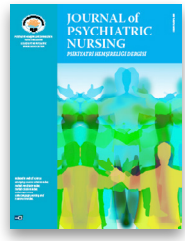
JOURNAL OF
PSYCHIATRIC NURSING

DOI: 10.14744/phd.2019.43255
J Psychiatric Nurs 2019;10(4):241-250



Original Article

Sociodemographic and professional factors influencing the professional quality of life and post-traumatic growth of oncology nurses*

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Abstract

Objectives: The aim of the study was to evaluate oncology nurses' professional quality of life indicators such as compassion fatigue, compassion satisfaction, and burnout as well as post-traumatic growth and its sub-dimensions changed interpersonal relationships, changed philosophy of life, and changed perception of self and the factors that affect them.

Methods: The data for this descriptive research were acquired via a web-based questionnaire between 01 June 2013 and 31 January 2014. A nurse sociodemographic form, "Professional Quality of Life Inventory," and "Post-Traumatic Growth Inventory" were used as data acquisition tools. A total of 182 nurses participated in the study. The effect of independent variables on scale and subscale scores was calculated using the independent-samples t-test and one-way ANOVA.

Results: In the statistical evaluation, nurses' age, education level, number of children, oncology education, oncology experience, monthly shiftwork, weekly working hours, willingness to select nursing, and willingness to work with oncology patients significantly affected the inventories and their sub-dimension scores ($p<0.05$).

Conclusion: Sociodemographic and professional factors affect professional life quality and post-traumatic growth. The oncology nurse's working environment should be modified to improve their professional quality of life. Consequently, it is necessary to increase educational and awareness activities for these factors.

Keywords: Burnout; compassion fatigue; oncology nursing; post-traumatic growth; professional quality of life.

Providing care to oncology patients is a stressful experience for nurses and other health professionals. Working with cancer patients and their families requires broad knowledge and skills. Oncology nurses have responsibilities and standards including health assessment, supportive and therapeutic communication, management of cancer symptoms and side effects of treatment, palliative and long-term care, education, health care system, decision-making and advocacy, professional practice, and leadership.[1] In addition to medical care and treatment, psychosocial care of the patient and his or her family is also important. Psychosocial care includes daily life activities for the patient and the family, health system, sexuality, social needs, and psychological and spiritual support. It is necessary for nurses working in the field of oncology, which requires comprehensive care, to have skills such as psychosocial diagnostics, therapeutic communication, giving information, coping, and identifying risk groups to provide quality services to the patient and family and not to exhaust themselves emotionally and physically through this challenging process.[2]

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Submitted Date: January 18, 2018 **Accepted Date:** June 26, 2019 **Available Online Date:** December 12, 2019

What is known on this subject?

- Professional quality of life is what an individual feels about his or her job in which he or she acts as a helper. Working in the field of oncology affects nurses' professional quality of life.

What is the contribution of this paper?

- This is the first study to evaluate both professional quality of life and the level of post-traumatic development in oncology nurses in Turkey and to examine the occupational and sociodemographic characteristics that affect these variables. Professional quality of life and post-traumatic development were affected by some occupational and sociodemographic characteristics and these two concepts and their subscales might be related.

What is its contribution to the practice?

- It is important that nurses working in the field of oncology raise awareness about professional quality of life, working environments be organized to increase their professional quality of life, and post-traumatic growth be supported by emphasizing the positive aspects of working in an oncology department.

In line with these skills, oncology nurses face various mental, physical, and social problems while fulfilling their responsibilities. These problems can affect the quality of life of nurses in a holistic way. Tuna and Baykal (2014) state that oncology nurses choose this job for economic and family reasons, they have many negative patient experiences, the workload and load of non-treatment is excessive, and they experience intense stress, emotional exhaustion, and depersonalization due to the complexity of treatment procedures, intensity of terminal patients, and communication problems.[3] Romeo-Ratliff (2014) found that oncology nurses had a high level of compassion fatigue due to their death and suffering experience, age, life stress, and physical exhaustion.[4] Nurses who could not spend enough time with the patient because of the workload said that they started to take on new roles as their level of education increased. They tried to use holistic approaches but their roles and responsibilities did not always correspond with the hospital conditions and treatment causing difficulties.[5] However, oncology nurses in Turkey often do not choose the oncology clinic of their own accord, working conditions are poor, hours are long, their workloads are heavy, they feel insufficient in the profession, and experience physical and emotional health problems.[6] In addition, nurses noted that a lack of institutional support, dissatisfaction with wages and the job, and difficult conditions were negative effects, but supportive colleagues and the low number of shifts on weekends and at nights were positive factors.[6] Ünlü, Karadağ, Taşkın and Terzioğlu (2010) determined the factors that prevent oncology nurses from performing their roles and functions as the high number of patients, inadequate physical environment, insufficiency of equipment, lack of time, knowledge, and experience, having no feeling of team work, and the lack of institutional expectations.[7] Cidón, Martín, Villaizán and López Lara (2012) reported that nurses with high job satisfaction had higher patient care and job quality, higher perceptions and feelings towards the patient and work, and were more attentive to patient safety and care. Thus, improving institutional procedures for satisfaction of oncology nurses will improve both patient care and hospital quality.[8]

Emotional exhaustion and burnout due to stressors, depersonalization, and decreased self-realization and success as well as a decrease in job satisfaction and in quality of life are common among nurses working in oncology.[9,10] Job satisfaction and burnout levels of nurses working in an oncology clinic and nurses working in other clinics are different. Working in internal clinics, including oncology, has an impact on burnout.[11,12] Burnout increases as the work year increases[13] and personal success decreases.[14] Nurses have the highest burnout rate among health professionals working in the field of oncology[15] and oncology nurses experience higher levels of emotional exhaustion than general surgery nurses.[16] Oncology nurses who develop positive relationships at work have high job satisfaction.[17] Job satisfaction scores of intensive care nurses experiencing similar stressors as oncology nurses were moderate.[18] Emotional burnout scores of health professionals in emergency departments were moderate, their depersonalization scores were low, and personal achievement scores were moderate.[19] Nurses who felt burnout and had low job satisfaction had low organizational commitment due to their workload and high levels of intent to and actually quitting the job.[20,21]

Intense burnout due to stressors in oncology clinics adversely affects the number of nurses working in the field. Care and treatment services are affected by the decrease in the number of professionals. However, cancer is the second leading cause of death worldwide and new cases of cancer will gradually increase in society.[22] In Turkey, 141 nurses serve 100,000 people, which is well below the number of nurses serving the same number of people in the European Union countries.[23] The European Oncology Nurses Association (EONS) has constructed the profile of oncology nurses for 22 countries in the European region. According to this profile, the ratio of nurse to patient is 1/34,000 in Turkey, weekly working hours are high compared to other countries, weekly wages are lower than in other countries, oncology nursing is accepted as a special branch of nursing, the age for starting the nursing profession is 18, which is too low, and the roles of palliative care nurses in Turkey are not clear. This report also found the number of oncology nurses is insufficient worldwide, data records are incomplete, and the numbers are inaccurate.[24] Considering the lack of experienced nurses working in the field of oncology and the comprehensive care and treatment needs of oncology patients and their relatives in the world and in Turkey, it is thought that the professional quality of life of oncology nurses will be adversely affected.

Professional quality of life is what an individual feels about his or her job in which he or she functions as a helper.[25–27] Professional quality of life includes compassion satisfaction, burnout, and compassion fatigue. Compassion satisfaction is a positive result of helping behavior. Compassion fatigue is feeling the distress of others, suffering with them, experiencing this pain, and feeling motivated to alleviate the pain.[27,28] According to Maslach, burnout is "a syndrome seen in people who are exposed to intense emotional demands and

have to work face-to-face with other people, and occurring as a result of the reflections of physical exhaustion, long-term fatigue, helplessness, and hopelessness to work, life, and other people in the form of negative attitudes".[29] Both positive and negative aspects of the work affect professional quality of life. Although working with oncology patients is difficult and stressful, it is noted that the experiences gained will contribute to the development of nurses. One consequence of being a nurse working with oncology patients is post-traumatic growth. Post-traumatic growth is defined as "positive psychological changes experienced by an individual as a result of the efforts of coping with major and important life events, crises, or traumatic events reported by the individual".[30–32]

The literature shows that professional quality of life is most affected in nurses among health professionals, and among nurses, it is most affected in oncology nurses.[33,34] Therefore, it is important to evaluate the factors related to professional quality of life and post-traumatic growth of oncology nurses in Turkey. Identifying these factors will contribute to the improvement of the working environment and will have a positive impact on nurses' self-care, patient care, patient, team and hospital quality.

In examining the studies conducted with nurses working in oncology in Turkey, compassion fatigue, compassion satisfaction, burnout, and post-traumatic growth were not found together. The results of the present study are expected to contribute to the determination of the factors affecting the working life of nurses and to improve their working environment and conditions. The aim of this study was to determine sociodemographic and occupational factors affecting oncology nurses' professional quality of life and post-traumatic growth levels.

In this study, the answer to the following question was sought:

Are the subscale scores of the Professional Quality of Life (ProQOL) (compassion satisfaction, burnout, and compassion fatigue) and the total and subscale scores of the Post-Traumatic Growth Inventory (PTGI) (interpersonal relationships, change in life philosophy, and change in self-perception) of nurses working with oncology patients affected by the following variables: age, gender, marital status, number of children, education level, oncology education, working hours in the oncology clinic, working hours per week, number of shifts per month, whether they volunteered to be a nurse, and whether they were willing to work with oncology patients?

Materials and Method

Research Type and Sampling

A descriptive research design was used to determine professional and sociodemographic factors related to the indicators of professional life quality (compassion satisfaction, burnout, compassion fatigue) and post-traumatic development levels in oncology nurses.

In the study, all nurses registered to the Turkish Oncology Nursing Society (n=300, in 2013) were accepted as the population of the study and all were included in the study without applying a selection method. A web address (www.gulayyilmaz.org) was created for the study materials and communicated to the members via e-mail between 01 June 2013 and 31 January 2014. In addition, the study was announced via the social media (Facebook and twitter) links of the Society and the Society's official website (http://www.onkohem.org.tr/). Through the association, the members were sent the link of the web address (www.gulayyilmaz.org) which included a sociodemographic characteristics form, the scales, and an informed consent form. They were asked to fill out the study material on the web address. In order to prevent duplication, cookies and IP address blocks were set. Warnings and settings for not moving on to other pages were included to ensure all the questions were answered in the study. The study data gathered via the web address was completed by 182 nurses (60.6%).

Data Collection Tools and Administration Process

A sociodemographic information form for the nurses, Professional Quality of Life Scale (ProQOL), and Post-Traumatic Growth Inventory (PTGI) were used in the study.

The Sociodemographic Information Form included sociodemographic characteristics of the nurse and affecting factors (age, gender, marital status, number of children, level of education, receiving education for oncology, working period in the profession, working period in the oncology clinic, working hours in a week, number of shifts in a month, volunteering to be a nurse or not, and willingness to work with oncology patients).

The Professional Quality of Life Scale-IV (ProQOL-IV) was developed by Stamm (2005) to determine compassion satisfaction, compassion fatigue, and burnout symptoms.[28] The scale was adapted to Turkish by Yeşil, Ergün, Amasyalı, and Er et al.[35] in 2010 and is used to evaluate compassion fatigue. The scale is a self-reported assessment tool consisting of 30 items and three subscales. Compassion satisfaction is evaluated with the items 3, 6, 12, 16, 18, 20, 22, 24, 27, and 30 (Min 0-Max 50). As the score obtained from the subscale increases, feeling of satisfaction as a helper increases. Burnout is measured with the items 1, 4, 8, 10, 15, 17, 19, 21, 26, and 29 (Min 0-Max 25). As the score obtained from this subscale increases, burnout level increases accordingly. Compassion fatigue is assessed with the items 2, 5, 7, 9, 11, 13, 14, 23, 25, and 28 (Min 0-Max 50). As the score obtained from this subscale increases, it is recommended that professionals receive support or assistance. On items 1, 4, 15, 17 and 29, the scores are reversed. The scale, a six-point Likert type, is completed using six options ranging from "Never" (0) to "Very often" (5).[28,35]

The Post-Traumatic Growth Inventory (PTGI) was developed by Tedeschi and Calhoun (1996) to assess the positive development of individuals after traumatic experiences.[36] The six-

Table 1. ProQOL and PTGI scale and subscale reliability

Scales and subscales	α*	Number of items	α**	α***
ProQOL				
Compassion satisfaction	.91	10	.87	.81
Burnout	.66	10	.72	.62
Compassion fatigue	.82	10	.80	.83
Total	.73	30		.84
PTGI				
Interpersonal relationships	.70	7	.86	.77
Change in the philosophy of life	.78	5	.87	.78
Change in self-perception level	.82	9	.88	.88
Total	.89	21	.71	.92

*Results of the present study. **Stamm's (2005) ProQOL and Tedeschi and Calhoun's (1996) PTGI results. ***Yeşil et al. (2010) ProQOL and Dirik and Karancı's (2006) PTGI validity and reliability results.
ProQOL: Professional Quality of Life Inventory; PTGI: Post-Traumatic Growth Inventory.

point Likert type scale, whose Turkish adaptation, validity, and reliability study was conducted by Dirik and Karancı (2006), consists of 21 items (ranging from 0=I did not experience this change as a result of this event to 5=I experienced this change to a very great degree as a result the event).[37] The score of the scale ranges between 0 and 105. As the total score and the scores obtained from the subscales increase, the growth of the person after the traumatic experience increases. The original form of the scale consists of 5 subscales. The form was reduced to 3 subscales in its Turkish adaptation. These three scales are Interpersonal Relations (items 6, 8, 9, 15, 16, 20, and 21), Change in Philosophy of Life (items 3, 7, 11, 14, and 17), and Change in Self-Perception (items 1, 2, 4, 5, 10, 12, 13, 18, and 19).[36,37]

The reliability results of the ProQOL and PTGI scales (for the main scales, their Turkish versions, and this study) are given in Table 1.

Data Analysis

Data were analyzed using SPSS 21 statistical program. Because the data met parametric assumptions, one-way Analysis of Variance (ANOVA) and a t-test, used to see if there is significant difference between the means of two tests, were used to examine the distribution of the ProQOL and PTGI scores according to sociodemographic and occupational variables. In the study, $p<0.05$ was considered the significance value. To determine the group in which there was a significant difference and the group that caused the difference in the variables with more than two groups, Post-Hoc testing was used. The Tukey test was used to make multiple comparisons. Other variables were presented as numbers and percentages.

Ethical Considerations

Written permission from the Board of Directors of Turkish Oncology Nursing Society was obtained for the study materials to be delivered to the nurses working in oncology departments. Ethical approval was obtained from Dokuz Eylül University Non-Interventional Clinical Trials Ethics committee and written informed consent was obtained from the participants.

Results

In this study, 36.8% of the nurses were in the 25–32 age range, 69.8% had an undergraduate degree, and 57.7% did not receive oncology education. Among the nurses, 50.5% had been in nursing for more than 7 years, 33% had 13–36 months of working experience in oncology, 63.2% worked less than 45 hours a week, 38.9% did not work shifts, 60.5% volunteered for nursing, and 70% wanted to work with oncology patients (Table 2). Of the nurses, 77 stated that they had received education for oncology. These courses included oncology nursing, drugs for oncology patients, treatment and care of oncology patients, cancer types, palliative care, and psycho-oncology.

Table 3 shows the statistical data of oncology nurses' sociodemographic and professional data related to ProQOL and PTGI and subscale scores.

The ProQOL Compassion Satisfaction score was affected by age. The score was significantly higher for those 40 and older than those 25–32 (p=0.01). Those who worked five or more shifts per month had significantly lower scores than those who did no shift work (p=0.00). Those who worked 45 hours or less had higher scores than those working 46 hours or more (p=0.04). Receiving an oncology education (p=0.01), volunteering to be nurse (p=0.00), and willingness to work with oncology patients (p=0.00) also positively affected the compassion satisfaction score.

The ProQOL Burnout score was higher for those who worked five or more shifts a month than for those who worked no shifts (p=0.01). It was higher for those who worked 46 hours or more a week than for those who worked 45 hours or less (p=0.03), for those that had not received an oncology education (p=0.02), and for those that did not want to work with oncology patients (p=0.00).

The ProQOL Compassion Fatigue score was affected by working period. Those who had worked 13-36 months had a higher score than those who had worked 12 months or less (p=0.00) and than those who worked 61 or more months (p=0.00). The variables gender, marital status, having children, the number of children, education level, and working time did not make a statistically significant difference in the ProQOL subscale scores (p>0.05).

PTGI Interpersonal Relations score was affected by age. Those aged 25–32 had lower scores than those 40 and over (p=0.04). These scores were also lower for those who had no children and than those who had 1–3 children (p=0.03). These scores were higher for those who had worked 7 or more years than

nurses who had worked 3 years or less (p=0.05). Those who did not work shifts had higher scores than those who worked 5 or more shifts (p=0.00). Oncology education, volunteering to be a nurse, and willingness to work with oncology patients each positively affected the PTGI Interpersonal relations score.

Table 2. Distribution of sociodemographic characteristics of the nurses

	n=182	%
Age		
24 years or younger	42	23.1
25–32	67	36.8
33–39	52	28.6
40 or older	21	11.5
Gender		
Female	165	90.7
Male	17	9.3
Marital status		
Married	91	50.0
Single	91	50.0
Having children		
Yes	103	56.6
No	79	43.4
Number of children (n=103)		
None	23	22.3
1–3	78	75.7
4 or more	2	1.9
Education level		
High school	31	17.0
Undergraduate degree	127	69.8
Master's degree	24	13.2
Receiving oncology education		
Yes	77	42.3
No	105	57.7
Work duration in the profession		
3 years or less	55	30.2
4–6 years	35	19.2
7 years or more	92	50.5
Work period in oncology department (n=157)		
12 months or less	41	22.5
13–36 months	60	33.0
37–60 months	21	11.5
61 months or more	35	19.2
Work duration in a week		
45 hours or less	115	63.2
46 hours or more	67	36.8
Number of shifts in a month		
Never	69	37.9
1–4	56	30.8
5 or more	57	31.3
Volunteering to be a nurse		
Yes	112	61.5
No	70	38.5
Willingness to work with oncology patients		
Yes	131	72.0
No	51	28.0

PTGI Change in Life Philosophy score was affected by age (all age groups had similar scores), the number of shifts in a month (those who had 5 or more shifts (p=0.02) had higher scores than those who had no shifts), working time in a week, receiving oncology education, and willingness to work with oncology patients.

PTGI Self-Perception Change score was affected by age (those who were 25–32 had lower scores than those who were 40 or older (p=0.04)), education level (those who had completed high school had higher scores than those who had a master's degree (p=0.01)), the number of shifts in a month (those who worked no shifts had higher scores than those who worked 5 or more shifts (p=0.03)), working time in a week, receiving oncology education, and willingness to work with oncology patients.

PTGI Total score was affected by age (those who were 25–32 had lower scores than those who were 40 and older (p=0.02)), the number of children (those who had no children had lower scores than those who had 1-3 children (p=0.04)), the number of shifts in a month (those who worked no shifts had higher scores than those who worked 5 or more shifts (p=0.00)), working time in a week, receiving oncology education, volunteering to be a nurse, and willingness to work with oncology patients. Gender, marital status, having children, and working time in the oncology department did not make a significant difference in PTGI subscale scores (p>0.05).

Discussion

In this study, the relationship between compassion fatigue, burnout, and compassion satisfaction, which are indicators of professional quality of life, post-traumatic growth and professional and sociodemographic data were evaluated. No study evaluating nurses using ProQOL and PTGI together was found in Turkey. In this respect, this is the first study conducted with Turkish nurses.

The present study found that the compassion satisfaction score was affected by age, the number of shifts in a month, working time in a week, receiving oncology education, volunteering to be a nurse, and willingness to work with oncology patients. A high compassion satisfaction score indicates that nurses enjoy the work they do and are satisfied with their working life. Studies investigating professional quality of life report a significant relationship between age, working year, and working hours with compassion satisfaction.[38] In addition, gender and education level affect compassion satisfaction. Patient circulation and working in several clinics reduces compassion satisfaction and increases compassion fatigue.[39] However, marital status, religious belief, position as a nurse,[40] age, education level, working time in a week, volunteering to be a nurse, and working duration in the clinic and profession affect professional quality of life.[41] Similar results were

Table 3. The effect of sociodemographic and occupational data on ProQOL and PTGI subscale scores

Variable	ProQOL			PTGI			Total
	Compassion satisfaction	Burnout	Compassion fatigue	Inter-personal relations	Change in the philosophy of life	Change in self perception level	
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Age							
24 or younger	36.45±8.30	18.66±7.13	17.52±8.75	19.38±5.97	14.52±4.21	30.97±6.11	64.88±13.31
25–32	34.47±9.17	19.88±6.26	18.80±7.24	19.28±7.82	13.59±4.63	29.40±7.56	62.28±17.17
33–39	38.01±8.71	19.19±6.54	20.36±8.76	22.36±6.55	15.57±5.18	31.82±7.48	69.76±17.45
40 or older	40.76±6.11	15.95±5.74	18.38±7.34	23.76±5.89	16.38±4.95	34.09±6.32	74.23±16.11
p	0.01*	0.11	0.39	0.01*	0.04*	0.04*	0.01*
F	3.51*	1.99	1.00	3.87*	2.69*	2.69*	3.88*
Number of children							
None	34.73±9.18	18.69±7.19	16.34±7.89	17.82±7.34	13.08±4.62	28.95±6.46	59.86±16.39
1–3	37.32±8.63	19.01±6.64	20.39±8.03	21.85±6.67	15.65±4.82	32.14±7.10	69.65±17.13
4 or more	42.00±1.41	12.50±3.53	21.00±14.14	27.50±0.70	17.50±0.70	33.50±0.70	78.50±2.12
p	0.32	0.40	0.11	0.02*	0.06	0.14	0.03*
F	1.13	0.91	2.26	4.04*	2.84	1.96	3.40*
Education level							
High school	37.25±8.03	18.29±7.81	19.96±9.45	21.12±6.17	15.19±3.77	33.22±4.83	69.54±11.70
Undergraduate degree	36.74±9.11	19.15±6.50	19.07±8.05	20.93±7.48	14.82±5.15	31.07±7.54	66.83±17.89
Master's degree	35.50±7.59	18.70±5.12	16.66±5.85	18.91±5.33	13.37±3.98	27.75±6.89	60.04±14.46
p	0.74	0.79	0.29	0.40	0.32	0.01*	0.09
F	0.28	0.23	1.21	0.90	1.11	4.07*	2.36
Work duration in the profession							
3 years or less	35.69±8.64	18.32±6.39	17.14±7.87	19.10±7.33	13.92±4.93	30.72±6.98	63.76±16.77
4–6 years	34.68±9.04	20.77±6.11	20.42±7.92	20.00±7.47	14.42±4.22	29.08±7.15	63.51±16.01
7 years or more	38.01±8.52	18.63±6.75	19.38±8.15	21.92±6.49	15.26±4.91	31.89±7.25	69.07±16.68
p	0.09	0.18	0.12	0.05*	0.25	0.13	0.09
F	2.37	1.72	2.11	3.04*	1.39	2.00	2.42
Work duration in oncology							
12 months or less	37.82±8.43	17.12±6.93	17.17±8.23	20.26±7.84	15.07±5.48	31.92±8.26	67.26±19.89
13–36 months	37.61±7.92	20.75±5.59	22.63±8.61	21.55±6.33	15.36±4.29	31.06±6.00	67.98±14.77
37 ay–60 months	36.28±9.65	18.52±7.54	18.09±6.57	21.90±7.33	15.14±4.78	30.09±6.46	67.14±15.18
61 months or more	36.28±8.88	18.88±6.82	16.65±7.20	20.91±6.65	13.40±4.80	31.54±7.24	65.85±15.52
p	0.79	0.06	0.00**	0.76	0.26	0.78	0.94
F	0.33	2.61	5.91**	0.38	1.34	0.35	0.12
Number of shifts in a month							
Zero	39.28±8.94	17.55±6.61	19.34±8.33	22.65±7.18	15.78±4.59	32.01±7.20	70.44±16.32
1 – 4	36.85±7.39	18.64±6.40	18.17±7.86	20.42±6.53	14.55±4.57	31.94±6.93	66.92±16.18
5 or more	33.31±8.68	20.94±6.24	19.08±8.07	18.61±6.77	13.52±5.07	28.84±7.09	60.98±16.50
p	0.00*	0.01*	0.71	0.00*	0.03*	0.02*	0.00*
F	7.89*	4.44*	0.34	5.47*	3.56*	3.85*	5.28*
Work duration in a week							
45 hours or less	37.64±8.08	18.17±6.45	18.64±7.74	21.29±6.66	15.29±4.45	32.06±6.55	68.65±15.59
46 hours or more	35.00±9.56	20.28±6.56	19.35±8.66	19.68±7.55	13.67±5.25	29.17±7.90	62.53±17.95
p	0.04*	0.03*	0.56	0.13	0.02*	0.00*	0.01*
t	1.98*	-2.11*	-0.57	1.49	2.22*	2.64*	2.41*

Table 3. The effect of sociodemographic and occupational data on ProQOL and PTGI subscale scores (continuation)

Variable	ProQOL			PTGI			Total
	Compassion satisfaction	Burnout	Compassion fatigue	Inter-personal relations	Change in the philosophy of life	Change in self perception level	
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Receiving oncology education							
Yes	38.49±9.05	17.70±6.76	18.54±7.56	22.19±6.30	15.97±4.40	32.58±6.73	70.75±15.32
No	35.33±8.26	19.86±6.27	19.17±8.45	19.60±7.35	13.76±4.90	29.83±7.33	63.20±17.04
p	0.01*	0.02*	0.60	0.01*	0.00*	0.01*	0.00*
t	2.44*	-2.22*	-0.51	2.48*	3.13*	2.58*	3.07*
Volunteering to be a nurse							
Yes	38.44±8.21	18.27±6.47	19.40±8.24	22.06±6.45	14.97±4.75	31.73±6.98	68.76±15.34
No	33.82±8.82	20.02±6.58	18.11±7.79	18.52±7.39	14.25±4.90	29.82±7.42	62.61±18.19
p	0.00*	0.07	0.29	0.00*	0.33	0.08	0.01*
t	3.58*	-1.76	1.04	3.39*	0.97	1.74	2.44*
Willingness to work with oncology patients							
Yes	39.09±7.53	17.61±6.28	18.63±8.25	22.38±6.37	15.83±4.36	32.22±6.84	70.44±14.98
No	30.43±8.53	22.39±6.01	19.60±7.65	16.39±6.83	11.78±4.70	27.84±7.17	56.01±16.58
p	0.00*	0.00*	0.46	0.00*	0.00*	0.00*	0.00*
t	6.71*	-4.66*	-0.73	5.57*	5.49*	3.82*	5.65*

*P value is significant at p<0.05. **P value is significant at p<0.005.
ProQOL: Professional Quality of Life Inventory; PTGI: Post-Traumatic Growth Inventory; SD: Standard deviation.

obtained in the present study. Age, education, and the presence of positive professional characteristics including nurses gaining experience, adapting to the clinic and patient profile, more easily identifying and resolving problems, meeting requirements, and transferring their training into practice allow nurses to spend time with their patients and work effectively. This leads to an increase in compassion satisfaction score.

The present study also found that the number of shifts in a month, working time in a week, receiving oncology education, and willingness to work with oncology patients affected the burnout score. The duration of work with oncology patients affected the compassion fatigue score. Relevant studies in the literature report that starting the profession in oncology-hematology clinics, professional experience, receiving education, and working in non-magnet hospitals affect burnout, emotional exhaustion, and intention to leave the job.[42] In addition, oncology nurses are more satisfied with the working environment than nurses working in internal-surgical departments are and they obtain better care results in in-clinic applications.[43] Tuna and Baykal (2014) report that emotional exhaustion is high in oncology nurses due to the hardship of working conditions and that nurses want to change their clinic.[44] Günüşen and Üstün (2010) stated that volunteering for the profession reduced burnout.[45] In intensive care units, age, working experiences, working duration, working hours in the clinic, coping systems used, team relationships, received trainings, shifts, working hours in a week, and patient status affect burnout and compassion fatigue.[46] In parallel with the results of the present study, working with patients in critical condition and the time spent with them in the clinics where traumatic experiences are intense increases burnout and compassion fatigue. However, the majority of the nurses participating in this study were women, married, and had children, suggesting that the nurses received social support from their families and this support provided a protective effect against burnout and compassion fatigue. It is also thought that nurses' high level of education and oncology education will increase coping strategies for various negative situations related to the occupation, clinic, patient, family, and occupational traumatic experiences. This education will strengthen their ability to solve problems and contribute positively to issues such as feeling successful and resilient. Shortened working hours and time spent with oncology patients will cause the nurses to be less exposed to the negative and traumatic situations of the oncology patients and their families, allowing them to spend more time outside the clinic in their private lives and to rest. As a result, it can be predicted that nurses will gain increased satisfaction from their work, and their burnout and compassion fatigue will be reduced.

In the present study, a significant relationship was found between the subscale and total scores of post-traumatic growth and age, education level, number of children, duration of work in the profession, working time in a week, number of shifts in a month, receiving oncology education, volunteering to be a nurse, and willingness to work with oncology patients. A systematic review of post-traumatic growth found the studies were conducted using a qualitative method and during the interviews empathic skills, positive point of view, giving value to the job, being satisfied with the work done, having professional values, team harmony, education level, personality traits, receiving support, hobbies, regular life habits, trauma history, and positive life experiences were emphasized.[47] Different from the present study, Zerach and Shalev (2015) found no significant difference between post-traumatic growth and age, gender, marital status, working year, income, and education levels of psychiatric nurses. However, the level of post-traumatic growth was low whereas their interpersonal relations levels, differences in their self-perception, and trauma effects were high.[48] A meta-analysis reported that post-traumatic growth and post-traumatic stress disorder are associated with age and trauma type.[49] The level of post-traumatic growth may vary depending on the effect, intensity, and magnitude of the trauma experienced by the interacted group, the age and conditions of the disease of the group given care, caregivers' beliefs, cognitive structures, correct use of empathy, education received, and time with the patients. The present study found that in oncology, as age and education increased, nurses became more knowledgeable and experienced; having children developed feelings such as parenting and assisting; doing few or no shifts provided the opportunity to spend time for themselves and others; and positive perceptions about the profession and patients also contributed to being helpful and ascribing positive cognitive meaning.

Using in-depth interviews with healthcare workers informed about oncology, Kakai (2013) found that the participants' views/perspectives towards others changed, their need to give/receive emotional support increased, and they experienced changes regarding their personality and life goals.[50] Although traumatic experiences are frequently encountered in oncology clinics, these experiences create a positive change in the nurses' view of life and the education they received reduces the impact of these experiences. In addition, despite the difficulties of working in oncology clinics, it is thought that nurses will be more professional, active, and open to post-traumatic growth with compassion satisfaction. However, the fact that the nurses were at a young age highlights a risk of future burnout.

Limitations of the Study

The study reached the participants via a web-based questionnaire. Although the Internet is widely used, it was difficult to reach the desired number of participants because it is used for different purposes by the participants.

Conclusion

The evaluation of the difference between the nurses' ProQOL scores revealed that Compassion Satisfaction was affected by age, the number of shifts in a month, working time in a week, receiving oncology education, volunteering to be a nurse, and willingness to work with oncology patients. Burnout was affected by the number of shifts in a month, working time in a week, receiving oncology education, and willingness to work with oncology patients. Compassion Fatigue was affected by the duration of the work with oncology patients. The total score of PTGI was affected by age, number of children, number of shifts in a month, working time in a week, receiving oncology education, volunteering to be a nurse, and willingness to work with oncology patients.

In this context, improving professional conditions and supporting nurses will improve the quality of their professional life. Furthermore, it is possible that the traumatic experiences encountered in professional life can be transformed into development. From this point of view, it is important that demands of the professionals be prioritized to increase employee satisfaction, policies be planned considering the number of professionals and the rate of nurse/patient/clinics, managers of the institutions be informed about compassion fatigue, burnout, and compassion satisfaction, and that they plan and continue the activities of the institutions by considering the rights of the professionals. In the present study, age affected the scale scores; therefore, it is important that nurses in early and late adulthood not be employed in oncology clinics so that exhaustion and compassion fatigue will not develop. Because education level and receiving oncology education affected the scale scores, applied training activities and awareness programs for oncology and oncology patients should be organized for nurses and they should be encouraged to participate, participation of nurses in out-of-hospital activities such as congress and seminars on oncology should be increased, and further qualitative and qualitative studies, which examine and evaluate the factors that affect nurses and the effects of these factors, should be conducted.

**This study was presented as a oral presentation at the 3rd International 7th National Congress of Psychiatric Nursing titled "Professional Quality of Life and Post-Traumatic Growth Levels of Nurses Working in Oncology". The study was not published anywhere other than the congress CD. This study was not supported by any institution.*

Conflict of interest: There are no relevant conflicts of interest to disclose.

Peer-review: Externally peer-reviewed.

Authorship contributions: Concept – G.Y., B.Ü.; Design – G.Y., B.Ü.; Supervision – G.Y., B.Ü.; Fundings - G.Y., B.Ü.; Materials – G.Y., B.Ü.; Data collection &/or processing – G.Y., B.Ü.; Analysis and/or interpretation – G.Y., B.Ü.; Literature search – G.Y., B.Ü.; Writing – G.Y., B.Ü.; Critical review – G.Y., B.Ü.

References

1. Canadian Association of Nurses in Oncology. Retrieved 2018, from https://www.cano-acio.ca/default.aspx.
2. Can G. Onkoloji Hemşireliği. İstanbul: Nobel Tıp Kitabevi; 2015.
3. Tuna R, Baykal Ü. The relationship between job stress and burnout levels of oncology nurses. Asia Pac J Oncol Nurs 2014;1:33–9.
4. Romeo-Ratliff A. An Investigation into the Prevalence of and Relationships Among Compassion Fatigue, Burnout, Compassion Satisfaction, and Self-Transcendence in Oncology Nurses. Unpublished Phd thesis, Seton Hall University; 2014.
5. Farrell C, Molassiotis A, Beaver K, Heaven C. Exploring the scope of oncology specialist nurses' practice in the UK. Eur J Oncol Nurs 2011;15:160–6.
6. Baykal U, Seren S, Sokmen S. A description of oncology nurses' working conditions in Turkey. Eur J Oncol Nurs 2009;13:368–75.
7. Ünlü H, Karadağ A, Taşkın L, Terzioğlu F. Onkoloji alanında çalışan hemşirelerin yerine getirdikleri rol ve işlevleri. Hemşirelikte Araştırma Geliştirme Dergisi 2010;1:13–28.
8. Uña Cidón E, Cuadrillero Martín F, Hijas Villaizán M, López Lara F. A pilot study of satisfaction in oncology nursing care: An indirect predictor of quality of care. Int J Health Care Qual Assur 2012;25:106–17.
9. Tunçel Yİ, Kaya M, Kuru RN, Menteş S, Ünver S. Onkoloji Hastanesi Yoğun Bakım Ünitesinde Hemşirelerin Tükenmişlik Sendromu. Turk J Intensive Care 2014;12:57–62.
10. Emold C, Schneider N, Meller I, Yagil Y. Communication skills, working environment and burnout among oncology nurses. Eur J Oncol Nurs 2011;15:358-63.
11. Fındık ÜY, Erol Ö, Süt N, Motör D. Bir Üniversite Hastanesinde Çalışan Hemşirelerin Tükenmişlik Düzeyi. Ege Üniversitesi Hemşirelik Yüksek Okulu Dergisi, 2011;27:55–65.
12. Ergin D, Şen Celasin N, Akış Ş, Altan Ö, Bakırlıoğlu Ö, Bozkurt S. Dahili kliniklerde görev yapan hemşirelerin tükenme ve empatik beceri düzeyleri ve bunları etkileyen faktörlerin belirlenmesi. Fırat Sağlık Hizmetleri Dergisi 2009;11:49–64.
13. Kaya N, Kaya H, Erdoğan Ayık S, Uygur E. Bir devlet hastanesinde çalışan hemşirelerde tükenmişlik. Uluslararası İnsan Bilimleri Dergisi 2010;7:401–19.
14. Günüşen N, Üstün B. Bir Üniversite Hastanesinde Çalışan Hemşirelerin Tükenmişlik Düzeyi ve Etkileyen Faktörlerin İncelenmesi. Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi 2008;11:48–58.
15. Cihan YB. Onkoloji Bölümünde Çalışan Sağlık Personelinde Tükenmişlik ve Depresyon Düzeylerinin Sosyodemografik Özelliklerle İlişkisi. Yeni Tıp Dergisi 2011;28:17–22.
16. Książek I, Stefaniak TJ, Stadnyk M, Książek J. Bournout syndrome in surgical oncology and general surgery nurses: A cross-sectional study. Eur J Oncol Nurs 2011;15:347–50.
17. Cummings GG, Olson K, Hayduk L, Bakker D, Fitch M, Green E, et al. The relationship between nursing leadership and nurses' job satisfaction in Canadian oncology work environments. J Nurs Manag 2008;16:508–18.
18. Kahraman G, Engin E, Dülgerler Ş, Öztürk E. Yoğun Bakım Hemşirelerinin İş Doyumları ve Etkileyen Faktörler. DEUHFED 2011;4:12–8.
19. Akpınar AT, Taş Y. Acil Servis Çalışanlarının Tükenmişlik ile İş Doyum Düzeyleri Arasındaki İlişkiyi Belirlemeye Yönelik Bir Araştırma. Tr J Emerg Med 2011;11:161–5.
20. Derin N, Demirel ET. Tükenmişlik Sendromunun Örgütsel Bağlılığı Zayıflatıcı Etkilerinin Malatya Merkez'de Görev Yapan Hemşireler Üzerinde İncelenmesi. Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi 2012;17:509–30.
21. Duygulu S, Korkmaz F. Hemşirelerin Örgüte Bağlılığı, İş Doyumları ve İşten Ayrılma Nedenleri. C.Ü. Hemşirelik Yüksekokulu Dergisi 2008;12:9–20.
22. World Health Organization. Cancer. Retrieved from https://www.who.int/news-room/fact-sheets/detail/cancer
23. T.C. Yükseköğretim Kurulu, T.C. Başbakanlık Devlet Planlama Teşkilatı Müsteşarlığı, T.C. Sağlık Bakanlığı. Türkiye'de sağlık eğitimi ve sağlık insangücü durum raporu (Kurumların Öğrenci ve Akademik Personel, Fiziki Mekan ve Kapasite, Cihaz ve Donanım Durumu). YÖK Yayın No: 2010/1, Ankara: Uyum Ajans; 2010.
24. The European Oncology Nursing Society. Glaus A. The status of cancer nursing – a European perspective. St. Gallen, Switzerland: 2001.
25. Figley CR. Compassion Fatigue: Coping With Secondary Traumatic Stress Disorder In Those Who Treat The Traumatized (Psychosocial Stress Series). New York: Brunner/Mazel; 1995;1–17.
26. ProQOL. Stamm BH. Helping the Helpers: Compassion Satisfaction and Compassion Fatigue in Self-Care, Management, and Policy of Suicide Prevention Hotlines. 2009. Retrieved from www.ProQOL.org.
27. Yılmaz G, Üstün B. Hemşirelerde profesyonel yaşam kalitesi: Merhamet memnuniyeti ve merhamet yorgunluğu. J Psy Nurs 2018;9:205–11.
28. Stamm BH. The ProQOL Manual: THE PROFESSIONAL QUALITY OF LIFE SCALE: Compassion Satisfaction, Burnout & Compassion Fatigue/Secondary Trauma Scales. A Collaborative Publication with Sidran Press; 2005.
29. Maslach C, Jackson SE. The measurement of experienced burnout. Journal of Occupational Behaviour 1981 2:99–113.
30. Calhoun JG, Tedeschi RG. Facilitating Posttraumatic Growth: A Clinician's Guide. Mahwah, NJ: Lawrence Erlbaum Associates Inc; 1999.
31. Tedeschi RG. Violence Transformed Posttraumatic Growth in Survivors and Their Societies. Aggression and Violent Behavior 1999;4:319–41.
32. Tedeschi RG, Calhoun LG. Posttraumatic Growth: Conceptual Foundations and Empirical Evidence. Psychological Inquiry 2004;15:1–18.
33. Beck CT. Secondary traumatic stress in nurses: A systematic review. Arch Psychiatr Nurs 2011;25:1–10.
34. Hooper C, Craig J, Janvrin DR, Wetsel MA, Reimels E. Compassion satisfaction, burnout, and compassion fatigue among emergency nurses compared with nurses in other selected inpatient specialties. J Emerg Nurs 2010;36:420–7.

35. Yeşil A, Ergün Ü, Amasyalı C, Er F, Olgun NN, Aker AT. Çalışanlar için Yaşam Kalitesi Ölçeği Türkçe Uyarlaması Geçerlik ve Güvenilirlik Çalışması. Nöropsikiyatri Arşivi 2010;47:111–7.
36. Tedeschi RG, Calhoun LG. The Posttraumatic growth inventory: Measuring the Positive legacy of trauma. J Trauma Stress 1996;9:455–71.
37. Dirik G, Karanci AN. Variables related to posttraumatic growth in Turkish rheumatoid arthritis patients. J Clin Psychol Med Settings 2008;15:193–203.
38. Hegney DG, Craigie M, Hemsworth D, Osseiran-Moisson R, Aoun S, Francis K, et.al. Compassion satisfaction, compassion fatigue, anxiety, depression and stress in registered nurses in Australia: study 1 results. J Nurs Manag 2014;22:506–18.
39. Sacco TL, Ciurzynski SM, Harvey ME, Ingersoll GL. Compassion Satisfaction and Compassion Fatigue Among Critical Care Nurses. Crit Care Nurse. 2015;35:32–43.
40. Kim K, Han Y, Kwak Y, Kim JS. Professional quality of life and clinical competencies among Korean Nurses. Asian Nurs Res (Korean Soc Nurs Sci) 2015;9:200–6.
41. Çatak T, Bahçecik N. Hemşirelerin İş Yaşamı Kalitesi ve Etkileyen Faktörlerin Belirlenmesi. MÜSBED 2015;5:85–95.
42. Toh SG, Ang E, Devi MK. Systematic review on the relationship between the nursing shortage and job satisfaction, stress and burnout levels among nurses in oncology/haematology settings. Int J Evid Based Healthc 2012;10:126–41.
43. Shang J, Friese CR, Wu E, Aiken LH. Nursing practice environment and outcomes for oncology nursing. Cancer Nurs 2013;36:206–12.
44. Tuna R, Baykal Ü. Onkoloji hemşirelerinde iş stresi ve etkileyen faktörler F.N. Hem. Derg 2013;21:92–100.
45. Partlak Günüşen N, Üstün B. Türkiye'de İkinci Basamak Sağlık Hizmetlerinde Çalışan Hemşire ve Hekimlerde Tükenmişlik: Literatür İncelemesi. DEUHYO ED 2010;3 40–51.
46. van Mol MM, Kompanje EJ, Benoit DD, Bakker J, Nijkamp MD. The prevalence of compassion fatigue and burnout among healthcare professionals in intensive care units: A systematic review. PLoS One 2015;10:e0136955.
47. Manning-Jones S, de Terte I, Stephens C. Vicarious posttraumatic growth: A systematic literature review. International Journal of Wellbeing 2015;5:125–39.
48. Zerach G, Shalev TB. The relations between violence exposure, posttraumatic stress symptoms, secondary traumatization, vicarious post traumatic growth and illness attribution among psychiatric nurses. Arch Psychiatr Nurs 2015;29:135–42.
49. Shakespeare-Finch J, Lurie-Beck J. A meta-analytic clarification of the relationship between posttraumatic growth and symptoms of posttraumatic distress disorder. J Anxiety Disord 2014;28:223–9.
50. Kakai H. A community of healing: Psychosocial functions of integrative medicine perceived by oncology patients/survivors, healthcare professionals, and CAM providers. Explore (NY) 2013;9:365–71.