserving employees [16]. In this field, in Dargahi and colleague's study, 74.5% of nurses were not satisfied of their work life [17]. Nursing managers must create an atmosphere that not only absorbs new nurses but preserves current nurses and prevents them from moving to other jobs [18]. Evidence indicates that work atmosphere directly effects patient outcome. In hospitals who have supportive work atmosphere, mortality rate is lower in comparison to other hospitals [19].

Literature related to the QWL are limited and most of the studies accomplished in this field are related to work satisfaction [20]. According to the studies accomplished inside and outside Iran, most studies are related to job stress and practically stressful factors effecting nurses have been determined. Few of these effective factors have been studied but in Iran, less study has been obliged regarding the effect of job stress on QNWL. Based on the necessity of providing suitable and high quality health-care services, the modern health scheme, improving work content, referrals to health-care system, lack of nurses, the obligation to preserve current staff and also considering the significance of QWL in enhancing nurse's efficiency in workplace and ultimately elevating hospital's outcome; the objective of this study was to assess the relationship job stress and QNWL among nurses working in educational-therapeutic units related to the Medical Science University of Tabriz.

Material and Methods

This descriptive-correlational study was accomplished in march 2017 among male and female nurses working in educational-therapeutic units related to the Medical Science University of Tabriz. Nurses had at least one-year clinical work experience and did not have any history of psychological distress, hospitalization in mental hospitals or using psychotherapy medications. According to the pilot study accomplished on 30 subjects, with a 0.05 type I error and 90% testing power, the sample size was calculated as 165. In this study, the sample size was enhanced to 300 subjects. After obtaining permission from the ethic committee (No: TBZMED.REC.1394.1020) and the Research Deputy of Tabriz University of Medical Sciences, sampling was done by stratified systematic random sampling.

After preparing a list of all the nurses of the hospitals, randomized sampling was administered in order to recruit nurses from each hospital in proportionate to its nurses. Data were gathered by a socio-demographic questionnaire, Nurses Job Stress and the QNWL questionnaires. For measuring nurses job stress, we used the Toft & Andersone's questionnaire designed in 1981. This questionnaire consists of 34 questions and 7 sub-scales including: facing death and dying, conflicts with physicians, inadequate preparation to meet emotional needs of patients and their families, lack of staff support, conflicts with other nurses and supervisors, labor standards and uncertainty concerning treatment. Scoring was from 0 (never) to 3 (sever stress) according to the Likert Scale. Scores less or equal to 39 were indicated as mild stress, scores between 40-62 were implied as moderate stress and more or equal to 63 as severe stress. The questionnaire was translated forward-backward. After consulting with 10 bilingual experts about language and cultural adaptation, the instruments validity was assessed. Also by accomplishing a pilot study, the instruments reliability was confirmed with an 85% alpha Cronbach. For assessing quality of nurse's work life, we used the Brooks questionnaire that consisted of 42 questions and 4 subgroups (work life-home life dimension, work design dimension, work context dimension, work world dimension). For responding to questions we used the 6-point linear Likert Scale and each item was scored from 1 (strongly agree) to 6 (strongly disagree). The questionnaire's validity coefficient, according to Brook's alpha Cronbach was minimum 0.56 to maximum 0.88. This instrument was translated forward-backward. After consulting with 10 bilingual experts about language and cultural adaptation, the instruments validity was assessed and an 87% alpha Cronbach was obtained.

After gathering all the information, data were analyzed by the SPSS version 13 software. Descriptive analysis was used for measuring frequency, mean and standard deviation. Also, for assessing the relationships between variables the Pearson

correlation coefficient and Regression (adjusting cofounders) were used. The independent t-test and variance analysis were used for assessing the differences of study variables according to demographic variables.

Results

Table 1. The Frequency distribution of demographic variables, working in educational-therapeutic units related to Tabriz University of Tabriz in 2017

variables		number	percent
Sex	Male	272	90.4
	Female	29	9.6
Age (year)	≤25	25	8.3
	26-35	132	44
	36-45	110	36.7
	46-55	33	11
Marital status	Single	64	21.3
	Married	233	77.4
	Divorced	3	1
	Widow	1	0.3
Number of children	0	45	19
	1	97	40.9
	2	92	38.8
	3	2	0.8
	4	1	0.4
Nursing experience (year)	1-5	71	23.7
	6-10	82	27.3
	11-15	68	22. 7
	16-20	51	17
	>20	28	9.3
Education	Associate	8	2.7
	Baccalaureate	268	89
	Master	24	8
	PhD	1	0.3
Organizational position	Matron	23	7.6
	Clinical nurse	248	82.4
	Apprentice	27	9
	Supervisor	3	1
Working elsewhere	Clinic	8	2.7
	Private hospital	15	5
	Other jobs	2	0.7
	Not working elsewhere	276	91.7
Shift	Morning	67	22.3
	Evening	1	0.3
	Night	1	0.3
	Rotation	232	77.1
Type of employment	Official	88	29.2
	Contractual	154	51.2
	Conventional	6	2
	Determined work	4	1.3
	Apprentice	26	8.6
	Corporative	23	7.6
Salary	Not enough for expenses	100	33.2
	Enough for expenses but can't save money	177	58.8
	Enough for expenses and saving	24	8

Table 2. The Mean and SD of the items of the Nurse's job stress and Quality of work life questionnaires

Variable	mean	Standard deviation

death and dying	2.14	0.63
conflicts with physicians	1.98	0.75
inadequate preparation	1.73	0.74
lack of staff support	1.55	0.81
conflicts with other nurses	1.88	0.78
Work load	1.75	0.72
uncertainty concerning treatment	2.07	0.62
Nurse's job stress	1.91	0.56
Work life-home life dimension	2.65	0.99
Work design dimension	3.42	0.78
work context dimension	3.85	0.91
Work world dimension	2.95	0.94
Quality of work life	3.44	0.72

According to table 2, the mean score of all the items of job stress was above 1.5, indicating nurses high stress in work. 11.3% of nurses had mild stress, 28.6% had moderates stress and 60.1% were severely stressed. Additionally, nurse's mean quality of work life was 3.44 which indicates subjects mean QWL.

Table 3. The Correlation Coefficient between job stress and QNWL among nurses working in educational-therapeutic units related to Tabriz University of Tabriz in 2017

	Work life-home life dimension	Work design dimension	work context dimension	Work world dimension	Quality of work life
Death and dying	-0.10	-0.075	0.070	-0.099	-0.012
Conflicts with physicians	-0.12*	0.095	0.015	-0.072	-0.051
Inadequate preparation	-0.099	-0.067	-0.043	-0.029	-0.070
lack of staff support	-0.18**	-0.19**	-0.13*	-0.074	-0.18**
Conflicts with other nurses	-0.18**	-0.16**	-0.043	-0.12*	-0.12*
Work load	-0.25**	-0.25**	-0.033	-0.17**	-0.17**
Uncertainty concerning treatment	-0.15**	-0.13*	0.015	0.094	-0.087
Nurse's job stress	-0.20**	-0.18**	0.019	-0.13*	-0.12*

*P<0.05 statistically significant **P<0.01 statistically significant

According to table 3, based upon the Pearson correlation coefficient test, there was a negative and significant association between nurse's job stress and work life-home life dimension, work design dimension, work context dimension, work world dimension and QWL. In other words, with the increase of job stress, variables of quality of work life such as work life-home life dimension, work design dimension, work context dimension, work world dimension decrease.

Table 4. The Summary of Regression Analysis

Multiple correlation	**Correlation square**	**Adjusted Coefficient of determination**
0.163	0.027	0.014

Model	**Unstandardized Coefficients**		**Standardized Coefficients Beta**	**t-Test statics**	**p-value**
	β	**Std. Error**			
(Constant)	3.409	0.41		8.308	<0.001
job stress	-0.141	0.076	-0.108	-1.844	0.066
Sex	-0.158	0.145	-0.064	-1.09	0.277
Work experience	-0.019	0.014	-0.172	-1.345	0.180
age	0.018	0.013	0.178	1.386	0.167

Dependent Variable: QNWL P<0.05 statistically significant

Based on table 4, since all the variables had a p-value more than 0.05, none of the variables of job stress, sex, work experience and age were considered as predictors of quality of work life.

Discussion

The results of this study indicate higher job stress among women in comparison to men. These findings are in parallel with Angela, Strike and Bahrami studies [7, 21, 22] and in contradict with Khaghanizadeh's study [18]. Despite work liability, women's housing and children responsibility is probably the main reason of their high stress in work [23]. A study by Strike regarding men's engagement to work revealed that men tend to occupy their selves with work and other amusements for overwhelming stress [22]. According to the results of this study, there was no statistically significant association between QNWL and sex which was in parallel with Dargahi's study [17]. However, in Wagenaar [24], Natarajan [25], Choobineh [26] and Khaghanizadeh [18] studies, women's QWL was higher than men. This is mainly due to families and society's high expectancy from men. This fact increases working hours and work load, thus expectances are not completely fulfilled and their QWL declines [18].

Similar to Angela and Bahrami studies, the findings of the present study, revealed no significant association between nurse's marital status and stress in work [7, 21]. However, in Khaghanizadeh's study, single individuals had higher stress than married ones. This is mainly because higher expectations from family, society and workplace are for single individuals. This feature leads to more work hours and workload. Thus, they might not be responsive to the abundant expectations [18]. Married nurses are enthusiastic and share job stress with their spouse thus endure less stress in work [7]. Similar to Dargahi and Choobineh studies, there was no statistically significant association between marital status and QNWL [17, 26]. Results indicate that nurses stress in work declines with aging and gaining work experience. These findings are similar to Demir, Yada and Khaghamizadeh studies [18, 27, 28] but are contradict with Bahrami's study [7]. It seems that aging and gaining work experience, enhances nurse's readiness for encountering stressful situations and work tensions are overwhelmed [27]. Regarding QNWL, age and work history, no statistically significant relationship was observed. However, results indicate that mean QNWL is higher in individuals younger than 25 years in comparison to middle-aged ones. This is mainly because most nurses younger than 25 years are unmarried or do not have children; thus there is no interaction between work and family life and defiantly have higher QNWL than older ones. Carllus also showed that QNWL declines with aging (29). Nevertheles, similar to our study, Choobineh and Dargahi believe there is no association between age and QNWL (17, 26).

Parallel to Bahrami's study, this study showed that job stress was not significantly different according to type of hospital and ward of service [7]. Nonetheless, Zimmerman believes the feature of job stress is different in different units [30] and Zaeem says excessive work load is responsible for high stress in work [31]. Also, similar to Dargahi and Choobineh studies, there was no statistically significant difference regarding the relationship between QWL and location of providing service [17, 26]. According to findings, there is a significant association between organizational position with QNWL. It was observed that trainers had higher stress, however this difference was not statistically significant. In the present study, trainee nurses had higher job stress than other nurses. However, it was not statistically significant. In Khaghanizadeh's study as well, supervisors had less stress than other nurses [18]. Roos claims that individuals with the least position in organizational hierarchy are more stressed due to limited partnership in decision makings [23]. Thus, we can conclude that these nurses have lower QWL.

In regards to education, similar to Dargahi and Khaghanizadeh studies, there were no statistically significant difference in nurse' job stress [7, 18]. However, beyond organizational settings, people's socio-economic image and reputation as stress work factors are measured by salary and level of education. People with lower socio-economic image and reputation, experience higher mental pressure [18]. Also, in this study, there was no statistically significant difference between level of education and QNWL which is parallel to Dargahi, Choobineh and Khaghanizadeh studies [17, 18, 26].

There were no statistically significant differences between nurse's shift and job stress. However, Khaghanizadeh reported that night shift is an effective factor in disposing stress among staff in hospitals [18]. Night shifts disturb the Circadian rhythm and thus deteriorate daily activity and nurse's efficiency [31] and fasten job breakout [27]. In Hadley's study, nurses working in morning and evening shifts had higher QWL than nurses working in night shifts [32]. Muecke believes that cyclic shifts have negative psychological and physiological effects, especially in individuals older than 40 years [33]. Employees have higher QWL when they have the least negative effects on their personal life and are not distracted by unreasonable working demands. Thus, because working shifts interrupt personal and social life QWL decreases [34].

There were also significant differences regarding type of employment. In respect to QNWL, the highest scores were for apprentice, contractual, official and corporative nurses, respectively. In a study in China there was a significant relationship between work satisfaction and type of employment [35]. Factors such as salary, reward, job security, workload and organizational justice have significant impact on job satisfaction and differ between types of employments [36]. This finding may be because trainee nurses have recently deprived of university and are less experienced than the official nurses, thus have higher job stress. However, in regards to QWL, because trainee nurses have recently entered clinical settings from universities and most of them are younger than 25 years, single and without children and there has been no interaction between work and family life and have not experienced the problems related to nursing, higher QWL score has been observed in comparison to other types of employments.

In the present study, there was a direct and significant relationship between outcome sufficiency and QNWL and also there was an inverse insignificant association between salary sufficiency and nurse's job stress. Salary and reward are effective factors on job satisfaction [36]. The results of a meta-analyze reviewing 48 studies on 15000 nurses indicated that job satisfaction has a strong relationship with reducing stress [37]. Carllus also believes that employee's QWL increases with higher salary [29]. In a study in Canada it was indicated that salary is an important item in QWL and effects quality of nursing care in every aspect [38]. Also, Anderson and Brooks believe that the most common reason of nurses unsatisfactory is directly related to salary [14]. The findings of Almalki [39], Dargahi [17] and Choobineh [26] regarding the relationship between salary and QNWL are in parallel with our study. According to Almalki, the most effective factors on QNWL are: unsuitable working hours, not being able to equipoise work with family demands, lack of spare time, lack of specialized opportunity growth, the society's view towards nurses and outcome [39].

In the present study, parallel to several studies, nurse's job stress was high [40, 41]. However, in few of the previous studies, nurse's job stress was moderate [42-44]. In regards to the seven dimensions of job stress, the highest score was obtained for death and dying which is similar to Greenfeild's study that claims providing clinical practice and encountering dying patients are mentioned as stressors [45]. In the present study, parallel to Eren, Boonrod, Khaghanizadeh, Dehghan Nayeri and Mohammadi studies, QNWL was moderate [11, 18, 44, 46, 47]. However, in Dargahi and Hadley studies, QNWL was low [17, 32].

Results regarding the relationship between QNWL and job stress indicated a negative and significant relationship between job stress and QNWL. In other words, with the increase of job stress, QNWL declines, which is similar to Khaghanizadeh's findings [18]. However, in Mohammadi's study, there was no correlation between stress and depression but there was an inverse weak correlation with anxiety [44]. The results of a meta-analyze reviewing 48 studies on 15000 nurses indicated that job satisfaction has a strong relationship with reducing stress and a strong association between job satisfaction and QNWL was observed [37].

In a study in Canada by Krueger it was indicated that salary is an important item in QWL and effects quality of nursing care in every aspect [37]. In a study by Smith in United States of America, the most important variables for the gradation of QNWL are salary, autonomy and independency. However, ambiguous objectives and organizational patterns and job stress have major impact on nurse's dissatisfaction of QWL [48]. Wyatt believes QWL consists of four dimensions: suitable environment, employee's progression, job matter, providing opportunity and motivating employees [34]. According to Litter, few of the variables effective on nurse's QWL are: low salary, ambiguous job landscape and high job stress [49]. According to Martin, an organization that is able to prepare and preserve work place has a high quality work life. By developing an open relationship, respect, gratitude, trust, support, welfare, subjective and professional satisfaction, sense of amplitude and excellency develops for every fact including services or products [50]. Dehghan Nayeri indicated a positive and significant association between QNWL and nurse's efficiency [11]. By preparing a flexible work plan and variable advantageous benefits we can make a balance between work life and family life [51]. When employees and organization's interests are aligned, employees will behave in a manner that leads to effectiveness and eventually enhances QWL and efficiency [20].

Conclusion

Better QWL is vital for the proper function of an organization and this matter has become as a standard for all organizations [50]. Quality of work life contains a wide variety of work place perspectives which effects employee's learning and health and has a positive effect on organizational commitment. Thus, managers must pay attention to different elements of quality of nurse's work life. We can imply that the personnel who have adequate job satisfaction and are committed to their organization tend to be more involved in organizational citizenship behaviors. Subsequently, satisfaction and commitment provoke the staff to have actions in regards or opposite to the aims and preferences of the organization. It is obvious that nursing is a highly stressful job. The findings of this paper also confirms that nurses are highly stressed. According to the negative association between job stress and job satisfaction and considering the significance of human resources in fulfilling the objectives of health organizations paying attention to the effective factors on cognition and behavioral variables of the staff is essential. Thus, efficient planning for reducing nurse's job stressors and enhancing QNWL by holding sufficient educational courses and workshops among staff could have a significant effect on invigorating job satisfaction, trust, function and efficiency of the organization.

Restricting the statistical population to nurses of public hospitals and not using validated clinical measuring methods such as interviewing are few of the limitations of this study.

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