

## Associations of the Quality of Work Life and Depression, Anxiety, and Stress in the Employees of Healthcare Systems

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### ABSTRACT

**Introduction:** Human resources are an important asset to any organization, and it is essential to preserve their health in order to achieve organizational goals. The present study aimed to investigate the associations between the quality of work life (QWL) and depression, anxiety, and stress in the employees in the healthcare system of Islamabad-e-Gharb Health Care Network, Iran.

**Materials and Methods:** This cross-sectional, descriptive-analytical study was conducted on 158 healthcare network employees using the census method. Data were collected using Walton's quality of work life evaluation and depression, anxiety, and stress scale (DASS). Data analysis was performed using descriptive statistics, Spearman's correlation-coefficient, Mann-Whitney U test, and Kruskal-Wallis test.

**Results:** Mean and standard deviation of QWL, depression, stress, and anxiety were  $80.45 \pm 17.70$ ,  $4.9 \pm 4.1$ ,  $6.34 \pm 4.2$ , and  $3.7 \pm 3$ , respectively. Significant negative correlations were observed between QWL and depression ( $r = -0.255$ ;  $P = 0.001$ ), anxiety ( $r = -0.260$ ;  $P = 0.001$ ), and stress ( $r = -0.242$ ;  $P = 0.002$ ). Each of depression, stress, and anxiety had individually no significant correlation with age, work experience, number of child, gender, work pattern, second job and level of education ( $P > 0.05$ ). However, the relationship between depression and marital status was significant such that depression is found higher among single persons ( $P = 0.026$ ). As was the correlation between residential status and stress ( $P = 0.03$ ) in which the stress was higher in tenants compared with residence owners. It also appeared that having a refractory patient at home has significantly associated with stress ( $P = 0.027$ ) and anxiety ( $P = 0.045$ ).

**Conclusion:** According to the results, improving the QWL is essential to mitigating the rates of depression, anxiety, and stress in healthcare providers.

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### Introduction

Nowadays, the quality of work life is considered as an important dimension of quality of life and essential to recruiting and retaining employees (1). Quality of work life (QWL) is a set of strategies, methods, and work environment to enhance the work conditions of employees in an organization in order to promote their satisfaction and retain employees (2).

QWL is the outcome of evaluating individuals by comparing their expectations, hopes, and desires from an organization with the actual organizational performance. From this perspective, all individuals may not care equally about the analogous behaviors and

expectations in the work environment. Furthermore, the relevance and importance of certain behaviors may not remain static, and it is possible to undergo changes during a lifetime in terms of work conditions (3).

QWL consists of various dimensions, including fair payment and benefits, health and safety of work conditions, and social integration enabling individuals to utilize and develop their abilities and capacities (1).

A study performed on the employees in the healthcare settings in Chile suggested that the QWL had significant associations with the job satisfaction and dimensions of job burnout (4). Moreover, research

findings in Saudi Arabia have indicated the lack of job satisfaction in 40% of primary healthcare service employees in terms of QWL, and changing occupation was significantly correlated with low QWL (5).

Work environment should be well-balanced for employees, as well as their families, in order to increase their satisfaction. Work environment largely influences the life and occupation of employees (6).

According to the World Health Organization (WHO), 25% of individuals experience one or more mental disorders in various stages of life, and depression, anxiety, and stress are among the most prevalent mental health issues across the world. Depression is a common mental disorder associated with several signs and symptoms, such as melancholy, declined interest in routine activities, and loss of energy.

Common changes in habitude are among the main attributes of humans, while in the individuals with depression, habitude changes occur within a low-to-high range in terms of time and symptoms. According to statistics, 5.8% of men and 9.5% of women experience depression throughout their life (7).

Anxiety is a relatively severe disorder, which affects approximately 19 million Americans. Every type of the anxiety disorder has specific symptoms, all of which could be diagnosed based on the common roots of fear and excessive incompatibility (8). Anxiety involves feelings of uncertainty, distress, and physiological excitation. In general, anxiety is an obscure emotion characterized by an unpleasant state of inner turmoil, often accompanied by one or more physical sensations, such as 'having butterflies in the stomach', chest tightness, heartthrob, sweating, and headaches (9).

From a medical perspective, stress is defined as the gradual erosion of the body. In fact, stress is an inherent element in human life.

Work environment variably affects individuals, and there are constant dynamic interactions between the work environment and mental status of an individual (10).

According to the findings of Koushali et al., 33% of nurses experience stress, while 33.9% have anxiety, and 30.8% suffer from depression (11).

However, few studies have focused on the influential factors in depression, anxiety, and stress among employees.

The healthcare system in west Islamabad (Iran) covers relatively large populations, and the employees are constantly providing essential services to patients.

To the best of our knowledge, no studies in Iran have been published on the associations of QWL and depression, anxiety, and stress in domestic journals and databases.

The present study aimed to evaluate the correlations between QWL and depression, anxiety, and stress in the employees of the healthcare system in Islamabad-e-Gharb Health Care Network, Iran.

## Materials and Methods

This cross-sectional, descriptive-analytical study was conducted based on the census methods at the nursing, radiology, and operating room departments, laboratory, and urban and rural healthcare centers in 2017. In total, 200 questionnaires were distributed among the participants, and 158 questionnaires were completed and returned (response rate: 79%). Inclusion criteria of the study were willingness to participate, a minimum of one year of work experience, having a postgraduate qualification, and employment in healthcare and medical departments. Other employees (e.g., accountants, administrative staff, and service providers) were excluded from the research.

Prior to the project, necessary arrangements were made with the authorities, and written permit was obtained for the study. Employees were informed on the objectives of the study and assured of confidentiality terms regarding their responses to the questionnaires.

Afterwards, the questionnaires were completed anonymously questionnaires and collected upon the due time. Data were collected using two standard questionnaires, and the demographic data of the participants were incorporated into the beginning of the questionnaires.

### 1. Walton's Quality of Work Life Questionnaire

This questionnaire has been developed by Walton (1973) with eight dimensions and 32 items (12).

The dimensions Adequate and fair compensation (five items) Safe and healthy environment (three items), Growth and security (three items), Law Orientation in Organization (six items), Social Affiliation of Work Life (three items), the total life space (five items), Social Integration and Cohesion (four items), Development of human capacities Work (three items).

The questionnaire has no inverse items, and all the items are scored based on a Likert scale, including Very Low (score 1), Low (score 2), Average (score 3), High (score 4), and Very High (score 5).

Reliability and validity of the questionnaire have been confirmed for the Iranian population (13).

The score range for the QWL is 32-160, and high scores indicate better QWL. Reliability coefficient of the questionnaire has been reported to be 0.88 by Walton (14) and 0.78 by Ghaleie (15). In the present study, the reliability coefficient of the QWL questionnaire was confirmed at the Cronbach's alpha of 0.92.

### 2. Depression, Anxiety, and Stress Scale (DASS)

DASS was developed by Lovibond in 1995 (16) with 21 items. In this scale, seven items assess the degree of depression, seven items measure anxiety, and seven items evaluate stress. Asghari Moghaddam has calculated the reliability coefficient of DASS using the test-retest method at 0.84 for depression, 0.89 for anxiety, and 0.90 for stress (17). Items in DASS are marked with four options of Never (score zero),

Slightly (score 1), Moderately (score 2), and Significantly (score 3) (3).

The score range of each scale is 0-21, and high scores indicate the condition of the respondent from a psychological perspective.

In the present study, the reliability coefficient of DASS was confirmed at the Cronbach's alpha of 0.86 for depression, 0.84 for stress, and 81.8 for anxiety. Data analysis was performed in SPSS Version 19 using descriptive statistics, Spearman's correlation-coefficient, Mann-Whitney U test, and Kruskal-Wallis test at the confidence level of 0.95.

**Results**

Mean age of the participants was 31±7.5 years, and mean work experience was 7.19±6.21 years. Among the participants, 106 individuals had no children, 21 subjects had only one child, 23 cases had two children, three subjects had three children, and one employee had four children.

Moreover, 7.16 percent of participants had refractory patients at home. In this study, just 79.12 percent of individuals were homeowner, whereas the others were tenants. In terms of gender, 33.9% of the subjects were male, and the others were female.

In addition, 47.5% were single, and 48.7% had a fixed work pattern. Demographic characteristics and background information of the participants are presented in Table 1.

**Table1: Demographic Characteristics and Background Information of Participants**

Variable	N	%	
Gender	Male	56	35.44
	Female	102	64.56
Marital Status	Single	75	47.50
	Married	83	52.50
Second Job	Yes	7	4.43
	No	151	95.57
Work Pattern	Fixed	77	48.73
	Rotational	81	51.27
Type of Employment	Contractual	45	28.48
	Contracting	17	10.75
	Official	96	60.77
Education Status	Associate Degree	7	4.43
	BA	128	81
	MA	9	5.69
	PhD	14	8.88

Mean score of QWL was 80.45±17.70, while the mean scores of depression, stress, and anxiety were 4.9±4.1, 6.34±4.2, and 3.7±3, respectively. Mean scores of QWL, stress, depression, and anxiety are shown in Table 2.

According to the results of Spearman's correlation-coefficient, QWL had significant negative correlations with depression, stress, and anxiety (P<0.05). Correlations between QWL and its dimensions are presented in Table 3.

**Table 2: Mean Scores and Score Ranges of Main Studied Variables**

Dimension	Mean	Standard Deviation	Score Range
Adequate and fair compensation	11.48	3.77	5-25
Safe and healthy environment	7.40	2.51	3-15
Growth and security	10.61	1.8	3-15
Law Orientation in Organization	14.8	4.58	6-30
Social Affiliation of Work Life	7.56	2.55	3-15
The total life space	13.13	3.4	5-25
Social Integration and Cohesion	10.96	3.1	4-20
Development of human capacities	7.18	2.5	3-15
QWL	80.45	17.70	32-160
Depression	4.9	4.1	0-21
Stress	6.34	4.2	0-21
Anxiety	3.7	3	0-21

**Table 3: Correlations between Dimensions of QWL and Workload with Depression, Stress, and Anxiety (Spearman's correlation-coefficient)**

Dimensions	Depression	Anxiety	Stress
Adequate and fair compensation	*-0.167	*-0.164	-0.146
Safe and healthy environment	*-0.154	*-0.154	*-0.174
Growth and security	**-.0335	**-.0264	**-.0333
Law Orientation in Organization	**-.0278	**-.0246	**-.0270
Social Affiliation of Work Life	**-.0217	**-.0263	**-.0225
The total life space	-0.038	0.002	-0.054
Social Integration and Cohesion	**-.0273	**-.0295	**-.0246
Development of human capacities	**-.0262	*-0.201	*-0.175
QWL	**-.0255	**-.0260	**-.0242
Depression		**0.775	**0.659
Stress			**0.734

\*P<0.05; \*\*P<0.01

The results of Spearman's correlation-coefficient showed no significant correlations between depression, stress, and anxiety with age (r=0.053, r=0.069, and r=-0.040, respectively), work experience (r=0.084, r=0.114, and r=0.012, respectively), and number of children (r=-0.031, r=0.025, and r=0.034, respectively) (P>0.05). On the other hand, the results of Mann-Whitney U test revealed significant associations between the presence of refractory patients with stress (P=0.027) and anxiety (P=0.045), as well as the

residential status and stress ( $P=0.03$ ), which was higher in tenants compared to residence owners.

According to the Mann-Whitney U test, depression, stress, and anxiety had no significant associations with gender ( $P=0.136$ ,  $P=0.098$ , and  $P=0.305$ , respectively), work pattern ( $P=0.136$ ,  $P=0.098$ , and  $P=0.305$ , respectively), and having a second job ( $P=0.855$ ,  $P=0.725$ , and  $P=0.695$ , respectively). Mann-Whitney U test showed that neither stress nor anxiety had significant correlation with marital status ( $P=0.806$  and  $P=0.129$  respectively). On the contrary, depression is found significantly correlated with it such that single persons experienced higher depression ( $P=0.026$ ). Moreover, the results of Kruskal-Wallis test indicated that stress, anxiety, and depression had no significant correlations with the education level and employment status of the participants ( $P>0.05$ ).

## Discussion

According to the results of the present study, the QWL and some of its dimensions had significant negative correlations with depression, anxiety, and stress. For instance, fair payment was significantly associated with depression, stress, and anxiety and it seemed that the level of stress could decrease by commensurate rewards for the professional activities of the employees. Furthermore, conditions for reducing the incidence of depression, stress, and anxiety could be provided through fostering a safe and healthy work environment and paving the way for the progress of employees, utilizing uniform rules for employees in terms of promotion and payment, and accentuating and exploiting the skills and abilities of employees.

According to the current research, depression was significantly correlated with marital status, and the rate was higher in single adult employees. In addition, employees with a residential tenancy experienced significantly higher stress compared to others, while those with refractory patients in home suffered from higher rates of stress and anxiety compared to others. Therefore, it is possible to reduce depression by holding easy marriage training workshops in order to encourage single employees for marriage. Furthermore, providing financial facilities for the employees with residential tenancy could help mitigate stress and anxiety.

In this regard, the findings of Biglari indicated an association between the QWL and mental health (18), and Olafti also reported a correlation between QWL and depression (19). In addition, Vafaei denoted an association between QWL and anxiety among nurses, and Gonzalez reported the correlations of depression, anxiety, and QWL (20, 21). In the present study, significant physical and sanitary correlations were observed between the work environment and depression, anxiety, and stress. Similarly, the results obtained by Yuri demonstrated the impact of the work environment on anxiety and depression (22). Moreover, Rusli reported significant associations between

depression, stress, and anxiety with the work environment in terms of physical and mental wellbeing (23).

The consistency of our findings with the results of the aforementioned studies suggests that improving the QWL could effectively reduce the incidence of depression, stress, and anxiety disorders through various measures, such as the provision of a sanitary work environment, developing opportunities for employees to address their family and social affairs, and providing the opportunities for the progress of employees.

In the current research, the score of QWL was moderate in the employees, while favorable QWL is known to have a positive influence on the organizational performance and job satisfaction of employees and organizational commitment (24, 25). In this regard, the findings of Bakhtiyarpour showed the correlation of job satisfaction with depression, anxiety, and social function disorder (26), while the results obtained by Parsa indicated that the QWL is correlated with occupational stress. According the study by Linda and Juhen, the QWL has several messages in the area of empathy and greater coordination between employees, retaining self-esteem, and decreasing the concerns, anxiety, and fatigue in employees (27).

According to the findings of the present study, the QWL may lead to the incidence of mental disorders directly, while the aforementioned studies consider an indirect association through reducing the job satisfaction of employees. Therefore, it is crucial to promote the QWL in order to avoid such disorders.

In the present study, depression, anxiety, and stress showed no significant differences with the work pattern, education level, and gender of the employees, which is inconsistent with the results obtained by Hossein Abadi (28), while in line with the findings of Figen in terms of age (29). On the other hand, depression level was associated with marital status, which is in congruence with the studies by Khaje Nasir and Figen and inconsistent with the study by Taghva. In terms of the correlations of education level and gender with depression, our findings are inconsistent with the results obtained by Taghva (29-31). On the other hand, in the mentioned studies, education level, income status, and work shift had no associations with depression, stress, and anxiety (11). Considering the conflicting results in the literature, it seems that demographic factors do not play a key role in the incidence of mental disorders, and further research is required in this regard in order to identify the most effective demographic factors in the incidence of depression, stress, and anxiety among employees.

The main limitation of the present study was the cross-sectional design and citing to the responses in the questionnaires; it is possible that the responses were not honest in some cases due to the fear of punishment by the officials. However, this issue was prevented through the training of the participants and latent use of

the questionnaires. Moreover, only a few factors about psychiatric disorders were evaluated despite the role of several parameters in the prevalence of depression, stress, and anxiety, such as sleep quality (32) and physiological factors (33).

Healthcare system employees have sensitive tasks. In order to achieve organizational goals and maintain the health of the community, organizations need employees with high levels of mental health. Therefore, evaluation of the influential factors in mental disorders is of paramount importance in healthcare organizations; such assessments should be performed at regular intervals, so that necessary interventions could be implemented.

In order to achieve better results to reduce the levels of stress, depression, and anxiety in the work environment, all organizational factors should be investigated, including the working hours, work patterns, number of the clients referring to employees, income status of the employees, concentration of the obligatory working shifts, physical and sanitary conditions, and distance of the workplace to the employees' place of residence.

## Conclusion

According to the results, depression, anxiety, and stress in healthcare network employees could be

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reduced significantly through improving the QWL. Some effective approaches in this regard are the provision of opportunities to enhance the position of employees, implementing uniform incentive programs, and improving the work environment in terms of physical and mental wellbeing. Moreover, implementation of monitoring and assessment programs for employees and removing the associated barriers through further studies seem essential to the prevention of these major mental disorders. It is recommended that the physical requirements of healthcare employees be met and effective solutions be offered in order to decrease the workload, thereby helping the employees to complete their assigned duties over a given period through performing on-time tasks for stress prevention.

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