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# Evaluation of the quality of working life and its effective factors in employed nurses of Tehran University of Medical Sciences Hospitals

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## Abstract:

**BACKGROUND:** Quality of working life (QWL) refers to aspects of life quality, which are related to work settings. This study was designed to evaluate the QWL and its effective factors among nurses of Tehran University of Medical Sciences Hospitals.

**MATERIALS AND METHODS:** In this cross-sectional descriptive-analytical study, the demographic questionnaire and work-related quality of life questionnaire were used to collect data among 435 nurses working in hospitals, affiliated to Tehran University of Medical Sciences. This article has been adapted from the approved project of Medical Ethics Committee of Tehran University of Medical Sciences (with the identification code 8911215132).

**RESULTS:** The average QWL of nurses in the study was 50.56. There was a significant statistical relationship between gender, frequency of overtime, and working ward with QWL ( $P < 0.05$ ). In a multivariate analysis, working ward had the only meaningful relationship.

**CONCLUSION:** Due to low QWL of nurses in the emergency department, the need of interventions to improve conditions and ultimately to increase QWL of nurses working in the emergency room is being reminded.

## Keywords:

Nurses, quality of working life, work organization

## Introduction

Quality of working life (QWL) is a new form of job satisfaction, to the extent that members of an organization can meet their personal needs through their work experience in the organization and the factors that can influence QWL are the individual's feelings about all aspects of their work, such as financial rewards, job benefits, job security, working conditions in comparison with other employees, development opportunities, and freedom to make decisions and relationships with other colleagues and the organization

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as a whole, where all these factors can influence QWL.<sup>[1]</sup> The concept of QWL has been defined by researchers in different ways. Davis *et al.* define the QWL as "the quality of communication between employees and the physical environment of work and human considerations along with current economic and technical considerations." In this definition, QWL has indicators of job satisfaction, organizational commitment (including involvement and participation in organization and organizational identity), and job pressure.<sup>[2]</sup> Garg *et al.* presented a conceptual model for QWL. According to this model, high QWL will be followed by benefits such as

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increased involvement and participation in work, higher job satisfaction, better performance, less work absence, less job change, and higher productivity.<sup>[3]</sup> According to Brook *et al.*, QWL simultaneously pursues two main objectives: (1) improving the quality of employee experience and (2) improving overall productivity and efficiency of the organization. They defined the QWL as “the extent to which employees can meet their personal and important needs through their work experience in the organization and in meeting organizational goals.” Therefore, the concept of employee satisfaction is more than just providing a job and income. Instead, it should be provided that environmental staff feel as the organization needs them and they are also accepted in their work environment. Regarding the importance of QWL, it should be noted that QWL affects the performance of employees and their commitments in all industries and is essential to attract and retain workforce.<sup>[4]</sup> Nurses are the largest community working in the health system.<sup>[5]</sup> However, despite great efforts to educate and employ nurses in different areas, we are still faced with some problems such as depression that can be related to their shift work experience.<sup>[6]</sup>

Therefore, improvement in organizational management, strengthening organizational commitment of employees and increasing the incentive to engage in this area, and reducing the shift of nurses to other roles or support them with a good life style has a great importance in the health system.<sup>[7]</sup> Considering that QWL is an affecting factor on performance of nurses QWL questionnaires usually include job satisfaction, working conditions, employee engagement, general well-being, home-work interface, stress at work, and control at work as important aspects of the health system of the community.<sup>[8]</sup> Although nurses are an integral and important part in any health system, at present, we face a shortage of nurses in the global health system. The widespread shortage of nurses, as well as the high level of their change of roles, has reduced the positive mood of residual force and increased stress caused by hard levels of labor and ultimately led to changes in nursing behavior toward their jobs and become a global issue.<sup>[9]</sup> In a study conducted by Nayeri *et al.* in Iran, the QWL of nurses was moderate and only 3.6% of nurses had a good QWL.<sup>[10]</sup> In another study conducted by Abbasi *et al.* in Iran, with a sample of 750 nurses, a two-way relationship between the quality of nursing life and their ability to do their job was reported.<sup>[11]</sup> In addition without efficient and experienced staff, the rate of errors increases and satisfaction of patients decreases.<sup>[8]</sup>

Regarding the many problems that exist in the field of nursing education and utilization and having the maximum productivity of their ability in Iran, we decided to design and implement a study entitled “Evaluation

of the QWL and its effective factors in employed nurses of Tehran University of Medical Sciences hospitals” to evaluate QWL and its effective factors in nurses of Tehran University of Medical Sciences Hospitals because these hospitals are the most important referral educational hospitals in the country and often patients from all over the country refer to them. Hence, we thought that the workload of nurses in these hospitals must be high and our hypothesis was that their nurses were not in a good situation of work-related quality of life (WRQoL). Our ultimate goal was to obtain findings on which we can provide useful and practical suggestions for improving the current status of QWL of nurses.

## Materials and Methods

### Study design and setting

The main purpose of this study is to evaluate the QWL in nurses of Tehran University of Medical Sciences Hospitals. This descriptive-analytical study was conducted through a cross-sectional method. The study was approved by Tehran University of Medical Sciences. In total, 435 nurses of Tehran University of Medical Sciences Hospitals participated in this study.

### Assessment tools

The data were collected using demographic information questionnaire and Persian language version of WRQoL-2 questionnaire. The validity and reliability of the Persian version of WRQoL 2 questionnaire has been confirmed in a study conducted by Mazloumi *et al.* (overall Cronbach’s alpha of 0.92, whereas the subscales ranged between 0.63 and 0.97) and the usage of this questionnaire to assess the QWL of nurses has been proposed.<sup>[12]</sup> This questionnaire evaluates seven components of QWL which are employee engagement, control at work, home-work interface, general well-being, job and career satisfaction, working condition, and stress at work, with 32 multiple-choice questions with five-choice answers, and each question has five options (scoring 1 to 5), from completely dissatisfied (= 1) to completely satisfied (= 5). The range of scores is 32–160. Therefore, the standard deviation of the QWL was considered 21.3 and the sample size with 95% confidence and maximum error of 2 scores was estimated 435. This sample chooses with stratified method. Sociodemographic factors (age, gender, marital status, and number of children) and workplace and employment factors (work schedule, work experience, working ward, working hospital, and frequency of overtime) were through general questionnaire as independent variables. The population of this study was nurses working in general and main hospitals affiliated to Tehran University of Medical Sciences, including Imam Khomeini Hospital, Dr. Shariati Hospital, and Sina Hospital, which are an appropriate representative of hospitals affiliated to Tehran University of Medical

Sciences. The sample size of nurses in each hospital was in accordance with the hospitals' number of nursing employees.

### Inclusion and exclusion

The criteria for entering the research include the following: nurses working in hospitals named above who were employed in the internal or surgical or emergency department. The minimum work experience of the nurses in this study was 1 year, and none of the nurses had prior information about the questionnaire.

Moreover, before data collection, permissions were also obtained from the authorities of the university and hospital officials. All participants signed written informed consent in which the purposes of the study were explained and they were assured of the confidentiality of their personal information.

### Data analysis

For statistical analysis and extraction of results, IBM SPSS Statistics 22 Licensing Software and statistical tests such as descriptive statistics, ANOVA, and *t*-test were employed. To compare and evaluate the overall QWL score, in two group variables, independent-sample *t*-test, and in more than two group variables, one-way ANOVA test were used. It should be noted that the significance level for all tests was  $<0.05$ . It is worth noting that, in this study, only the percentage of each score is reported.

## Results

In total, 435 nurses of Tehran University of Medical Sciences Hospitals participated in this study. All nurses completed and returned the questionnaire. In studied population, the mean and standard deviation of age and work experience were  $30.25 \pm 5.75$  and  $6.22 \pm 4.56$  years, respectively. Most of the participants were women (82.3%), and more than half of them were married (67.8%); 46.3% of them had more than one child. The rotational shift was in the highest frequency (38.4%) in work schedule. 26.7% worked in a fixed 8 h shift in the morning, 9% worked in a fixed 8 h shift in the afternoon, 6% worked in a fixed 8 h shift at night, and 20% worked in shifts  $>8$  h. 28.7%, 44.4%, and 26.9% of the participants always, sometimes, and never do overtime, respectively. Work experience in 20% of research population was 1–2 years, in 55.6% was 3–8 years, and in 24.4% was  $\geq 9$  years. 48.5% of the participants work in Imam Khomeini Hospital, 25.3% in Dr. Shariati Hospital, and 26.2% in Sina Hospital. 42.3% of these nurses are employed in sections and subsections of internal departments, 37.5% in surgical departments, and 20.2% in emergency departments. The results of this study showed that there is a statistically significant relationship between Overall QWL scores and independent variables

such as: genders, frequency of overtime, and working ward of participants ( $P < 0.05$ ). There was no statistically significant relationship between overall score of QWL in nurses with other independent variables in this study, such as age, marital status, number of children, shifts' rotation, work experience, and hospital which they worked.

The average QWL of the nurses participating in the study was 50.64 with a standard deviation of 11.55. The minimum QWL score in this population was 27.10 and the maximum was 80.00. Among the components of QWL, the highest average score was for working conditions, with an average of 52.28 and a standard deviation of 15.65, while the lowest average score was for the general health component, with an average of 48.85 and a standard deviation of 14.19. The average score of the answer to question number 32 of WRQoL-2 questionnaire, which questioned the QWL from the point of view of the person, was 47.49 with a standard deviation of 20.60 [Table 1].

Job satisfaction as a component of QWL had a significantly higher score in female ( $53.87 \pm 12.62$ ) than male ( $39.73 \pm 14.13$ ,  $P < 0.001$ ) [Figure 1].

There was no other significant relationship between gender and the others of components of QWL. This study also revealed a significant statistical relationship between frequencies of doing overtime with QWL overall scores in nurses. Mean of overall scores in always group is significantly the most ( $P \leq 0.05$ ) [Figure 2].

Nurses who sometimes did overtime had a better overall QWL compared to those who always or never did overtime. Mean score of job satisfaction in nurses with a schedule with some over time was ( $54.00 \pm 13.36$ ) which is significantly more than nurses with schedules with always ( $49.34 \pm 14.50$ ) or never over time ( $49.06 \pm 13.76$ )

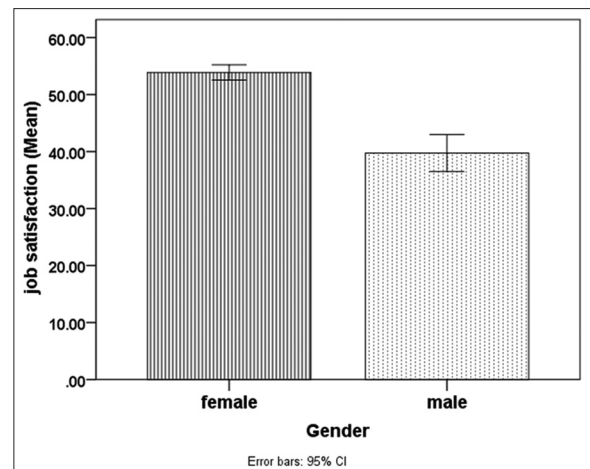
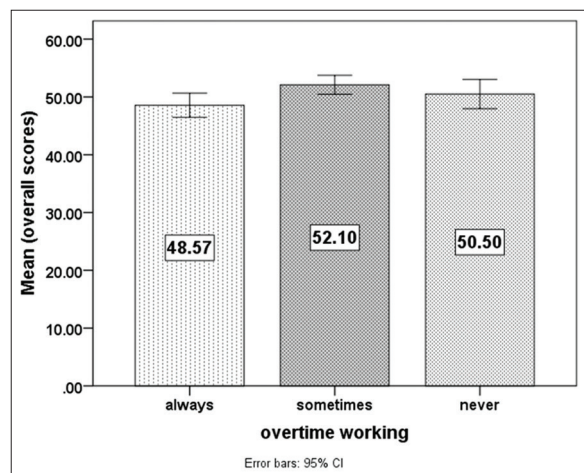


Figure 1: The mean of job satisfaction scores in different sex

**Table 1: The mean and Standard deviation of quality of working life components scores**

Components of quality of working life %	Mean	Standard deviation (SD)	Minimum	Maximum
Control at work	49.28	14.37	20	85
Employee engagement	51.33	15.80	20	80
General well-being	48.85	14.19	20	83.33
Home-work interface	50.96	15.64	20	80
Job and career satisfaction	51.35	13.98	20	86.67
Stress at work	51.85	13.59	25	85
Working condition	52.28	15.65	20	85
32 <sup>th</sup> question of questionnaire ( in general, I'm satisfied with my quality of working life)	47.49	20.60	20	100
Overall quality of working life	50.64	11.55	27.10	80



**Figure 2:** The mean of overall quality of working life in different overtime working schedules

$P < 0.05$ ) also well-being was significantly more in some over time schedule ( $50.47 \pm 13.74$ ) than always over time schedule ( $46.41 \pm 14.43$ ) ( $P < 0.05$ ). Home-work interface's scores are significantly more in some and never over time schedule ( $53.35 \pm 15.14$  and  $52.09 \pm 15.92$ , respectively) than always over time schedule ( $46.27 \pm 15.20$ ) ( $P < 0.001$ ) [Table 2].

2Mean and standard deviation of job satisfaction in the emergency department were ( $47.88 \pm 14.62$ ) significantly less than internal and surgical wards ( $52.20 \pm 13.43$  and  $52.26 \pm 14.04$ , respectively,  $P < 0.05$ ). Further, mean and standard deviation of stress at work in the emergency department ( $44.82 \pm 11.97$ ) were significantly less than internal and surgical wards ( $53.46 \pm 13.96$  and  $53.79 \pm 12.82$ , respectively,  $P < 0.001$ ). Mean and standard deviation of control at work in the emergency department ( $45.69 \pm 14.61$ ) were significantly less than internal and surgical wards ( $50.24 \pm 14.49$ ,  $50.12 \pm 13.89$ , respectively,  $P < 0.05$ ). Mean and standard deviation of home-work interface in the emergency department ( $43.43 \pm 16.12$ ) were significantly less than internal and surgical wards ( $52.99 \pm 15.99$ ,  $52.76 \pm 13.70$ , respectively,  $P < 0.001$ ). Mean and standard deviation of working condition in emergency department ( $48.62 \pm 15.26$ ) were

significantly less than surgical wards ( $53.65 \pm 14.76$ ,  $P < 0.001$ ) [Table 3].

There is significant difference between mean of overall scores of WRQoL in the emergency ward with internal and surgical wards. Nurses who were working in emergency department had significantly the least overall QWL scores than the general and surgical wards ( $P < 0.01$ ) [Figure 3].

## Discussion

This study aimed to estimate the QWL in nurses of Tehran University of Medical Sciences Hospitals in 2017 and investigate the effective factors on their QWL. The term QWL usually refers to those aspects of life quality which are related to the work setting. It comprises seven different components: employee engagement, control at work, home-work interface, general well-being, job and career satisfaction, working condition, and stress at work.

Based on the current study, nurses working in Tehran University of Medical Sciences Hospitals believe that their QWL is not proper. These people are not satisfied with any aspect of the quality of their working life. This could lead to the lack of desirable services to patients by nurses. Similarly, the majority of studies in this field revealed that nurses either in Iran or in other countries are not with their QWL satisfied. In this study, the overall QWL in nurses was  $50.56 \pm 11.62$  out of 100 (all of the scores have been only in percentage given). Nayeri *et al.* in 2011 reported that only 3.6% of Iranian nurses have an acceptable QWL.<sup>[10]</sup> Masum *et al.* in 2016 reported that Turkish nurses have a moderate QWL with a score of 58%.<sup>[9]</sup> In this study, general well-being had the least score among other components of QWL. Authorities should be aware of the importance of plans and investing to enhance health of nursing workforce, which can promote their QWL and ultimately their performance in health system. To achieve this goal, some studies have presented some suggestions such as workplace lifestyle counseling, workplace physical activity interventions such as sport classes, supervision on foods serving in hospitals, and workplace psychological counseling.<sup>[13-15]</sup>

**Table 2: The mean of quality of working life components scores in different overtime schedule**

QWL Dimensions%	Always			Sometimes			never			P
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
Control at work	125	47.12	15.56	192	50.60	13.27	117	49.44	14.65	0.108
Employee engagement	124	50.86	16.16	192	52.36	14.98	117	50.14	16.74	0.453
General well-being	120	46.41	14.44	191	50.47	13.75	115	48.69	14.42	0.049
Home-work interface	122	46.27	15.21	185	53.35	15.14	115	52.09	15.92	0.000
Job and career satisfaction	123	49.35	14.51	188	54.00	13.36	110	49.06	13.76	0.002
Stress at work	124	48.95	12.53	189	52.61	13.34	116	53.71	14.66	0.015
Working condition	124	51.37	17.28	191	53.11	14.67	113	51.86	15.49	0.595

SD=Standard deviation

**Table 3: The mean of quality of working life components scores in different Departments of hospitals**

QWL Dimensions	internal department			surgical department			emergency wards			P
	n	Mean	SD	n	Mean	SD	n	Mean	SD	
Control at work	184	50.24	14.50	163	50.12	13.89	87	45.69	14.37	0.033
Employee engagement	183	51.66	16.76	162	52.63	15.02	88	48.26	16.74	0.105
General well-being	179	49.53	14.05	160	49.17	13.89	87	46.86	15.00	0.332
Home-work interface	177	52.99	15.99	159	52.77	13.71	86	43.43	16.13	0.000
Job and career satisfaction	180	52.20	13.44	156	52.26	14.04	85	47.88	14.62	0.037
Stress at work	182	53.46	13.96	161	53.79	12.82	86	44.83	11.97	0.000
Working condition	178	52.81	16.44	163	53.65	14.76	87	48.62	15.26	0.045

QWL=Quality of working life, SD=Standard deviation

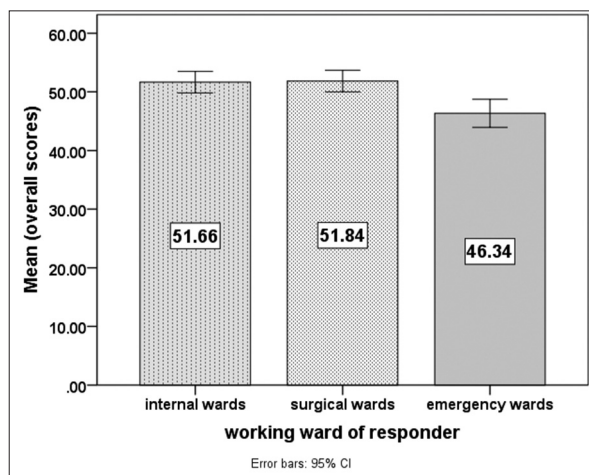


Figure 3: The mean of overall quality of working life in different working wards

The results of this study showed that there is a significant statistical relationship between genders of participants and their QWL so that female nurses have a higher QWL. Wagenaar *et al.* and Natarajan *et al.* indicated that QWL could be influenced by gender.<sup>[16,17]</sup> Similarly, Atefi *et al.* in 2015 also reported lower job satisfaction in male Iranian nurses.<sup>[18]</sup> The reasons that have caused the lower QWL of male nurses should be routed and eliminated. It is something common that in Iran, nurses do overtime due to lack of nurses in the system or own financial needs. In this study, a statistically significant relationship between the frequencies of overtime and the QWL of nurses was founded. Nurses who sometimes do overtime scored better than those who never or who always do overtime. Rajeswari *et al.* in 2017 reported that QWL of nurses is dependent on doing overtime, and in their study, QWL in nurses who had overtime scored

less than others.<sup>[19]</sup> This study also revealed a statistically significant relationship between the nurses' ward of working and their QWL, and this relationship was so strong that, in a multivariate analysis, the only variable that had a meaningful relationship with the QWL of nurses was the ward at which they were employed. In this study, nurses who work in the internal and surgical departments had a fairly equal score of QWL, but those who work in emergency department scored significantly lower. Conversely, a study done by Boonrod in 2009 in Thailand has been no significant relationship between QWL of nurses and their ward reported.<sup>[20]</sup> The difference could be as a consequence of regional and management policy differences.<sup>[21,22]</sup>

This study found no more statistically significant relationships between overall QWL of nurses participated in the study and other independent variables such as age of nurses, their marital status, their number of children, the hospital they work, shifts that they work, and their work experience although this variables could influence some components of QWL.

### Conclusion

This study aimed to estimate QWL and its effective factors in employed nurses of Tehran University of Medical Sciences Hospitals in 2017 and ultimately present. This study shows that nurses, the largest healthcare occupation group, do not have a proper QWL and ultimately presents some suggestions that could be for improving the QWL of nurses helpful. It seems that gender, frequency of overtime, and working ward are major factors contributing to differences in the QWL

between nurses employed in the current system. The results of this study showed that the most significant factor in QWL, which has led to significant differences, is working ward of nurses. Due to the low QWL among nurses working in the emergency department, they need effective interventions which can improve conditions and ultimately increase QWL among them. Employing more nurses in the emergency room and reducing the number of patients per nurse and also shortening the working hours of nurses working in the emergency department could efficiently improve some components of their QWL such as stress at work, work conditions, and home-work interface which scored significantly lower in these nurses. Control at work is the other component of QWL which scored significantly lower in nurses working in the emergency room, which reminds the importance of some changes in management plans in the current system. Further, due to the significantly lower QWL in nurses who always did overtime, having the policy to increase nursing workforce and making rules, which would prevent doing overtime in nurses, could be efficient for improving QWL of nurses. To find useful suggestions for improving the QWL of male nurses, who had a significantly lower QWL in compare to female nurses, studies which try to root the possible causes of this difference are needed. This study also reminds the obligation of planning to improve nurses' health condition by the reason of their very low score of general well-being component of QWL. Due to the results, some factors cause significant differences among nurses. Interventions affecting these aspects of QWL and studies to evaluate benefits of these interventions will be followed by a more advantageous health system. Nurses are in a key position to promote care and services that patients receive and increase efficiency of current health system; hence, investment with goal of improving their QWL would be constructive and worthy.

### Applying research to practice

#### *Limitations of the study*

Some nurses did not want to cooperate in completing the questionnaires. Thus, we explained the importance of this research and we mentioned QWL has been a successful notion, which could lead to a better situation in employee satisfaction, so they were convinced.

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### Conflicts of interest

There are no conflicts of interest.

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