

## Original Article

### Quality of Work Life of Greek Pediatric Oncology Nurses: A Comparative Study

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#### Abstract

**Background:** Nursing has been characterized as one of the most stressful professions that affect nurses' quality of work life negatively.

**Aim:** This study aimed to assess the Quality of Nursing Work Life in a sample of pediatric oncology nurses in Greece.

**Methodology:** This is a cross-sectional comparative study. We assessed the quality of work life in a convenience sample of pediatric oncology and pediatric nurses working in the two major pediatric public hospitals in Greece, with the use of the Quality of Nursing Work Life (QNWL) Questionnaire. Data analysis was performed using Statistical Package SPSS version 23.0 (SPSS, Inc., Chicago, IL). The significance level was set at 0.05.

**Results:** The study participated in total 119 nurses (79 pediatric oncology nurses and 40 pediatric nurses). The quality of work life was assessed as moderate ( $138.87 \pm 24.198$ ). The vast majority were female nurses (N=103, 86.6%) working for more than ten years in a pediatric hospital setting (N = 74, 62.2%). Pediatric oncology nurses showed statistically significant differences in subscale "Work Life / Home Life" (p = 0.003) and "Work Design" (p = 0.002) as well as in the overall QNWL scale score, with a significantly increased mean score ( $145.08 \pm 27,064$ ) against non-oncology pediatric nurses ( $135.72 \pm 22.132$ ).

**Conclusions:** The quality of work life is a factor that affects the professional performance of nurses as well as their individual family life. Therefore, its regular assessment is important in order to address problems in work life that

may result in provision of poorer quality services to patients and directly affect nurses' personal quality of life. The systematic assessment of the quality of nurses' work life is essential in order to identify its' determinants and possible barriers.

**Keywords:** Quality of life, quality of work life, oncology nursing, pediatric nursing, pediatric nurse

## Introduction

Nursing has been characterized as one of the most stressful and demanding professions and that affect's nurses' quality of life (QoL) negatively (Kandi & Zeinali, 2017). Pediatric nursing is even more stressful than general nursing, due to the burden that interactions with children and families suffering causes (Meadors & Lamson, 2008). Especially, families coping with childhood cancer are often facing emotional, physical, and financial consequences (National Academies of Sciences, Engineering and Medicine, 2015). Parents commonly state that they feel depressed as a reaction to the suffering of coping with their child's illness (Coughlin & Sethares, 2017). Pediatric oncology nurses are regularly exposed to these psychosocial factors (Rushton et al., 2015). The multifaceted role requirements of pediatric oncology nurses increase their responsibilities and acts as an additional contributor for the development of work related stress (Newman, 2016).

QoL is a general term that was defined by the World Health Organization (WHO) as the perceived evaluation of own life surrounded by a cultural, social and environmental framework (WHO Quality of Life Assessment Group, 1996).

Quality of work life has been characterized as a complex entity that interacts and simultaneously is influenced by both work and personal life aspects. Brooks & Anderson argued that quality of work life is related to the quality of the work experience of employees and at the same time with the productivity of the organization. In relation to nursing, they quality of work life is related to the degree to which nurses satisfy their individual needs in work place, how they rate the overall working experiences and whether these are in line with the achievement of organizational goals. Therefore, the

concept of job satisfaction is more complex than simply paying a salary. It is more about providing employment with an environment that they feel accepted, valued and appreciated (Brooks & Anderson, 2005; Vagharseyyedin et al., 2011). Moreover, nurses' QoL is interrelated with job satisfaction, the quality of the working environment, and burnout or moral distress (Khatatbeh et al., 2021a; Dos Santos et al., 2018; Garbóczy et al., 2021).

Brooks & Anderson developed a scale to assess the quality of nursing work life. The scale included four subscales. The first one termed "work life-home life dimension" was developed to assess the interface between the nurse's work and home life. The second dimension was "work design" dimension measuring the actual nursing work. The "work context" dimension assesses the practice settings and explores the impact of the work environment on both nurse and patient. The fourth subscale is termed "work world" dimension and refers to the effect of broad social influences and change on the practice (Brooks & Anderson, 2005).

Zaghini et al. (2020) tested a model in order to evaluate the influence of emotional labor on burnout and the mediating role of work-related stress reported by nurses. The emotional relationship of nurses with the patients they provide care is part of the therapeutic process. Despite its beneficial role for patients it is an independent source of work related stress and when is prolonged is believed that leads to moral distress and burnout, that deteriorates nurses' health and quality of life. The oncology specialty in nursing has been identified as a clinical area that exposes nurses to increased emotional labor. The mediation of work-related stress seems to interrupt the process between emotional labor and burnout. Nursing workload, hospital work environment, time pressure, interpersonal relationships and communication are important

determinants related to the quality of work life. Better working conditions are correlated with increased emotional resilience that relieves nurses' burn-out. Afriyie (2021) commented that nurse managers and employers must focus on these modifiable factors to reduce nurses' chances of experiencing stress and burnout. The quality of work life directly affects their working performance and the quality of care they provide and, consequently, patient's satisfaction and safety (Afriyie, 2021). These are supported from previous studies indicating that work related stress has a negative impact on nurses' quality of life and health even in cases of moderate occupational stress levels and may lead to both burnout and compassion fatigue (Ruiz-Fernández et al., 2020; Kumar et al., 2018; Kent et al., 2019; Khatatbeh et al., 2022a; Babapour et al., 2022). In Greece the data concerning quality of work life among pediatric nurses is limited and especially in demanding clinical areas such as pediatric oncology care. Aim of this study was to assess the quality of work life in a sample of pediatric oncology nurses and to compare it with general pediatric nurses in Greece.

### Materials and Methods

This is a cross-sectional study. The study sample (convenience sample) consisted of nurses working in the two biggest public pediatric hospitals in Athens. Data collection was performed from January to June 2021.

The study was approved from the Ethics' Committee from both hospitals (Ref. No: 22222/14-10-2020 and Ref. No: 8/25-11-2020 Item 15). Data collection started, after obtaining the informed consent from the participating nurses. It was ensured that at every stage of the study personal data protection and ethics for conducting research on humans were ensured. Access to the study data was possible only to research team members. The convenience sample consisted of 119 nurses working in the two public hospitals in hematology-oncology wards (N = 40) and nurses working in pediatric and pediatric surgery nursing departments (N = 79). The inclusion criteria were: RNs working in pediatric departments or in departments of pediatric hematology–oncology, providing clinical care in pediatric patients and signed informed consent. In total 140 nurses were approached and

120 agreed to participate (response rate 85.7%). The main reason for not participating was lack of time due to workload. In one case the data were excluded from the study analysis because the questionnaire was partially completed.

The tools used to collect the data were a demographic form and the Quality of Nursing Work Life Questionnaire (QNWLs). The demographic form consisted of a limited number of questions such as gender, age, marital status and number of children, working hospital and department, total working experience, level of education, employment relationship, and other. Moreover, two additional questions were added to this form ("Do you rest adequately during your weekly breaks?" & "Do you have time for physical exercise?"). The last part of the questionnaire was QNWL Scale that was created by Brooks & Anderson (2004), consisted of 42 questions and explores Nurses' QOWL (Brooks & Anderson, 2004; Khani et al., 2008).

**Validation of QNWL Scale:** The questionnaire was translated to Greek and was independently evaluated by two experts for its adaptation to Greek language. Then a reverse translation was performed from Greek to English. After the consensus from experts regarding the final translation the questionnaire was used for pilot testing. Minor changes were performed after pilot testing and the scale was used in the study. The reliability of the scale was evaluated by calculating Cronbach's  $\alpha$ . The Cronbach's alpha internal consistency coefficient for the QNWL Scale (N = 42) was 0.898, indicating a high internal consistency of the scale. Cronbach's alpha index for QNWL Subscales (dimensions) are presented in Table 1.

The QNWL Scale uses a 6-point Likert scale for each item from strongly disagree to disagree (ratings 1, 2, and 3) and strongly agree to agree (ratings 4, 5, and 6). The sum of the scores gives an overall score of 42 to 252. A higher score reflects a higher level of quality of working life. The internal coherence of this tool in English was confirmed by Lee et al., with a Cronbach coefficient of 0.85 (Lee et al., 2018).

### Statistical analysis

The analysis of the data was performed with the statistical package SPSS v.23.0 at a level of

statistical significance 0.05. Adequate descriptive techniques were used for data analysis including estimation of absolute and relative frequency, mean and standard deviation (SD), median, range, and intra-quadratic range (IQR) for continuous variables, along with frequency and percentage ratio for the categorical variables. Then for the quantitative variables of the study a regularity test was performed with the Kolmogorov-Smirnov test. More specifically, the  $\chi^2$  test (chi-squared test) was used to investigate the relationship between two distinct variables. Student's t-test was used to investigate the relationship between a quantitative variable following the normal distribution and a dichotomous/categorical variable. The Mann-Whitney test (Mann-Whitney test) was used to investigate the relationship between a quantitative variable that did not follow the normal distribution and a dichotomous/categorical variable.

## Results

The study participated 119 working pediatric nurses from the two largest pediatric hospitals in the country. Specifically, 59 (49.6%) from the Children's hospital "P. & A. Kyriakou" (10 pediatric oncology nurses and 49 pediatric nurses) and 60 (50.4%) from the Children's hospital "Aghia Sophia" (30 pediatric oncology nurses and 30 pediatric nurses). The 33.6% (N = 40) were working in non-oncology pediatric departments, while the majority of participants were permanent employees (N = 78, 65.5%), women (N = 103, 86.6%) and married or in cohabitation (N = 65, 54.6%). Almost one in two nurses belongs to the age group under 40 years (N = 72, 60.5%). More than one in two participants (N = 64, 53.8%) stated that their spouse works and 47.1% (N = 56) stated that they do not have children yet. Regarding the work experience, 43 (36.1%) had less than 10 years of previous service, while almost 1 in 3 had postgraduate studies (N = 34, 28.5%). The demographic data of the sample in detail are presented in Table 2.

There were noted no statistically significant differences between the group of oncology and non-oncology pediatric nurses in terms of their demographic data. When asked if they "get enough rest in their weekly breaks" the majority (74.8%) said they disagree (strongly disagree (N = 20) 16.8%, disagree (N = 36), 30.3%, & somewhat

disagree (N = 33), 27.7%), while 21% (N = 25), stated that mainly agree with a very small percentage to say somewhat agree (N = 3), 2.5%, and strongly agree (N = 2), 1.7%. While their answers were similar regarding whether "They have time for physical exercise", as 64.7% stated that they disagree (strongly disagree (N = 17) 14.3%, disagree (N = 26), 21.8%, & somewhat disagree (N = 34), 28.6%), while 23.5% (N = 28), stated that somewhat agree with a small percentage to say agree (N = 10), 8.4%, and strongly agree (N = 4), 3.4%.

The absolute frequency of QNWLs participants' responses are presented in Table 3. In order to assess possible differences between nurses working in oncology and non-oncology pediatric departments regarding the QNWL Scale items,  $\chi^2$  test was performed for each question separately. Table 3 illustrates the results of the relevance test for each answer. The mean values of the individual scores (descriptive data) of the QNWL subscales and its overall score revealed that the mean value of the reported overall QNWL of pediatric oncology nurses (but also of most of its subscales) was higher than that of pediatric nurses. The individual scores of the QNWL subscales and its overall score are presented in Table 4. The QNWLs scores indicate that the quality of work life of the participant nurses were moderate (Mean: 138.87 SD: 24.198). In Table 5 the participants' answers as agreement (somewhat agree - strongly agree) and disagreement (somewhat disagree - strongly disagree) are presented.

It was initially investigated whether nurses display different scores on QNWL Scale depending on the department they work. It was found that the nurses working in pediatric oncology departments showed statistically significant differences in the subscale 1 "Work Life / Home Life" (p = 0.003) and 2 "Work Design" (p = 0.002) as well as in the overall score of the scale, in which they showed increased score against non-oncology pediatric nurses. In the other two subscales "Work context" and "Work World" no statistically significant difference was found between oncology and non-oncology pediatric nurses (Table 6).

Gender presented no statistically significant difference in the score of the individual subscales and the overall score of the QNWL Scale. Also

there was no statistically significant difference between the individual scores of the subscales of the QNWL Scale and its overall score in relevance to the hospital nurses work. By analogy, neither age was found to be associated with a statistically significant difference despite the tendency of younger nurses to report lower scores on the QNWL Scale.

Marital status was not found to affect the QNWL Scale's score with the exception of subscale "Work Design", in which married or cohabiting nurses showed a statistically significantly higher score than unmarried nurses ( $p = 0.013$ ), as well as, those their partner was working ( $p = 0.018$ ). In contrast, the number of children seems to be associated with a higher score in all subscales, with

nurses who had two or more children showing a statistically significant difference in the score of subscale "Work Design" ( $p = 0.011$ ), of subscale "Work Context" ( $p = 0.013$ ) and in the overall QNWLs score ( $p = 0.011$ ).

The educational level of the nurses was not found to have a statistically significant effect on the QNWL Scale score. Accordingly, the employment relationship was not statistically significantly related to the QNWL Score score with the exception of the score of subscale "Work Design", with nurses with permanent employment reporting a higher score ( $t = 2.396$ ,  $df = 117$ ,  $p = 0.018$ ), as well as, nurses with more than 20 years of service compared to nurses with less experience ( $t = 2.898$ ,  $df = 117$ ,  $p = 0.004$ ).

**Table 1.** Summary results of internal consistency control of QNWLs

	Cronbach's alpha	Items
<b>Subscale 1:</b> Work Life / Home Life	0.726	N = 7
<b>Subscale 2:</b> Work Design	0.651	N = 10
<b>Subscale 3:</b> Work Context	0.914	N = 20
<b>Subscale 4:</b> Work World	0.621	N = 5
<b>Total QNWLs</b>	<b>0.904</b>	<b>N = 42</b>

**Table 2.** Demographic characteristics

	PON (N = 40)	PN (N = 79)	Total nurses (N = 119)
Demographic characteristics	N (%)		
<b>Gender</b>			
Male	3 (7.5%)	13 (16.5%)	16 (13.4%)
Female	37 (92.5%)	66 (83.5%)	103 (86.6%)
<b>Age (years)</b>			
20-29	9 (22.5%)	18 (22.8%)	27 (22.7%)
30-39	18 (45.0%)	27 (34.2%)	45 (37.8%)
40-49	7 (17.5%)	25 (31.6%)	32 (26.9%)
50-59	6 (15.0%)	9 (11.4%)	15 (12.6%)

<b>Marital status</b>			
Married	16 (40%)	39 (49.4%)	55 (46.2%)
Unmarried	17 (42.5%)	29 (36.7%)	46 (38.7%)
Divorced	4 (10%)	3 (3.8%)	7 (5.9%)
In cohabitation	3 (7.5%)	7 (8.9%)	10 (8.4%)
Widow/er	0	1 (1.3%)	1 (0.8%)
<b>Working spouse</b>			
Yes	19 (47.5%)	45 (57%)	64 (53.8%)
No	5 (12.5%)	19 (24%)	24 (20.2%)
Didn't answer	16 (40%)	15 (19%)	31 (26.1%)
<b>Total number of family's children</b>			
None	24 (60%)	42 (53.2%)	66 (55.5%)
One	5 (12.5%)	17 (21.5%)	22 (18.5%)
Two	11 (27.5%)	15 (19%)	26 (21.8%)
Three	0	5 (6.3%)	5 (4.2%)
<b>Employment hospital</b>			
P. & A. Kyriakou	10 (25%)	49 (62%)	59 (49.6%)
Aghia Sophia	30 (75%)	30 (38%)	60 (50.4%)
<b>Total previous service (years)</b>			
<10	15 (37.5%)	28 (35.4%)	43 (36.1%)
10-19	14 (35%)	27 (34.2%)	41 (34.5%)
20-29	9 (22.5%)	20 (25.3%)	29 (24.4%)
>30	2 (5%)	2 (2.5%)	4 (3.4%)
Didn't answer	0	2 (2.5%)	2 (1.7%)
<b>Educational level</b>			
University	29 (72.5%)	56 (70.9%)	85 (71.4%)
Postgraduate studies (MSc)	10 (25.0%)	23 (29.1%)	33 (27.7%)
Postgraduate studies (PhD)	1 (2.5%)	0	1 (0.8%)
<b>Employment relationship</b>			
Permanent position	27 (67.5%)	51 (64.6%)	78 (65.5%)
Fixed-term contract	13 (32.5%)	28 (35.4%)	41 (34.5%)

PON: pediatric oncology nurses, PN: pediatric nurses

**Table 3.** Absolute frequency of responses of PON & PN to QNWLs (N = 119)

	PON / PN						
	Strongly disagree	Disagree	Somewhat	Strongly agree	Agree	Some what agree	P



20.	I am able to participate in decisions made by my nurse manager	4/6	7/11	9/19	13/26	6/14	1/3	0.984
21.	I feel that upper-level management have respect for nursing	10/16	7/21	5/17	9/18	8/5	1/1	0.298
22.	I feel respected by physicians in my work setting	2/5	3/8	9/17	15/27	7/17	4/1	0.958
23.	I communicate well with the physicians in my work setting	1/7	4/8	6/20	17/25	6/13	6/6	0.385
24.	My work setting provides career advancement opportunities	8/16	6/13	9/32	10/12	7/3	0/3	0.045
25.	Friendships with my co-workers are important to me	5/7	2/18	6/22	11/15	7/13	9/4	0.008
26.	I receive feedback from on my performance my nurse manager	12/9	3/14	7/18	14/23	3/14	1/1	0.076
27.	I feel like there is teamwork in my work setting	3/9	6/13	6/17	13/25	11/15	1/0	0.567
28.	I feel like I belong to the work family	7/9	1/17	6/15	12/31	11/5	3/2	0.003
29.	I am able to communicate with other therapists (physical, respiratory, etc.)	2/8	7/9	8/15	15/29	4/14	4/4	0.609
30.	Nursing policies and procedures facilitate my work	4/10	10/10	7/23	15/25	3/9	1/2	0.459
31.	The nurses' lounge/break-area/locker room in my setting is comfortable	9/11	4/20	6/26	10/12	9/8	2/2	0.033
32.	I have access to degree completion programs through my work setting	7/20	5/13	9/19	15/25	3/0	1/2	0.205
33.	Receive support to attend in-service and continuing education programs	5/16	9/18	3/19	17/20	3/4	3/2	0.102
34.	I am recognized for my accomplishments by my nurse manager	4/7	7/13	10/23	12/26	6/8	1/2	0.976
35.	I feel safe from personal harm (physical, emotional, or verbal)	10/14	8/19	10/20	8/15	2/8	2/3	0.837
36.	I feel the security department provides a secure environment	10/15	5/20	8/27	11/8	2/7	4/2	0.025

37. I have adequate patient care supplies and equipment	8/12	8/16	10/23	6/15	6/12	3/1	0.815
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**Subscale 4: Work World**

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38. I believe that Society has the correct image of nurses	1/10	12/26	9/24	5/13	0/5	0/1	0.061
39. My salary is adequate for my job given the current job market conditions	12/24	10/15	12/23	5/16	1/1	0/0	0.807
40. I would be able to find the same job in another organization with about the same salary and benefits	6/7	10/20	13/19	6/18	2/8	3/7	0.652
41. I feel my job is secure	13/16	9/23	9/29	5/9	4/2	0/0	0.152
42. I believe my work impacts the lives of patients/families	0/1	6/6	3/19	19/30	10/16	2/7	0.202

P: Relevance test between the responses of the participating oncology and non-oncology PN to the QNWLs, PON: pediatric oncology nurses, PN: pediatric nurses

**Table 4.** Descriptive characteristics of QNWLs subscales (N = 119)

	<b>Subscale 1:</b> Work Life / Home Life	<b>Subscale 2:</b> Work Design	<b>Subscale 3:</b> Work Context	<b>Subscale 4:</b> Work World	<b>Total score</b> <b>QNWLs</b>
<b>Total nurses (N=119)</b>					
Mean ± SD	22.22 ± 5.014	37.10 ± 6.169	65.04 ± 16.494	14.50 ± 3.719	138.87 ± 24.198
Median (IQR)	23.00 (7-33)	38.00 (21-53)	65.00 (20-101)	15.00 (6-23)	138.00 (76-187)
<b>Pediatric oncology nurses (N=40)</b>					
Mean ± SD	24.13 ± 4,648	39.58 ± 5,769	67.58 ± 18,986	13.80 ± 4,115	145.08 ± 27,064
Median (IQR)	24.50 (14-33)	39.50 (26-53)	66.50 (36-101)	13.50 (6-23)	147.50 (102-196)
<b>Pediatric nurses (N=79)</b>					
Mean ± SD	21.25 ± 4,942	35.85 ± 6,017	63.76 ± 15,045	14.86 ± 3,474	135.72 ± 22.132
Median (IQR)	22.00 (7-30)	37.00 (21-53)	65.00 (20-98)	15.00 (6-23)	136.00 (76-197)

SD: standard deviation, IQR: interquartile range

**Table 5.** Comparison of answers to QNWLs (N = 119) with the answers as a bisector variable.

Nurses		PON (N=40)		PN (N=79)		Total nurses (N=119)	
Answers		Disagree	Agree	Disagree	Agree	Disagree	Agree
<b>Subscale 1: Work Life / Home Life</b>							
1.	I am able to balance work with my family needs	17	23	54	25	71	48
2.	I am able to arrange for day care when my child is ill	19	21	49	30	68	51
3.	I am able to arrange for child-care when I am at work	22	18	52	27	74	45
4.	I have energy left after work	31	9	64	15	95	24
5.	I feel that rotating schedules negatively affect my life	8	32	25	54	33	86
6.	I am able to arrange for day care for my elderly parents	22	18	55	24	77	42
7.	My organizations' policy for family-leave time is adequate	21	19	57	22	78	41
<b>Subscale 2: Work Design</b>							
8.	I am satisfied with my job	12	28	50	29	62	57
9.	My workload is too heavy	5	35	16	63	21	98
10.	I perform many non-nursing tasks	11	29	19	60	30	89
11.	There are enough RNs in my work setting	9	31	45	34	54	65
12.	I have enough time to do my job well	22	18	60	19	82	37
13.	I am able to provide good quality patient care	9	31	32	47	41	78
14.	I have autonomy to make patient care decisions	20	20	46	33	66	53
15.	I receive quality assistance from unlicensed support personnel	19	21	42	37	61	58
16.	I experience many interruptions in my daily work routine	12	28	27	52	39	80
17.	I receive sufficient assistance from unlicensed support personnel	15	25	35	44	50	69
<b>Subscale 3: Work Context</b>							
18.	I am able to communicate well with my nurse manager	11	29	24	55	35	84
19.	My nurse manager provides adequate supervision	21	19	39	40	60	59

20.	I am able to participate in decisions made by my nurse manager	20	20	36	43	56	63
21.	I feel that upper-level management have respect for nursing	22	18	54	25	76	43
22.	I feel respected by physicians in my work setting	14	26	30	49	44	75
23.	I communicate well with the physicians in my work setting	11	29	35	44	46	73
24.	My work setting provides career advancement opportunities	23	17	61	18	84	35
25.	Friendships with my co-workers are important to me	13	27	47	32	60	59
26.	I receive feedback from on my performance my nurse manager	22	18	41	38	63	56
27.	I feel like there is teamwork in my work setting	15	25	39	40	54	65
28.	I feel like I belong to the work family	14	26	41	38	55	64
29.	I am able to communicate with other therapists (physical, respiratory, etc.)	17	23	32	47	49	70
30.	Nursing policies and procedures facilitate my work	21	19	43	36	64	55
31.	The nurses' lounge/break-area/locker room in my setting is comfortable	19	21	57	22	76	43
32.	I have access to degree completion programs through my work setting	21	19	52	27	73	46
33.	Receive support to attend in-service and continuing education programs	17	23	53	26	70	49
34.	I am recognized for my accomplishments by my nurse manager	21	19	43	36	64	55
35.	I feel safe from personal harm (physical, emotional, or verbal)	28	12	53	26	81	38
36.	I feel the security department provides a secure environment	23	17	62	17	85	34

37.	I have adequate patient care supplies and equipment	26	14	51	28	77	42
<b>Subscale 4: Work World</b>							
38.	I believe that Society has the correct image of nurses	35	5	60	19	95	24
39.	My salary is adequate for my job given the current job market conditions	34	6	62	17	96	23
40.	I would be able to find the same job in another organization with about the same salary and benefits	29	11	46	33	75	44
41.	I feel my job is secure	31	9	68	11	99	20
42.	I believe my work impacts the lives of patients/families	9	31	26	53	35	84

PON: pediatric oncology nurses, PN: pediatric nurses

**Table 6.** Average scoring values per QNWLs subscale and overall based on the working department of the nurses (N = 119)

Subscales	Nurses	N	Mean ± SD	SE Mean
Work Life / Home Life	PON	40	24.13 ± 4.648	0.735
	PN	79	21.25 ± 4.942	0.556
Work Design	PON	40	39.58 ± 5.769	0.912
	PN	79	35.85 ± 6.017	0.677
Work Context	PON	40	67.58 ± 18.986	3.002
	PN	79	63.76 ± 15.045	1.693
Work World	PON	40	13.80 ± 4.115	0.651
	PN	79	14.86 ± 3.474	0.391
<b>Total QNWLs score</b>	PON	40	145.08 ± 27.064	4.279
	PN	79	135.72 ± 22.132	2.490

SD: standard deviation, SE: standard error, PN: pediatric nurses, PON: pediatric oncology nurses

## Discussion

The overall QOWL scores for all nurses (oncology and non-oncology pediatric nurses) was moderate. This is partly in line with previous studies that assessed the mean score of pediatric nurses' QOWL as moderate to low (Khatatbeh et al., 2021a; Almalki et al., 2012a; Karaaslan & Aslan, 2019; Akter et al., 2018). Low QOWL Scores are correlated to poor job satisfaction and intense to change employee or even leave the nursing profession. There are references of even 94% dissatisfaction related to poor QOWL scores (Kaddourah et al., 2018). A recent study used the QNWL Score to indicate that QOWL of nurses was higher in nurses working in specialized units and particularly significant for the work context subscale (Alharbi et al., 2019). In another recent study in Bangladesh, nurses stated moderate QNWL Score and revealed that the monthly income was found as the best predictor followed by work environment, organizational commitment and job stress (Akter et al., 2018). The highest subscale mean score was assessed for work context, and the lowest subscale score was measured in work life–home life subscale. These results are in line with the findings in our study.

The QNWL Score in our analysis seems to be correlated to the demographic characteristics of pediatric nurses and pediatric oncology nurses. This is supported by the findings in Shakeri et al. study that revealed gender and working experience as QNWL score determinants (Shakeri et al., 2021). Another study showed that gender had a significant relationship with the QoL and the total mean score of QoL was higher in men than in women (Babapour et al., 2022). Based on our analysis, marital status was not found to affect the QNWLs score with the exception of subscale "Work Design", in which married nurses showed statistically significantly higher scores than unmarried nurses and those whose partner was working. Alharbi et al., noted that the married respondents had a moderate score on work life–home life subscale (Alharbi et al., 2019). Also, revealed a significant difference in the scores on the QNWLs and "Work World" subscale for the age group of 47 years and older and between clinical experience scores on the QNWLs and "Work Life–Home Life" subscale for nurses with

clinical experience of more than 10 years. They was found that age significantly predicted QNWL, as did rotational shift work (Alharbi et al., 2019). In literature is supported that the increase in score of perceived general QoL is in accordance to the increase in age, level of education, economic level, and total working experience. The differences between mean scores of subgroups based on above-mentioned variables revealed such a tension and were statistically significant in previous studies (Cimete et al. 2003). In our case the tension was present but the statistical significance was not satisfied in all cases. A bigger sample size may be more effective. However, even with the limitation of the small sample size, a higher working experience was associated with increased QNWL Score and nurses with more than 20 years of service reported a higher score on QNWL compared to nurses with less experience.

Lack of personal time for rest and other activities is reported by most nurses in our study. Another study showed that most nurses spend more time to work than their personal lives (Kowitlawkul et al., 2018). Because nursing is a difficult, tiring, and backbreaking profession with day and night shifts, nurses need resting time to renovate themselves mentally and physically. The nurses who work overtime cannot find time for it, and the danger for burnout increases (Ondriová, 2017; Cañadas-De la Fuente, 2015). At the same time, managerial support for resting time and time for personal space and family timing is needed. In a recent study grater satisfaction with management support was associated with "enough time for family". High support was responsible for 26.4% of the variance in time for family (Khatatbeh et al., 2021b). Other results indicated that there was a significant relationship between nurses' overall QoL and overtime (Gharagozlou et al., 2020).

Both descriptive and inductive data show that pediatric oncology nurses reported better QOWL than non-oncology pediatric nurses. This is supported from previous findings that indicated a strong relationship between the type of ward and the quality of work life scores (Gharagozlou et al., 2020). In relation to nurses, higher QoL scores were found in the neonatal intensive care unit (NICU) when compared to nurses in the pediatric ICU

(PICU) in the following domains: physical, psychological, social relationships, environment and spirituality / religion / personal beliefs. A statistically significant difference was found in the domain environment when physicians and nurses working in the PICU were compared (Fogaça et al., 2010).

Burnout is indicated in previous studies as an important factor that affects quality of working life and high levels of burnout are related to low QOWL scores. Therefore, nurses' burnout is needs to be controlled because it directly affect their QoL and the quality of nursing care (Chou et al., 2014; Khatatbeh et al., 2022b). It is well stressed that nurses' work environment is associated with emotional exhaustion, job satisfaction and intent to leave the profession. Nurse administrators are encouraged to develop recruitment and retention strategies with special focus on specific work environment components that are associated with nursing outcomes (Alharbi et al., 2020). In the nursing profession major issues such as job satisfaction, adequate salary, increased workload, poor staffing (qualitative & quantitative) lack in skill mix, problematic communication, autonomy, recognition and empowerment remain unsolved (Shreffler, Petrey & Huecker, 2020).

In the studies measured the intention to leave job of 720 nurses in Iran and 1,283 nurses in Taiwan, a significantly negative relationship between QOWL and intention to leave job intention was determined in the same way (Lee et al., 2017). Other study supported that 83.2% of the nurses stated that they strongly considered leaving the work. In total, 39.9 (N = 101) of female nurses and 53.3% of male nurses considered leaving the work in the last year (40.7% of them were pediatric nurses) (İşsever & Bektas, 2021). Other researchers noted that nurses were dissatisfied with their work life, with almost 40% showing an intention to leave the profession (Kowitlawkul et al., 2018). It seems that QOWL may be a mediating factor influencing nurse's decision to leave the profession or change employee. It is found that when nurses' QOWL levels were lower, more than 52.5% of nurses chose to intend to leave their work (Lee et al., 2013).

However, working competence and satisfaction increases nurses' ability to cope even in demanding

situations. The enhancement of nurses with adequate skills, managerial support and adequate resources seem to be crucial. A recent study revealed a significant relationship between the ability to cope and work under pressure with better quality of working life. Nurses with higher work ability also presented with a higher QOWL (Vagharseyyedin et al., 2011). Moreover, the recent pandemic revealed another dynamic between job related stress and quality of the working environment. Shreffler, Petrey & Huecker (2020) performed a scoping review on the impact of COVID-19 on Healthcare Worker Wellness. Shared governance, clinical ladders, and self-scheduling, are a few of the strategies that could be implemented in the clinical setting to improve nursing work life. Burnout, job related stress, and the moral distress related to the emotional burden of caring for sick patients are acknowledged determinants of health professionals' wellbeing even before the COVID-19 pandemic. Long-term effects of the worldwide pandemic remain unknown and further research is recommended (Shreffler, Petrey & Huecker, 2020). Frontline nurses in Italy for example, reported relevant work-related psychological pressure, emotional burnout and somatic symptoms (Barello et al., 2020). Empowerment, skill mix and higher educational levels can protect workers from the risk of developing high levels of work stress (Franza et al., 2020).

Has been supported by others that QOWL has a positive effect on nursing service. This mean that for every increase in nurses' QOWL there is also a corresponding increase in nursing service quality. These findings indicate that nurses who achieve high on QOWL are those who perceive that their work environment provides career advancement opportunities, adequate supervision and recognition by the supervisor for their achievement. In addition they are also identified as able to communicate well with their supervisor and other healthcare employees, to participate in decision making process and generally nurses who are happy with their QOWL will be able to balance work needs with family needs (Mohamed et al., 2016).

Apart from management and surveillance which are the organizational factors of QOWL, colleagues, occupational satisfaction, workload, lack of self-

determination, taking on duties of other colleagues, workload deficiency, limited time for patient care, and professional opportunities and work environment have also been revealed to be important variables (Almalki et al., 2012b). Various studies have expounded on the factors determining quality of work. Additionally, various studies have expounded on the factors determining QOWL (Kelbiso et al., 2017; Devi & Hajamohideen, 2018). Among them, Kelbiso et al. referred to education level/literacy, monthly income, working ward and work environment as factors that determine nurses' QOWL (Kelbiso et al., 2017).

Our analysis revealed that in Greece in line with other countries, quality of work life is impacted from a variety of different factors. However, despite the small size limitations and the short time period of the study, the findings are interesting whereas there vulnerability is limited. Moreover, the study was conducted during the COVID-19 pandemic, which certainly may have influenced the results of the study due to the increased fear and job-related stress that we did not measure during the study.

**Conclusions:** The quality of work life in the pediatric nurses in our study was moderate and pediatric oncology nurses reported better scores in comparison to the non-oncology pediatric nurses. Since quality of work life is a factor that affects both the professional performance of nurses and their family life, this may have a direct impact on the quality of care they provide and impacts the pediatric patients and their families. It is clear that, empowerment, skill mix and higher educational levels can protect workers from the risk of developing high levels of work related stress. Nurse administrators should invest more in shared governance, clinical ladders, and self-scheduling as strategies that could be implemented in the clinical setting to improve nursing work life. Further multicenter research on the field is highly recommended in order to disclose hidden determinants, not only in Greece but in an international level.

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