ARAŞTIRMA / *Research Articles*

Determination of the Correlation Between Hospital and Anxiety Depression Levels and Quality of Work Life in Surgical Nurses

Cerrahi Servislerde Çalışan Hemşirelerin Hastane Anksiyete ve Depresyon Düzeyi ile İş Yaşam Kaliteleri Arasındaki İlişki

Aylin AYDIN SAYILAN[1], Selda MERT[2], Özlem KERSU[3], Canan BAYDEMİR[4], Gonca İLTER[5]

ABSTRACT

Purpose: *The purpose of this study was to determine the relationships between anxiety and depression experienced by surgical nurses in the work environment and their quality of work life.*
Materials and Methods: *Two hundred twelve surgical nurses were administered a sociodemographic form, the Hospital Anxiety Depression Scale, and the Nurse' Quality of Work Life Scale.*
Results: *The mean age of the nurses was 32.0 years. Nurses' hospital anxiety score was 9.00, their depression score was 8.00, and their total hospital anxiety-depression score was 17.00. Nurses' total quality of work life score was 66.95.*
Conclusion: *Nurses frequently have high anxiety and moderate depression levels, and moderate quality of work life. Motivating measures could be increased through the provision of appropriate working conditions.*

Anahtar Kelimeler: *Anxiety, depression, job, life quality, surgical nurse.*

ÖZ

Amaç: Bu çalışmanın amacı cerrahi hemşirelerinin çalışma ortamında yaşadığı anksiyete ve depresyon ile iş yaşam kaliteleri arasındaki ilişkiyi belirlemektir.
Gereç Yöntem: 212 cerrahi hemşiresiyle gerçekleştirilen çalışmada, veri toplama aracı olarak, sosyodemografik form Hastane Anksiyete Depresyon Ölçeği ve Hemşirenin Çalışma Yaşam Kalitesi Ölçeği kullanılmıştır.
Bulgular: Hemşirelerin ortalama yaşı 32.0 olup, hemşirelerin hastane anksiyete skoru 9.00, depresyon skoru 8.00 ve toplam hastane anksiyete-depresyon skoru 17.00 olarak belirlendi. Hemşirelerin toplam iş yaşam kalitesi puanı 66,95 olup, iş yaşam kalitesi orta düzeydedir.
Sonuç: Hemşireler, yüksek anksiyete, orta derecede depresyona ve iş yaşam kalitesine sahiptir. Uygun çalışma koşullarının sağlanmasıyla motive edici önlemler artırılabilir.
Keywords: *Anksiyete, depresyon, iş, yaşam kalitesi, cerrahi hemşiresi.*

INTRODUCTION

Nursing, a profession largely based on communication, has a greater need for members who are psychologically and physically healthier than other occupations. Problems encountered in the provision of health services can affect nurses' stress, anxiety and depression levels, and therefore indirectly impact on their productivity, quality of work life, social life, and mental and physical health(1,2). Previous studies have emphasized that nurses, specialist care providers, have a greater tendency to existential and emotional problems, for which reason they experience greater difficulties such as anxiety, depression and burnout, and their quality of work life is directly impacted(3).

Quality of work life involves a management approach that moves away from the classic conception of management to a more modern perspective, one that aim to provide better quality working conditions, to improve levels of physical and psychological well-being among workers, that creates changes in the institutional culture, and that thus enhances the value of all workers(4).

1 Dr. Öğr. Üyesi Kırklareli University School of Health Nursing Department, Kirklareli, Turkey, *E-posta: aylin.sayilan@klu.edu.tr, ORCID ID: 0000-0003-0576-8732*
2 Dr. Lecturer, Kocaeli University, Kocaeli Vocational School of Health, Kocaeli, Turkey, *E-posta: seldamertboga@gmail.com, selda.mertboga@kocaeli.edu.tr, ORCID ID: 0000-0002-8123-2211*
3 Registered Nurse, Training Nurse, Eskişehir Osmangazi University Medicine Faculty, Eskişehir, Turkey,
E-posta: ozlem_8420@hotmail.com
ORCID ID: 0000-0003-3592-2892
4 Prof. Dr., Kocaeli Üniversitesi Medicine Faculty, Department of Biostatistics and Medical Informatics, Kocaeli, Turkey,
E-posta: canan.baydemir@kocaeli.edu.tr, ,
ORCID ID: 0000-0002-1521-7793

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Units in hospitals, which are environments filled with stressors, and particularly surgical units, are technologically highly complex. Relying on intensive team communication, involving numerous life-threatening situations and requiring rapid decision-making, the surgical setting is a source of anxiety and depression for nurses(5). Surgery clinics, with their large patient numbers and nurse-based responsibilities for meeting patients' individual requirements, are among the units requiring the most intensive nursing care. Anxiety and depression experienced in these units have been shown in various studies to create adverse effects on productivity and quality of work life(5,6). In addition, anxiety, depression and burnout decrease, motivation and coping strategies are enhanced, and the quality of care provided increases as quality of work life improves in the nursing profession(7). Nurses with heavy workloads experience anxiety and depression on a frequent basis, and this has a negative impact on satisfaction with work(8,9).

Based on the fact that an increase in the quality of work life and a decrease in anxiety-depression levels among nurses, who represent an important component of the health service team, will have a direct impact on patient care, this study was intended to determine the relations between these factors. We sought to answer the following questions:

1. What is the Hospital Anxiety and Depression Scale (HADS) level among surgical nurses?
2. What is the quality of work life among surgical nurses?
3. What is the relationship between surgical nurses' HADS levels and quality of work life?

MATERIALS AND METHODS

This cross-sectional, descriptive study was carried out in February 2018 and January 2019 in three hospitals, in Turkey. The study population consisted of all surgical nurses working in these three hospitals.

Data were collected using the Descriptive Characteristics of Nurses Form, the Hospital Anxiety and Depression Scale (HADS), and the Nurse' Quality of Work Life Scale.

Inclusion criteria were age 18 and over, willingness to participate, absence of communication problems, absence of psychiatric problems, and providing written informed consent to participate in the study. Individuals with cognitive or psychological problems restricting collaboration were excluded from the study.

Permission for the study was received from the XXX Provincial Health Directorate under decision No. 34059705-799 dated 28.11.2018. Written approval was granted by the Kocaeli University Non-Interventional Clinical Research Ethical Committee, and written and verbal informed consent was given by all participants.

Data collection tools

Nurse description form: This contained questions investigating age, sex, education level, marital status, length of employment in the clinic, working hours per week, etc.

Hospital Anxiety and Depression Scale (HADS): This scale was employed to determine anxiety and depression levels[10]. The validity and reliability of the scale for Turkey were studied by Aydemir, Güvenir, Küey et al., (1997) (11). It contains 14 questions, seven measuring anxiety and seven investigating depression. The reliability study produced a Cronbach alpha coefficient of 0.8525 for the anxiety subscale and of 0.7784 for the depression subscale. The reliability study produced a correlation coefficient of 0.7544 between the anxiety subscale and the Trait Anxiety Scale, and a coefficient of 0.7237 between the depression subscale and the Beck Depression Inventory. Cutoff points were determined of 10 for the anxiety subscale and of 7 for the depression subscale. Individuals scoring above these values are regarded as being at risk.

Nurses' Quality of Work Life Scale (NQWLS): This scale consists of 73 items. Its reliability and validity were studied by Sirin et al., 2015[12]. This 5-point Likert-type scale is scored: 1 "Not at all effective", 2 "Slightly effective", 3 "Moderately effective", 4 "Very effective" and 5 "Extremely effective". Factor analysis revealed a factor load of 0.41-0.79 and a five-factor structure

explaining 51.57% of total variance. The scale subdimensions were titled nursing management (30 items), institution management (14 items), working conditions (13 items), physical conditions (8 items), and social opportunities and working environment (8 items). The scale has a total Cronbach alpha reliability coefficient of 0.97. Subscale Cronbach alpha reliability coefficients are 0.96 for nursing management, 0.90 for institution management, a0.89 for working conditions, a0.84 for physical conditions, and a0.79 for social opportunities and working environment. The Cronbach alpha coefficients for the Nurses' Quality of Work Life Scale used in this study were identical to those in the reliability and validity study since the sample was the same. The scale is analyzed by conversion into a total score of 100. The scale contains no reverse scored items, and no cutoff point was calculated in the scoring. Total scores from the scale and subscales closer to 100 indicate a more negative approach, while lower scores (approaching 0) indicate a more positive approach. Scores of 1-25 indicate high work life satisfaction, scores of 26-50 indicate satisfaction, scores of 51-75 indicate moderate satisfaction, and scores of 76-100 indicate dissatisfaction.

The data collection tools were distributed once the nurses agreeing to take part had been given the requisite information about them, and were collected after completion.

Statistical analysis

Statistical analysis was performed on IBM SPSS 20.0 software (IBM Corp., Armonk, NY, USA). Normal distribution was assessed using the Kolmogorov-Smirnov test. Numerical data were expressed as median (25-75th percentiles) and frequency (percentages). Differences between groups in terms of non-normally distributed numerical variables were assessed using the Mann Whitney U test, Kruskal Wallis one-way analysis of variance and Dunn's multiple comparison test. Relations between numerical data were determined using Spearman correlation analysis. p values <0.05 were regarded as sufficient for significance at two-way tests.

RESULTS

The mean age of the nurses was 32.0 (28.00 – 38.00) years, 88.7% were women, 72.6% were married, and 66% held bachelor's degrees. The mean number of hours worked per week was 45.00 (40.00 – 48.00), and the mean nursing care score was 6.00 (5.00 – 8.00). We also determined that 86.6% of subjects were happy working as nurses, that 87.3% were happy working in their wards, and that 40.1% regarded the nursing care provided as adequate (Table 1).

Nurses' median hospital anxiety score was 9.00 (7.00 - 11.00), the median depression score was 8.00 (5.00 - 11.00) and the median total HADS score was 17.00 (11.00 - 22.00). HADS scores were high. On the quality of work life subscales, the median nursing management score was 62.50 (46.87 - 81.45), the median working conditions score was 75.00 (61.54 - 92.31), the median institutional management policy score was 68.75 (51.78 - 83.93), the median physical conditions score was 71.87 (56.25 - 84.37), and the median social opportunities and working environment score was 64.06 (47.66 - 78.12). The median NQWLS score was 66.95 (54.71 - 80.31). Nurses exhibited moderate satisfaction with quality of work life. The lowest satisfaction in quality of work life was determined on the working conditions subscale, and the highest satisfaction on the nursing management subscale (Table 2).

Analysis of relations between HADS and NQWLS scores based on various demographic characteristics revealed statistically significant positive correlation between total NQWLS scores and nursing management ($r=0.899$, $p<0.001$), working conditions ($r=0.798$, $p<0.001$), institutional management policies ($r=0.927$, $p<0.001$), physical conditions ($r=0.840$, $p<0.001$), and social opportunities and working environment ($r=0.784$, $p<0.001$) scores.

Significant positive correlations were observed between the HADS anxiety subscale and the NQWLS subscales of working conditions ($r=0.197$; $p=0.004$) and social opportunities and working environment ($r=0.191$, $p=0.005$), between the HADS depression subscale and

working conditions (r=0.215, p=0.002) and social opportunities and working environment (r=0.180, p=0.009)m and between total HADS scores and working conditions (r=0.222, p=0.001) and social opportunities and working environment (r=0.207, p=0.002) scores.

Number of hours worked per week was significantly negatively correlated with the NQWLS social opportunities and working environment subscale (r= -0.174, p=0.012).

Significant negative correlation was also determined between the score awarded for nursing care and the HADS anxiety (r= -0.316, p<0.001) and depression (r= -0.389, p<0.001) subscales and total HADS scores (r= -0.376, p<0.001).

Total HADS scores were also significantly positively correlated with anxiety (r=0.898, p<0.001) and depression (r=0.924, p<0.001) subscale scores (Table 3).

Table 1. Nurses' Sociodemographic and Work Characteristics (n=212), (2018-2019-Three Hospitals, Turkey)

Characteristic		**Median (25th and 75th percentiles)**	
Age		32.00 (28.00 – 38.00)	
Hours worked per week		45.00 (40.00 – 48.00)	
Nursing care score		6.00 (5.00 – 8.00)	
		N	**%**
Sex	Female	188	88.7
	Male	24	11.3
Marital status	Married	154	72.6
	Single	58	27.4
Education level	Health Vocational High School	32	15.1
	Associate bachelor's	28	13.2
	Bachelor's	140	66.0
	Higher degree	12	5.7
Happy to be working as a nurse	Yes	184	86.8
	No	28	13.2
Happy to be working on present ward	Yes	185	87.3
	No	27	12.7
Opinion regarding adequacy of nursing care	Adequate	85	40.1
	Partly adequate	78	36.8
	Inadequate	17	8.0
	Don't know/ Uncertain	32	15.1
Total		**100**	**100.0**

Table 2. Nurses' Median HADS and NQWLS and Subscale Scores (n=212), (2018-2019-Three Hospitals, Turkey)

Scale and subscales	***Median (25th and 75th percentiles)***
Anxiety	9.00 (7.00 – 11.00)
Depression	8.00 (5.00 – 11.00)
Total HADS	17.00 (11.00 – 22.00)
Nursing management	62.50 (46,87 – 81.45)
Working conditions	75.00 (61.54 – 92.31)
Institution management policies	68.75 (51.78 - 83.93)
Physical conditions	71. 87 (56.25 - 84.37)
Social opportunities and working environment	64.06 (47.66 – 78.12)
Total NQWLS	66.95 (54.71 – 80.31)

HADS: Hospital Anxiety and Depression Scale; NQWLS: Nurses' Quality of Work Life Scale

Table 3. Correlations between Various Nurse Demographic Characteristics and HADS and NQWLS and Subscale Scores (n=212), (2018-2019-Three Hospitals, Turkey)

r (p)[¥]	Nursing management	Working conditions	Institution management	Physical conditions	Social opportunities and working environment	**Total NQWLS**	Anxiety	Depression	**Total HADS**	**Age**	**Length of time worked**	**Hours worked per week**
Working conditions	0.675 **(<0.001)**	-										
Institution management	0.820 **(<0.001)**	0.754 **(<0.001)**	-									
Physical conditions	0.697 **(<0.001)**	0.667 **(<0.001)**	0.784 **(<0.001)**	-								
Social opportunities and working environment	0.626 **(<0.001)**	0.658 **(<0.001)**	0.712 **(<0.001)**	0.710 **(<0.001)**	-							
Total NQWLS Total	0.899 **(<0.001)**	0.798 **(<0.001)**	0.927 **(<0.001)**	0.810 **(<0.001)**	0.784 **(<0.001)**	-						
Anxiety	0.042 (0.544)	0.197 **(0.004)**	0.099 (0.151)	0.117 (0.090)	0.191 **(0.005)**	0.111 (0.106)	-					
Depression	0.055 (0.429)	0.215 **(0.002)**	0.103 (0.134)	0.109 (0.113)	0.180 **(0.009)**	0.131 (0.056)	0.677 **(<0.001)**	-				
Total HADS	0.048 (0.483)	0.222 **(0.001)**	0.105 (0.128)	0.121 (0.079)	0.207 **(0.002)**	0.132 (0.055)	0.898 **(<0.001)**	0.924 **(<0.001)**	-			
Age	0.021 (0.762)	-0.049 (0.480)	-0.025 (0.720)	0.027 (0.697)	0.090 (0.194)	0.036 (0.606)	-0.048 (0.486)	-0.060 (0.387)	-0.056 0.418	-		
Length of time in the profession	0.067 (0.330)	-0.014 (0.840)	0.006 (0.931)	0.028 (0.681)	0.066 (0.339)	0.059 (0.391)	-0.095 (0.166)	-0.110 (0.109)	-0.108 (0.116)	0.824 **(<0.001)**	-	
Hours worked per week	-0.103 (0.1419	-0.038 (0.590)	-0.093 (0.182)	-0.091 (0.191)	-0.0174 **(0.012)**	-0.121 (0.082)	0.048 (0.494)	0.043 (0.539)	0.049 (0.486)	-0.303 **(<0.001)**	-0.300 **(<0.001)**	-
Score awarded for nursing care	0.055 (0.450)	-0.098 (0.176)	-0.035 (0.630)	-0.005 (0.939)	-0.097 (0.180)	-0.020 (0.782)	-0.316 **(<0.001)**	-0.389 **(<0.001)**	-0.376 **(<0.001)**	0.220 **(0.002)**	0.260 **(<0.001)**	-0.044 (0.546)

HADS: Hospital Anxiety and Depression Scale NQWLS: Nurses' Quality of Work Life Scale [¥]: Spearman Correlation Analysis

Table 4. A Comparison of Differences between HADS and NQWLS and Subscale Scores According to Various Demographic Characteristics (subscales in which significant differences were observed) (n=212) (Median (25th-75th Percentiles), (2018-2019-Three Hospitals, Turkey)

Characteristics		Nursing Management	Working Conditions	Institution Management	Physical Conditions	Social Opportunities and Working Environment	NQWLS Total	Anxiety	Depression	HADS Total
Sex		**Median (25th-75th percentiles)**						**Median (25th-75th percentiles)**		
	Female	64.58 (49.16-81.66)	75.00 (62.01-92.30)	72.32 (52.23 - 85.71)	71.87 (59.37-84.37)	65.62 (53.12-81.25)	67.97 (56.67-81.42)	6.00 (9.38-9.00)	7.00 (8.01-8.00)	13.00 (17.39-17.00)
	Male	56.66 (32.50-72.50	69.23 (46.15-82.69	51.78 (39.28-80.35)	62.50 (34.37-81.25)	56.25 (28.12-71.87)	57.53 (40.75-70.54	7.00 (5.00-11.00)	7.00 (5.00-10.00	14.00 (11.00-20.00)
	p[d]	**0.049**	**0.032**	0.075	0.095	**0.022**	**0.030**	**0.024**	0.530	0.136
Marital Status	Single	60.41 (42.91-75.20)	73.07 (53.36-84.61)	66.07 (47.32-85.71)	68.75 (43.75-82.03)	62.50 (43.75-75.78)	66.09 (48.80-75.94)	9.00 (5.00-11.25)	7.50 (3.75-10.25)	17.00 (10.00-22.00)
	Married	65.41 (49.79-82.70)	78.84 (62.98-92.30)	73.21 (53.12-83.92)	75.00 (59.37-84.37)	68.75 (53.12-81.25)	69.17 (58.04-81.25)	9.00 (7.00-11.25)	8.00 (5.00-11.00)	17.00 (11.00-22.00)
	p[d]	0.089	**0.043**	0.209	0.147	0.142	**0.042**	0.327	0.371	0.297
Education Level	Health Vocational High School	58.33 (43.75-68.95)	67.30 (47.11-82.21)	56.25 (41.51-72.32)	59.37 (39.06-71.09)	56.25 (38.28-62.50)	63.18 (45.71-66.09)	8.00 (5.00-12.00)	8.00 (3.00-10.75)	15.50 (8.50-22.00)
	2-year degree	62.08 (42.91-84.79)	73.07 (60.09-84.61)	66.07 (43.30-79.46)	68.75 (44.53-80.46)	62.50 (46.87-77.34)	66.09 (52.73-81.07)	9.00 (7.00-11.00)	8.00 (5.25-9.75)	17.00 (11.50-21.75)
	Bachelor's	65.00 (49.37-81.66)	78.84 (63.46-93.75)	75.00 (52.23-85.71)	75.00 (59.37-87.50)	68.75 (50.00-87.50)	69.52 (57.27-83.64)	9.00 (7.00-11.75)	8.00 (5.00-11.00)	17.00 (12.25-22.00)
	Postgraduate	74.16 (45.83-88.33)	73.07 (73.07-84.61)	73.21 (71.42-91.07)	71.87 (65.62-100.00)	71.87 (62.50-93.75)	71.57 (66.09-89.04)	7.00 (6.00-11.00)	4.00 (2.00-13.00)	11.00 (8.00-23.00)
	p[e]	0.297	0.058	**0.046**[c]	**0.006**[b]	**0.008**[b,c]	**0.007**[b,c]	0.441	0.570	0.472

a: Significant difference between vocational high school and 2-year degrees.

b: Significant difference between vocational high school and bachelor's degree.

c: Significant difference between vocational high school and postgraduate degree.

d: Mann Whitney U Test e: Kruskal Wallis Tes

Table 5. A Comparison of HADS and NQWLS and Subscale Scores according to Various Nurse Work Characteristics (n=212) (Median (25th-75th Percentiles), (2018-2019-Three Hospitals, Turkey)

Characteristics		Nursing Management	Working Conditions	Institution Management	Physical Conditions	Social Opportunities and Working Environment	NQWLS Total	Anxiety	Depression	HADS Total
Content with working in present department		**Median (25th and 75th percentiles)**						**Median (25th and 75th percentiles)**		
	Yes	62.50 (46.25-79.16)	75.00 (59.615-90.38)	66.07 (50.89-82.14)	71.87 (56.25-84.37)	62.50 (43.75-75.00)	66.09 (53.93-77.73)	9.00 (6.00-11.00)	8.00 (4.00-10.00)	17.00 (11.00-21.00)
	No	80.83 (61.66-97.50)	84.61 (65.38-100.00)	85.71 (66.07-100.00)	71.87 (62.50-100.00)	68.75 (56.25-93.75)	75.68 (66.09-95.89)	11.00 (9.00-16.00)	12.00 (7.00-15.00)	22.00 (15.00-29.00)
	p[d]	**0.002**	0.118	**0.003**	0.227	0.121	**0.008**	**0.005**	**0.001**	**0.001**
Adequacy of nursing care in the department	Adequate	63.33 (45.41-81.66)	73.07 (56.73-88.46)	73.21 (51.78-85.71)	68.75 (51.56-87.50)	62.50 (45.31-81.25)	69.86 (51.36-80.99)	9.00 (6.00-10.50)	7.00 (4.00-9.50)	15.00 (10.00-20.00)
	Partly adequate	62.08 (46.45-75.83)	74.03 (61.53-94.23)	66.07 (50.00-82.14)	71.87 (56.25-81.25)	62.50 (43.75-75.00)	66.09 (54.19-76.19)	9.00 (7.00-12.00)	8.00 (5.00-11.00)	17.50 (11.00-23.00)
	Inadequate	85.83 (57.91-95.41)	86.53 (73.07-97.11)	76.78 (63.39-97.32)	75.00 (65.62-100.00)	75.00 (64.06-95.31)	80.82 (66.43-94.34)	11.00 (9.00-14.00)	10.50 (7.50-12.50)	22.00 (18.00-24.50)
	Don't know/ Undecided	64.16 (58.33-79.79)	75.96 (60.09-89.90)	70.53 (50.00-78.57)	76.56 (56.25-96.09)	67.18 (45.31-84.37)	69.17 (58.39-72.77)	10.50 (7.25-16.75)	10.00 (3.00-14.75)	21.00 (10.25-31.75)
	p[e]	0.196	0.315	0.239	0.530	0.086	0.058	**0.019**	0.068	**0.018**
Type of hospital	Public	64.58 (45.83-82.70)	78.84 (61.53-92.30)	73.21 (51.78-86.16)	75.00 (56.25-87.50)	68.75 (53.12-84.37)	69.52 (55.73-83.13)	9.00 (7.00-12.00)	8.00 (5.00-11.00)	17.00 (11.00-22.25)
	Private	62.08 (51.25-67.91)	65.38 (49.51-73.07)	66.07 (38.83-66.51)	64.06 (40.62-75.78)	57.81 (33.59-62.50)	65.58 (49.82-66.09)	9.00 (4.75-10.25)	7.50 (3.00-10.00)	14.00 (8.00-21.25)
	p[d]	0.199	**0.002**	**0.006**	**0.016**	**0.002**	**0.003**	0.118	0.193	0.095

[d]: Mann Whitney U Test

[e]: Kruskal Wallis Test

HADS and NQWLS and their subscales were compared in terms of various nurse demographic characteristics. Significant differences were observed between nursing management (p=0.049), working conditions (p=0.032), and social opportunities and working environment (p=0.022) NQWLS subscale scores analyzed by gender, with women achieving higher mean scores on all three.

The difference in HADS anxiety subscale scores between the genders was statistically significant (p=0.024), with men scoring higher than women.

The working conditions (p=0.043) NQWLS subscale and NQWLS total scores (p=0.042) differed significantly in terms of marital status, with married nurses scoring higher than single nurses on both.

The NQWLS subscales of institution management, physical conditions, and social opportunities and working environment and NQWLS total scores differed significantly in terms of education levels.

A significant difference was observed in terms of institution management scores between health vocational high school graduate nurses and those with postgraduate degrees (p=0.046), with higher scores being determined among nurses with postgraduate degrees.

A significant difference was also observed in terms of physical conditions scores between health vocational high school graduate nurses and those with bachelor's degrees (p=0.006), nurses with bachelor's degrees scoring higher.

Significant differences were determined in terms of social opportunities and working environment scores between high school graduates and nurses with bachelor's degrees and between high school graduates and nurses with postgraduate degrees (p=0.008), nurses with bachelor's or postgraduate degrees scoring higher than high school graduates.

Total NQWLS scores differed significantly between high school graduate nurses and those with bachelor's degrees, and between high school graduates and nurses with postgraduate degrees (p=0.007), nurses with bachelor's or postgraduate degrees scoring higher than high school graduates (Table 4).

Analysis of differences between HADS and NQWLS and subscale scores according to various nurse work characteristics revealed the following:

Statistically significant relations were determined between nurses' contentment with working in their present departments and the NQWLS subscales of nursing management (p=0.002), and institution management (p=0.003) and total NQWLS scores (p=0.008) and anxiety (p=0.005), depression (p=0.001) and total HADS scores (p=0.001). Nurses who were unhappy working in their present departments had higher nursing management, institution management and total NQWLS scores and higher anxiety, depression and total HADS scores.

Nurses who regarded the nursing care in their department as adequate exhibited significantly higher anxiety (p=0.019) and total HADS (p=0.018) scores than those who did not regard the nursing care provided as adequate.

Statistically significant relations were also observed between the type of hospital in which nurses worked and working conditions (p=0.002), institution management (p=0.006), physical conditions (p=0.016), social opportunities and working environment (p=0.002) and total NQWLS (p=0.003) scores, higher scores being determined among nurses in public hospitals (Table 5).

DISCUSSION

Anxiety and depression are emotional problems that adversely affect the individual's quality of life. Studies of anxiety and depression in nurses have reported high levels of anxiety and depression adversely impacting on efficiency and quality of care in more than half of the study populations(13,14). In their study of symptoms of anxiety in nurses, Gao et al., (2012) reported greater anxiety and depression in intensive care and operating room nurses and in nurses working shifts(13). That study also emphasized that nurses

received no professional assistance in terms of emotional disorders and that their quality of work declined as a result, and that quality of care was thus also adversely affected. In the present study, in agreement with the previous literature, nurses had high hospital anxiety and depression scores (Table 2). We think that factors such as a high work load and shift-working may have affected nurses' anxiety and depression levels.

The quality of nurses' work lives has been reported to be affected by parameters such as good working conditions, requests being met, and collaboration with management, while at the same time, work life quality also affects the care provided(15). Another study reported that quality of work life increases job satisfaction, and that this also has a positive impact on psychological conditions such as anxiety, depression and stress(16). One study examining the relation between nurses' and general practitioners' work life quality and anxiety-depression reported a moderate quality of work life among nurses and general practitioners, and that this was affected by variables such as appropriate promotion systems, suitable working conditions, good relations with management and the presence of sufficient personnel(17). One study investigating quality of work life and anxiety, depression, and burnout levels among health professionals in the emergency department stressed the importance of existing working conditions and measures aimed at increasing job satisfaction by administrations(18). Bloom (2018) reported that institutional support and positive relations with managers increased job satisfaction levels(19). In a study of 313 nurses in three medical faculties, Yoshioka et al., (2018) reported a positive relationship between motivational working conditions and quality of work life(20). In the present study, nurses exhibited moderate satisfaction with the quality of their work life. The lowest satisfaction with quality of work life was determined in the working conditions subscale, and the highest was determined in the nursing management subscale. Significant positive correlation was observed between anxiety and depression and working conditions and social opportunities and work environment (Tables 2, 3). Our findings support those of previous studies(15,17,19,20).

Factors such as the work environment, working conditions, working hours and workload are variables with significant impacts on quality of work life(21). One study of job satisfaction and related factors among emergency department personnel reported no significant difference between male and female health professionals in terms of working conditions or the work environment(18). A study investigating the relation between nurse gender and quality of work life conducted in Brazil also reported no significant difference between the sexes in terms of working conditions, management and opportunities. Scores for nursing management, working conditions, and social opportunities and working environment were significantly higher among women compared to men in the present study (Table 4). The moderate satisfaction felt by women with quality of work life, the higher number of women in the study sample, and women therefore more frequently encountering factors affecting their quality of work life (nursing management, working conditions, and social opportunities and working environment) may have played a role in this finding.

High levels of anxiety and depression caused by a high-stress work environment are always possible in the caring professions, such as nursing, and these feelings are reported to affect nurses by lower their individual quality of life and also quality of work life(23). One study of nurses' levels of anxiety and depression emphasized that nurses experience high levels of occupational stress and burnout, and that the incidences of sleeplessness, anxiety and depression are higher among male and younger nurses(24). Another study of the risk of anxiety and depression in health care workers also described nurses as a high occupational risk group, with younger age, male gender and a longer time in the profession as factors exacerbating the incidence(25). Our study findings are in agreement with Ghazwin et al., (2016) and Huang et al., (2018)(24,25), with male nurses registering higher anxiety scores than females (Table 4). We think that the low number

of men in the study sample and men's working conditions may have affected this outcome.

One study of job satisfaction, quality of life and associated factors in nurses, conducted in a university hospital reported a high quality of work life among married nurses with children(26). Another study involving 15 randomly selected hospitals and 923 nurses intended to investigate work performance and associated factors among nurses also reported higher satisfaction with working conditions and work life among married nurses than single individuals(16). Similarly, in the present study, married nurses registered higher working conditions and quality of work life scores than single nurses, although married nurses were dissatisfied with their working conditions and expressed moderate satisfaction with quality of work life (Table 4).

Factors such as good social and physical conditions, the unit in which nurses work, and management policies have been reported to affect their quality of work life, and this can in turn be influenced by sociodemographic variables(27). A study investigating nurses' job definitions and work performance in China reported a significant relation between education level and satisfaction with the job performed and satisfaction with the unit involved(28). Another study of the effect of sociodemographic factors on quality of work life reported a significant relation with education level and age, perceived quality of work life increasing in line with education levels and decreasing age(29). Greater physical and social opportunities in the workplace are reported to also affect job satisfaction(30). In agreement with the previous literature(27-29), we also determined a significant relationship between higher education levels and institution management, physical conditions, social opportunities and working environment and total quality of work life scores, these scores increasing in line with education levels (Table 4).

Factors such as a heavy workload, shift work, and adaptation to complex technology increase anxiety and depression levels in nurses, which in turn results in an adverse impact on the nursing care provided(9). One cross-sectional study of the prevalence of stress, anxiety and depression, and the risk factors involved, among Australian nurses reported that relationship with patients were adversely impacted in subjects with high levels of anxiety and depression, and that this also lowered the quality of care provided(14). A study of stress, anxiety and depression levels among clinical nurses in Vietnam reported at least one psychological disorder in 45.3% of nurses (n=600), and that this created a negative impact on work control and patient care(6). In the present study, nurses who regarded nursing care as inadequate had higher anxiety and total HADS scores (Table 5), a finding compatible with the previous literature(6,14). Adequate nursing care was determined to lower HADS scores by increasing nurses' job satisfaction.

We determined moderate levels of anxiety and depression among nurses and moderate satisfaction with quality of work life. No significant correlation was determined between total HADS and NQWLS scores. We recommend that measures be adopted to reduce anxiety and depression to a minimum, that factors such as work conditions and physical condition be reviewed in order to raise quality of work life, that appropriate conditions be established, and that physical and social opportunities be improved.

There are a number of limitations to this study, including the fact that the results reflect only three centers and cannot therefore be generalized.

In conclusion, it is becoming increasingly widely recognized that nurses are affected by symptoms of work-related anxiety and depression. The anxiety and depression, experienced by nursing professionals may not be entirely preventable, but it is still highly important to determine the scale of their presence in the workplace. A healthy workforce is essential in ensuring that both personal well-being and quality patient outcomes are achieved.

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