

RESEARCH

Resilience, Burnout and Psychological Well-Being Levels of Oncology Nurses

Onkoloji Hemşirelerinin Psikolojik Sağlık, Tükenmişlik ve Psikolojik İyi Oluş Düzeyleri

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Abstract

The aim of this study was to examine the resilience, psychological wellbeing and burnout levels and related factors of oncology nurses in this study. The study was conducted using descriptive design with 61 Oncology nurses. Data were collected with 'Introductory Data Form' evaluated by the researchers; Connor-Davidson Resilience Scale; Maslach Burnout Scale; and 'Psychological Well-Being Scale. It is found that oncology nurses have moderate levels of resilience, burn out and psychological well-being. Moreover, it is found that resilience is an important predictor of burn out and psychological well-being. At the end of this study, it is showed that oncology nurses have moderate levels of burnout, resilience and psychological well-being. According to the data sheet, nurses emphasized higher burnout and powerlessness. This result is important because it emphasizes that oncology nurses are affected deeply by the cancer process of patients and need support in overcoming their psychosocial problems.

Keywords: Cancer, oncology nurse, resilience, psychological well-being, burnout.

Öz

Çalışmanın amacı onkoloji hemşirelerinin psikolojik sağlık, tükenmişlik ve psikolojik iyi oluş düzeylerinin ve ilişkili faktörlerin belirlenmesidir. Tanımlayıcı araştırma deseni kullanılan bu araştırmanın örneklemini 66 onkoloji hemşiresi oluşturmuştur. Veriler 'Connor-Davidson Psikolojik Sağlık Ölçeği', 'Maslach Tükenmişlik Ölçeği' ve 'Psikolojik İyi Oluş Ölçeği' ile toplanmıştır. Onkoloji hemşirelerinin psikolojik sağlık düzeylerinin, tükenmişlik düzeylerinin ve psikolojik iyi oluş düzeylerinin istatistiksel olarak orta düzeyde olduğu bulunmuştur. Aynı zamanda, psikolojik sağlık düzeyinin tükenmişlik ve psikolojik iyi oluş düzeylerinin anlamlı bir yordayıcısı olduğu sonucuna ulaşılmıştır. Çalışma sonucunda, onkoloji hemşirelerinin istatistiksel olarak orta düzeyde tükenmişlik, psikolojik sağlık ve psikolojik iyi oluşa sahip olduğu bulunmakla birlikte, tanıtıcı veri formundan elde edilen bilgiler doğrultusunda kendilerini yüksek düzeyde tükenmiş ve güçsüz hissettiklerini belirttikleri görülmüştür. Bu durum, onkoloji hemşirelerinin hastaların deneyimlerinden yüksek düzeyde etkilendiklerini ve yaşadıkları psikososyal sorunların üstesinden gelebilmeleri için desteğe ihtiyaç duyduklarını göstermesi bakımından değerlidir.

Anahtar sözcükler: Kanser, onkoloji hemşiresi, psikolojik sağlık, tükenmişlik, psikolojik iyi oluş

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CANCER, which causes negative psychological experiences such as desperation, uncertainty, worry, fear, anxiety, low self-esteem and despair, is a disease that requires long treatment processes and can recur. The unexpected and uncontrollable nature of cancer may cause it to be perceived as traumatic (Tedeschi and Calhoun 1996, Tedeschi and Calhoun 2004). This perception is the result of some individuals experiencing psychosocial problems and additional physical difficulties (Lebel et al. 2007). Nurses constitute one of the closest witnesses of this difficult process. The nurses who accompany the patients for 24 hours and meet their care needs are with them in their experiences such as pain, burnout, sensory and psychosocial problems and fear of death. Thus, they are affected by the psychosocial problems experienced by the patients and may experience burnout, anxiety, mourning and compassion fatigue (Gomez-Urquiza et al. 2016, Wu et al. 2016). This may lead to a decrease in the quality of care, burnout in nurses, emotional distress, inability to get job satisfaction and even quitting (Coetzee and Klopper 2010, Hooper et al. 2010, Sabo 2011, Wu et al. 2016).

Burnout is defined as the state of exhaustion that occurs in the internal resources of the individual as a result of failure, fatigue, energy and power decrease or unsatisfied wishes (Gorji 2011). Burnout, which reduces job satisfaction and negatively affects professional identity, also negatively affects care and the quality of care provided to patients (Cañadas)-De la Fuente et al. 2018, La Fuente-Solana et al. 2019). Therefore, the psychological resilience of nurses in this process is very valuable in terms of preventing the development of burnout and managing the process positively both individually and professionally. Psychological resilience is defined as the ability of an individual to overcome these negative factors, to cope with them and to return to their former status when faced with stressful life stressors (Wagnild and Collins 2009, Wu et al. 2013, Haase et al. 2014). Psychological resilience increases the individual's flexibility / adaptation capacity as it has the potential to successfully preserve or regain mental health when faced with risk factors (Hjemdal 2007). Whereas undesirable experiences, such as difficulty in solving problems or chronic stress, are associated with poor psychological level (Davydov et al. 2010), the ability to cope with the problems encountered without impairing functionality, without experiencing psychosocial problems or experiencing them at a minimal level is explained by the high level of psychological resilience and psychological well-being (Bonanno et al. 2012). Psychological resilience is an important factor that initiates the positive adjustment process for traumatic experiences by affecting psychological well-being level and provides developmental adaptation to changing living conditions (Luthar et al. 2014). By helping individuals to be more resistant to traumatic events and to improve their readaptation after the event (Bonanno et al. 2011, Bonanno et al. 2012) it provides a barrier against the negative consequences that may occur later (Collishaw et al. 2007). Thus, undesirable and compelling experiences can be transformed into manageable experiences with the presence of resilience level (Davydov et al. 2010). In addition to the mentioned effects, psychological resilience plays an important role in controlling mental health problems and stress responses such as depression and anxiety disorders (Connor and Zhang 2006). Another concept that has the potential to affect psychosocial health positively along with psychological resilience is psychological well-being. Psychological well-being includes positive effects such as life satisfaction, and the ability to balance between positive and negative life experiences. In particular, psychological well-being, which contributes significantly in over-

coming life events with traumatic effects and in achieving psychological growth of the individual, thus acts in the direction of protecting mental health (Breitbart et al. 2015, Weiss et al. 2016). Supporting individuals and providing them with the help they need in a life experience that is unusual for individuals, including various changes such as cancer, may also cause this process to have psychological effects on nurses. Because of all these effects mentioned, it is important to determine the relationship of oncology nurses' levels of psychological resilience with burnout and psychological well-being levels in planning interventions that increase psychological resilience and identifying the needs.

It is possible to identify and strengthen the psychological difficulties experienced by nurses who provide care for individuals experiencing cancer and who closely witness the process. In this way, effective support can be provided through appropriate initiatives for going through the witnessed experience in the most meaningful and least damaging way for the individual, which can also improve the quality of care services and the job satisfaction of nurses. In this sense, the determination of oncology nurses' levels of psychological resilience, burnout and psychological well-being is very valuable in making plans for directing their resources to ensure growth. When the literature was examined, there was no study evaluating the relationship of oncology nurses' psychological resilience with burnout and psychological well-being. The aim of this planned study was to determine the psychological resilience, burnout and psychological well-being levels of oncology nurses and related factors. Thus, it is thought that our study, which is planned to be conducted, can lead the way for new studies in the literature.

Method

This study was completed by using correlational research design in order to evaluate the levels of psychological resilience, burnout and psychological well-being of oncology nurses. Ethical approval was obtained from the Non-Interventional Clinical Research Ethics Committee of the University in order to carry out this study planned by adopting the principles of the World Medical Association Declaration of Helsinki (2001) (project no: GO 19/346). Following the approval of the ethics committee, the necessary institutional permissions were obtained from the hospitals where the research application was performed. The participants were informed about the purpose of the study, that their participation in the study is based on the principle of volunteering and that the results of the study will be used only for scientific purposes. The individuals were then asked to review the informed consent form prepared for the study and to mark the consent form if they were willing to participate in the study.

Study Sample

The sample size of the study was calculated with the help of PASS (Power Analysis and Sample Size) program. The articles in the literature (Rushton et al. 2015) were used in the calculation procedures. When calculated with .80 power and .05 alpha level for 25 variance analysis, it was determined that the sample should consist of 66 people. The sample size consisted of 66 oncology nurses working in oncology clinics and polyclinics in hospitals where the study was conducted. During the process of inclusion of nurses to the sample, the criteria specified as 1)working in oncology clinics and polyclinics, 2)working as an oncology nurse for at least one year, 3)having no physical / mental /

psychological disorder at the level that would prevent participation and / or interview and 4)volunteering to participate in the study were used.

Procedure

The study was conducted with oncology nurses working in oncology clinics and poly-clinics of two university hospitals between April and June 2019. The data were collected through face-to-face interviews and giving questionnaire forms to voluntary participants and then collecting them. The application of the descriptive information form and scales with multiple choice questions to the participants continued until the targeted sample was reached. The data collection phase was completed in approximately 15-20 minutes for each participant. In this study, the Descriptive Data Form developed by the researchers in order to learn the descriptive characteristics of oncology nurses, Connor-Davidson Resilience Scale in order to determine the level of psychological resilience, Maslach Burnout Inventory in order to determine the level of burnout, and Psychological Well-being Scale in order to assess the level of psychological well-being were used.

Measures

Descriptive Data Form

In this form, which is prepared by reviewing the literature (Çam 2001, Conner and Davidson 2003, Gorji 2011, Wu et al. 2013, Wu et al. 2016), there are some questions to obtain information about the participants' age, marital status, educational status, working period in oncology clinics, willingness to work, satisfaction status on working in oncology, having knowledge and receiving education about psychological resilience.

Connor-Davidson Resilience Scale

Connor-Davidson Resilience Scale was developed by Connor and Davidson (2003) to determine the levels of resilience of individuals. The scale was adapted to Turkish culture by Kararımak (2007). The scale in the adapted form consists of 25 questions and three sub-dimensions: tenacity and personal competence, tolerance of negative affect and tendency toward spirituality. According to the factor structure adapted for Turkish culture by Kararımak (2007), psychological resilience levels were determined by examining tenacity and personal competence with items 1, 5, 10, 11, 12, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25; tolerance of negative affect with items 4, 6, 7, 8, 13, 14 and tendency toward spirituality with items 2, 3, 9, 20. The Connor-Davidson Resilience Scale (CD-RISC-25) was a 5-point Likert-type scale. Each item is a five-point scale that is rated between 0 and 4 points, in which not true at all corresponds to (0 points) and almost always true corresponds to (4 points). The highest score that can be obtained from the scale is 100 points and a high score indicates that the psychological resilience is high. Cronbach's alpha coefficient was calculated as 0.89 (Kararımak 2007). In the present study, the Cronbach's Alpha coefficient of the scale was calculated as.92.

Maslach Burnout Inventory

The scale was developed by Maslach and Jackson (1981), and validity and reliability were ensured by Ergin (1993). There are 22 expressions with a 5-point Likert-type score ranging from 0 to 4 in the scale which has subscales of "emotional exhaustion", "depersonalization" and "personal failure (lack of personal accomplishment)". Scoring is as 0 = Never, 1 = Several times a year, 2 = Several times a month, 3 = Several times a

week and 4 = Everyday. There are 9 (1, 2, 3, 6, 8, 13, 14, 16, 20) expressions in the emotional exhaustion subscale, 5 (5, 10, 11, 15, 22) expressions in the depersonalization subscale and 8 (4, 7, 9, 12, 17, 18, 19, 21) expressions in the personal failure subscale. "Emotional exhaustion" is the feeling of being depleted by the individual's profession, increase in feelings such as hopelessness, tension and uneasiness; "depersonalization" is that the individual is insensitive and indifferent to his/her job, does the job with his/her body and not with his/her spirit, and acts as an object to the people he/she works with; "personal failure" is the feeling that one's success, self-confidence decreases and regresses at work. The subscale scores range from 0 to 36 for emotional exhaustion, 0 to 20 for depersonalization, and 0 to 32 for personal failure. Increased scores indicate increased burnout. There is no cut-off point for the scale. In the validity and reliability study of Ergin, Cronbach's alpha values were found to be .83 for emotional exhaustion, .65 for depersonalization and .72 for personal failure (Ergin, 1993). In the present study, the Cronbach's alpha coefficient of the scale was calculated as .89, .80 and .85 for the variables, respectively.

Psychological Well-Being Scale

The Psychological Well-being Scale, developed by Ryff (1989) to measure psychological well-being, consists of 84 items and six factors and is a six-point Likert type scale. The subscales of the scale consist of positive relations with others, autonomy, environmental mastery, personal growth, purpose in life and self-acceptance. Positive relations with others express a person's ability to establish strong, empathic relationships, autonomy means that an individual can be independent without the need for approval from others, environmental mastery means the effective use of the environment, personal growth expresses a person's desire for continuous growth and development; purpose in life refers to the meaningful and purposeful life of the individual and self-acceptance expresses the ability to accept oneself as is. The Cronbach's alpha values of the factors are as follows: Positive relations with others .91 (4,10,16,22,29,34,40); autonomy .86 (1,7,13,19,25,32,37); environmental mastery .90 (2,8,14,20,26,32,38); personal growth .87 (3,9,15,21,27,33,39); purpose in life .90 (5,11,17,23,29,35,41); self-acceptance .93 (6,12,18,24,30,36,42). The scale also has a short form consisting of 42 items and the Turkish validity and reliability study of this short form was conducted by Akın et al. (2012). Items 3, 5, 8, 10, 13, 14, 15, 16, 17, 18, 19, 23, 26, 27, 30, 31, 32, 34, 36, 39, 41 are reversely scored on the scale. The total score of the scale ranges between 42–212, the subscale scores range between 7–42 and Cronbach's Alpha coefficient was obtained as .87 (Akın et al. 2012). In the present study, the Cronbach's Alpha coefficient of the scale was calculated as .90.

Statistical Analysis

Data related to the descriptive data form and the scales used were evaluated in SPSS 23 program. Sociodemographic data were presented with percentage and frequency analyzes. The state of meeting the parametric test assumptions of the study data obtained through the scales was evaluated by using Shapiro-Wilks test. In this context, the data that met the parametric test assumptions were analyzed using independent samples t-test and the data that did not meet the parametric test assumptions were analyzed using Mann Whitney U test. In addition, the state of psychological resilience predicting burnout and psychological well-being was evaluated using simple linear regression

analysis. Significance value was taken as $p < .05$ for each variable.

Table 1. Variables related to socio-demographic and oncology nursing

Variable		
Age	31.24±7.61 (Min 24, Max 47)	
Work duration	74.29±60.55 (Min 12, Max 252) ^a	
	n	%
Sex		
F	58	87.9
M	8	12.1
Marital status		
Married	40	60.6
Single	26	39.4
Education		
BSc	60	90.9
MSc and over	6	9.1
Willingness to work as oncology nurse		
Yes	23	34.8
No	43	65.2
Being happy to work as oncology nurse		
Yes	37	56.1
No	29	43.9
Feeling burnout while working oncology nurse		
Yes	53	80.3
No	13	19.7
Feeling psychologically powerless while working as oncology nurse		
Yes	57	86.4
No	9	13.6
Feeling psychologically powerful while working as oncology nurse		
Yes	48	72.7
No	18	27.3
Knowledge about resilience		
Yes	26	39.4
No	40	60.6
Education related with resilience		
Yes	12	18.2
No	54	81.8
Total	66	100

^a Work duration calculated as months.

Results

Socio-demographic characteristics of oncology nurses participated in the study are presented in Table 1. As can be seen in Table 1, 87.9% of the oncology nurses participated in the study were female, were in the age range of 31.24 ± 7.61 (Min 24, Max 47), 60.0% were married, 90.9% were nursing graduates, were working as oncology nurses for 74.29 ± 60.55 months (Min 12, Max 252). 65.2% of the nurses performed oncology nursing involuntarily, 56.1% were satisfied with being an oncology nurse and 80.3% felt exhausted. 86.4% of the nurses stated that they felt psychologically weak while working, 72.7% felt psychologically strong, 60.6% did not have any knowledge

about the concept of psychological resilience and 81.8% did not receive any education about the concept of psychological resilience (Table 1).

Table 2. Oncology nurses' psychological strength, burnout and psychological well-being levels

	N	Min	Max	Mean	Sd
Conner-Davidson Resilience Scale Total Score	66	29.00	90.00	64.51	15.32
Tenacity and Personal Competence Subscale	66	19.00	56.00	40.71	9.98
Tolerance of Negative Affect	66	3.00	22.00	13.36	4.45
Tendency Toward Spirituality	66	.00	15.00	10.43	2.50
Maslach Burnout Inventory Total Score	66	23.00	69.00	44.65	9.38
Emotional Exhaustion	66	7.00	36.00	17.37	7.45
Depersonalization	66	7.00	17.00	6.37	4.59
Personal Failure	66	10.00	32.00	20.89	4.81
Psychological Well-Being Scale Total Score	66	23.00	214.00	164.34	32.68
Autonomy	66	8.00	42.00	27.30	6.75
Environmental Mastery	66	7.00	39.00	25.45	5.49
Personal Growth	66	8.00	40.00	27.10	6.03
Positive Relations With Others	66	8.00	42.00	30.87	6.86
Purpose in Life	66	7.00	38.00	26.50	6.85
Self-Acceptance	66	7.00	39.00	27.10	6.42

Table 3. Psychological resilience levels of oncology nurses according to socio-demographic variables (n=66)

	Tenacity and personal competence	Tolerance of negative affect	Tendency toward spirituality	Total Scale Score
	Mean±Sd/ Median(Q1-Q3)	Mean±Sd/ Median(Q1-Q3)	Mean±Sd/ Median(Q1-Q3)	Mean±Sd/ Median(Q1-Q3)
Sex				
F	40.81(34.00-49.25)	13.41(10.00-16.25)	10.48(8.00-12.00)	64.70(54.00-77.25)
M	42.00(38.00-50.00)	13.(9.00-19.00)	10.85(8.00-13.00)	66.57(56.00-84.00)
Test statistics*	U: 135.00 p: .463	U:149.00 p: 705	U:134.50 p: .448	U: 133.50 p: .433
Marital status				
Married	42.52±9.95	14.37±4.25	10.57±2.71	67.47±15.07
Single	37.04±9.54	11.80±4.37	10.23±2.17	59.96±14.86
Test statistics*	t: 1.864 p: .067	t: 2.370 p: .021	t: .542 p: .590	t: 1.990 p: .05
Education				
BSc	40.71(34.00-48.75)	13.35(9.25-16.75)	10.53(8.00-12.00)	64.60(52.25-77.75)
MSc and over	40.66(30.25-51.00)	13.50(9.50-18.00)	9.50(5.00-12.50)	63.66(48.50-77.75)
Test statistics*	U: 172.50 p: .870	U: 153.50 p: .564	U: 149.50 p: .506	U: 178.00 p: .974
Willingness to work as oncology nurse				
Yes	41.73±10.14	13.86±4.59	9.86±2.80	68.47±16.05
No	40.16±9.96	13.09±4.40	10.74±2.31	64.00±15.09
Test statistics*	t: .608 p: .545	t: .631 p: .504	t: 1.360 p: .179	t: .997 p: .048
Being happy to work as oncology nurse				
Yes	42.05±9.08	13.70±4.56	10.16±2.37	65.91±14.25
No	39.00±10.94	12.93±4.33	10.79±2.66	62.72±16.68
Test statistics*	t: 1.239 p: .220	t: .696 p: .489	t: .737 p: .314	t: .839 p: .041

Feeling burnout while working oncology nurse				
Yes	40.71(34.00-50.00)	13.56(9.50-17.00)	10.63(9.00-12.00)	64.91(55.50-78.00)
No	40.66(34.00-46.00)	12.11(8.50-16.00)	9.22(7.50-11.50)	62.00(50.00-74.00)
Test statistics*	U: 247.500 p: .866	U: 207.000 p: .354	U: 170.000 p: .102	U: 226.500 p: .575
Feeling psychologically powerless while working as oncology nurse				
Yes	39.79(34.00-46.00)	13.04(9.00-16.00)	10.62(9.00-12.00)	63.45(52.25-75.00)
No	43.16(34.00-46.00)	14.22(10.75-18.00)	9.94(7.75-12.25)	67.33(54.00-82.25)
Test statistics*	U: 339.000 p: .028	U: 364.500 p: .330	U: 369.000 p: .359	U: 365.000 p: .334
Feeling psychologically powerful while working as oncology nurse				
Yes	42.50±9.84	14.22±4.25	10.71±2.49	67.45±14.80
No	33.38±6.87	9.84±3.46	9.30±2.28	52.53±11.35
Test statistics*	t: 3.149 p: .002	t: 3.434 p: .001	t: 1.850 p: .069	t: 3.388 p: .001
Knowledge about resilience				
Yes	45.19±8.58	15.46±4.11	10.69±2.81	71.34±14.08
No	37.80±9.83	12.00±4.16	10.27±2.30	60.07±14.59
Test statistics*	t: 3.132 p: .003	t: 3.317 p: .002	t: 658 p: .513	t: 3.107 p: .003
Education related with resilience				
Yes	46.16(43.50-54.00)	16.66(15.25-19.00)	10.75(9.25-13.50)	73.58(70.25-86.75)
No	39.50(34.00-46.25)	12.62(9.00-15.00)	10.37(8.00-12.00)	62.50(51.00-72.50)
Test statistics*	U: 176.500 p: .014	U: 150.000 p: .004	U: 286.500 p: .529	U: 168.000 p: .009

* t-test was used for the data that provide parametric test assumptions. Mann Whitney U test was used for the data that do not provide parametric test assumptions.; Conner- Davidson Resilience Scale was used.

Oncology nurses' psychological resilience, burnout and psychological well-being levels are presented in Table 2. As can be seen in Table 2, Oncology nurses' psychological resilience levels (64.51 ± 15.12), burnout levels (44.65 ± 9.38) and psychological well-being levels (164.34 ± 32.68) were found to be moderate (Table 2). When the subscale scores were examined;

- a. According to the values obtained from the subscales of psychological resilience scale, it was determined that the levels of tenacity and personal competence (40.71 ± 9.98) and the levels of tolerance of negative affect (13.36 ± 4.45) were moderate and the levels of tendency toward spirituality (10.43 ± 2.50) were low.
- b. According to the values obtained from the subscales of burnout scale; it was observed that emotional exhaustion (17.37 ± 7.45) was at a moderate level, de-personalization (6.37 ± 4.59) was at a low level and personal failure perception (20.89 ± 4.81) was at a high level.
- c. According to the values obtained from the subscales of psychological well-being scale; it was determined that perception of autonomy (27.30 ± 6.75), personal growth (27.10 ± 6.03), self-acceptance (27.10 ± 6.42) and purposes in life (26.50 ± 6.85) were at moderate levels, environmental mastery (30.87 ± 6.86) was at a low level and positive relations with others (30.87 ± 6.86) were at high levels.

The analysis results of whether the oncology nurses' psychological resilience levels differ significantly according to socio-demographic variables are presented in Table 3. As can be seen in Table 3, it was found that the levels of tolerance of negative affect (14.37 ± 4.25) and total psychological resilience (67.47 ± 15.07) of married nurses were higher than those of unmarried nurses (11.80 ± 4.37 ; 59.96 ± 14.86) in the marital

status variable (t: 2.370, p:.021; t: 1.990, p: .05). It was determined that the total psychological resilience levels of nurses who willingly performed oncology nursing (68.47 ± 16.05) were higher than nurses who were not willing to perform their jobs (64.00 ± 15.09) (t:.997, p: .048). The levels of total psychological resilience of the nurses who were satisfied with working as an oncology nurse (65.91 ± 14.25) were found to be higher than the unsatisfied nurses (62.72 ± 16.68) (t: .839, p: .041). Tenacity and personal competence scores of the nurses who felt psychologically weak (39.79(34.00-46.00)) were lower than those who did not feel weak (43.16 (34.00-46.00))(U: 339.000, p: .028). On the other hand, the scores of tenacity and personal competence (42.50 ± 9.84), tolerance of negative affect (14.22±4.25) and total psychological resilience (67.45±14.80) of the nurses who felt psychologically strong were higher than those who did not feel psychologically strong (33.38 ± 6.87; 9.84 ± 3.46; 52.53±11.35, respectively) (t: 3.149, p: .002; t: 3.434, p: .001; t: 3.388, p: .001, respectively). The scores of tenacity and personal competence (45.19±8.58), tolerance of negative affect (15.46±4.11) and total psychological resilience (71.34±14.08) of the nurses who had knowledge about the psychological resilience concept were found to be higher than those who did not have knowledge (37.80 ± 9.83; 12.00 ± 4.16; 60.07±14.59, respectively) (t: 3.132, p: .003; t: 3.317, p: .002; t: 3.107, p: .003, respectively). The scores of tenacity and personal competence (46.16(43.50-54.00)), tolerance of negative affect (16.66(15.25-19.00)) and total psychological resilience (73.58(70.25-86.75)) of the nurses who received education about the psychological resilience concept were found to be higher than those who did not receive education (39.50(34.00-46.25), 12.62(9.00-15.00), 62.50(51.00-72.50)) (U: 176.500, p: .014; U: 150,000, p: .004; U: 168,000, p: .009, respectively) (Table 3).

Table 4. Burnout levels of oncology nurses according to socio-demographic variables (n=66)

Mean±Sd/ Median (Q1-Q3)	Emotional exhaustion	Depersonalization	Personel failure	Total Scale Score
Sex				
F	17.27(13.00-22.25)	6.17(1.00-6.00)	21.13(17.00-24.00)	44.58(38.50-49.25)
M	15.85(13.00-22.00)	7.28(5.00-9.00)	20.42(15.00-24.00)	43.57(38.00-51.00)
Test statistics*	U: 168.500 p: .547	U: 170.500 p: .490	U:186.000 p: .718	U: 179.500 p: .619
Marital status				
Married	16.55±8.41	5.35±4.74	21.62±5.05	43.52±9.83
Single	18.65±5.57	7.96±3.93	19.76±4.26	46.38±8.54
Test statistics*	t: 1.123 p: .266	t: 2.333 p: .023	t: 1.547 p: .127	t: 1.214 p: .229
Education				
BSc	17.58(13.00-21.75)	6.66(3.00-10.00)	20.90(16.25-24.00)	45.15(39.00-50.00)
MSc and over	15.33(5.50-23.00)	3.50(0.00-7.25)	20.83(18.00-23.50)	39.66(30.00-48.00)
Test statistics*	U: 139.000 p: .681	U: 101.500 p: .168	U:154.500 p: .970	U: 117.000 p: .334
Willingness to work as oncology nurse				
Yes	16.34±9.07	5.52±4.99	20.65±5.16	42.52±10.02
No	17.93±6.47	6.83±4.35	21.02±4.67	45.79±8.93
Test statistics*	t: .820 p: .415	t: 1.111 p: .271	t: .296 p: .768	t: 1.357 p: .180
Being happy to work as oncology nurse				
Yes	14.81±7.50	5.37±4.56	21.59±5.22	41.78±9.08
No	20.65±6.06	7.65±4.38	20.00±4.14	48.31±8.58
Test statistics*	t: 3.410 p: .001	t: 2.047 p: .045	t: 1.344 p: .184	t: 2.968 p: .004

Feeling burnout while working oncology nurse				
Yes	18.26(13.50-22.50)	6.80(3.00-10.50)	20.70(17.00-24.00)	45.77(39.00-51.00)
No	11.77(5.00-18.50)	3.66(0.00-8.00)	22.11(18.00-25.00)	37.55(30.50-45.50)
Test statistics*	U: 134.000 p: .022	U: 155.500 p: .048	U: 205.500 p: .339	U: 137.000p: .025
Feeling psychologically powerless while working as oncology nurse				
Yes	18.58(13.00-23.75)	6.97(3.25-11.00)	20.89(17.00-24.00)	46.45(39.25-51.00)
No	14.16(6.75-19.00)	4.77(1.00-8.50)	20.88(16.50-25.00)	39.83(35.00-44.50)
Test statistics*	U: 293.000 p: .045	U: 316.000 p: .094	U: 431.000 p: .988	U: 244.500 p: .007
Feeling psychologically powerful while working as oncology nurse				
Yes	16.37±7.14	5.66±4.21	21.50±4.95	43.54±8.34
No	21.46±7.56	9.30±5.05	18.38±3.22	49.15±12.16
Test statistics*	t: 2.273 p: .026	t: 2.685 p: .009	t: 2.155 p: .035	t: 1.973 p: .053
Knowledge about resilience				
Yes	16.03±9.16	5.07±4.79	21.57±5.25	42.69±9.66
No	18.25±6.06	7.22±4.30	20.45±4.51	42.92±9.09
Test statistics*	t: 1.181 p: .284	t: 1.181 p: .063	t: .928 p: .357	t: 1.377 p: .173
Education related with resilience				
Yes	14.75(5.25-20.50)	4.58(0.25-8.75)	21.75(16.75-25.00)	41.08(31.50-45.00)
No	17.96(13.75-22.25)	6.77(3.75-10.25)	20.70(17.00-24.00)	45.44(39.00-50.25)
Test statistics*	U: 228.000 p: .110	U: 225.000 p: .098	U: 267.500 p: .346	U: 209.500 p: .057

* t-test was used for the data that provide parametric test assumptions. Mann Whitney U test was used for the data that do not provide parametric test assumptions.; Maslach Burnout Inventory was used.

Table 5. Psychological well-being levels of oncology nurses according to socio-demographic variables

Mean±Sd/ Median (Q1-Q3)	Auto- nomy	Environ- mental mastery	Personal growth	Positive relations with others	Purposes in life	Self- accep- tance	Total Scale Score
Sex							
F	27.82(24.0 0-32.25)	26.12(23.0 0-29.25)	27.82(24.0 0-32.00)	31.44(28.0 0-35.25)	27.01(23.0 0-32.00)	27.43(24.0 0-32.00)	167.39(151. 00-188.25)
M	23.85(20.0 0-30.00)	21.00±(18 .00-27.00)	23.85±(21 .00-30.00)	26.28±(20 .00-34.00)	23.42±(15 .00-32.00)	23.57(17.0 0-34.00)	141.42(111. 00-176.00)
Test statistics*	U:141.000 p: .561	U: 117.000 p: .032	U: 130.500 p: .389	U:124.000 p: .310	U:157.000 p: .860	U:146.500 p: .650	U:143.500 p: .037
Marital status							
Married	28.20±7.1 6	26.45±6.3 0	28.20±6.3 8	32.55±7.5 0	27.70±7.0 2	28.32±6.9 1	171.42±25. 56
Single	25.92±5.9 3	23.92±3.5 3	25.42±5.1 3	28.30±4.8 3	24.65±6.2 6	25.23±5.1 6	153.46±24. 51
Test statistics*	t: 1.346 p: .183	t: 1.859 p: .068	t: 1.860 p: .056	t: 2.555 p: .013	t: 1.794 p: .071	t: 1.954 p: .042	t: 2.249 p: .028
Education							
BSc	27.20(24.0 0-31.75)	27.2(21.25 -29.00)	27.03(24.0 0-31.00)	30.83(28.0 0-35.00)	26.35(22.2 5-32.00)	27.13(24.0 0-32.75)	163.80(149. 00-183.00)
MSc and over	28.33(20.7 5-36.25)	27.50(23.2 5-33.00)	27.83(19.2 5-34.00)	31.33(20.7 5-39.00)	28.00(23.0 0-32.25)	26.83(19.5 0-32.00)	169.83(124. 50-194.50)
Test statistics*	U: 171.00 p: .853	U: 136.50 p: .341	U: 153.50 p: .564	U: 174.00 p: .905	U: 148.00 p: .492	U:173.50 p: .888	U: 149.50 p: .506
Willingness to work as oncology nurse							

Yes	27.52±8.0 0	25.69±7.1 7	27.43±7.0 1	31.17±8.2 5	25.34±7.4 3	26.69±7.6 9	163.86±10. 54
No	27.18±6.0 8	25.32±4.4 4	25.93±5.5 2	30.72±6.0 9	27.11±6.5 2	27.32±5.7 1	164.60±9.0 5
Test statistics*	t: .191 p: .849	t: .259 p: .823	t: .321 p: .749	t: .254 p: .801	t: .999 p: .322	t: .377 p: .732	t: .657 p: .931
Being happy to work as oncology nurse							
Yes	28.05±6.5 8	25.89±4.7 0	28.02±5.1 1	31.56±6.0 8	27.62±4.9 9	28.37±5.3 4	169.54±26. 36
No	26.34±6.9 6	24.89±6.4 1	25.93±6.9 5	30.00±7.7 7	25.48±7.3 5	25.48±7.3 5	157.72±28. 05
Test statistics*	t: 1.021 p: .311	t: .727 p: .470	t: 1.411 p: .163	t: .920 p: .361	t: 1.517 p: .134	t: 2.852 p: .049	t: 1.471 p: .146
Feeling burnout while working oncology nurse							
Yes	27.54(24.0 0-29.00)	25.66(23.0 0-29.50)	27.14(23.5 0-31.50)	30.89(27.5 0-35.00)	26.56(22.0 0-32.00)	26.98(23.5 0-32.00)	164.78(150 -188.00)
No	25.77±4.5 4	24.11(19.5 0-28.00)	26.88(23.0 0-31.00)	30.77(24.5 0-36.50)	26.11(24.0 0-31.00)	27.88(23.0 0-33.00)	161.55(144. 00-184.00)
Test statistics*	U: 202.500 p: .312	U: 205.000 p: .335	U: 233.000 p: .660	U: 251.500 p: .925	U: 243.500 p: .808	U: 239.000 p: .743	U: 230.500 p: .627
Feeling psychologically powerless while working as oncology nurse							
Yes	27.16(22.5 0-31.00)	24.89(21.0 0-29.00)	27.43(25.0 0-31.00)	30.62(27.2 5-35.00)	26.37(22.0 0-32.00)	26.45(22.2 5-31.75)	162.95(149. 75-183.00)
No	27.66(23.0 0-33.00)	26.94(24.7 5-30.25)	26.22(22.0 0-32.00)	31.55(27.5 0-36.25)	26.83(24.7 5-31.25)	28.83(24.7 5-33.25)	168.05(144. 50-190.50)
Test statistics*	U: 419.000 p: .851	U: 352.000 p: .248	U: 384.500 p: .493	U: 404.500 p: .692	U: 430.000 p: .977	U: 329.000 p: .137	U: 393.000 p: .574
Feeling psychologically powerful while working as oncology nurse							
Yes	27.54±6.9 5	25.83±5.7 5	27.32±6.0 4	31.33±6.9 4	27.54±6.9 3	27.69±6.7 4	167.28±34. 03
No	26.30±6.0 1	23.92±4.1 3	26.23±6.1 7	29.00±6.4 4	22.23±4.6 3	24.69±4.2 8	152.38±23. 96
Test statistics*	t: .590 p: .557	t: 1.123 p: .266	t: .873 p: .574	t: 1.103 p: .262	t: 2.617 p: .003	t: 2.528 p: .031	t: 1.486 p: .079
Knowledge about resilience							
Yes	30.00±5.5 2	27.65±5.2 4	29.30±5.9 4	33.42±5.8 8	28.61±6.2 5	30.00±4.6 1	179.00±25. 90
No	25.55±6.9 6	24.02±5.2 3	25.67±5.7 2	29.22±7.0 1	25.12±6.9 4	25.22±6.7 7	154.82±33. 38
Test statistics*	t: 2.743 p: .005	t: 2.749 p: .008	t: 2.482 p: .016	t: 2.526 p: .014	t: 2.072 p: .042	t: 3.148 p: .003	t: 3.128 p: .003
Education related with resilience							
Yes	29.91(25.2 5-35.00)	28.33(25.2 5-32.75)	31.50(29.5 0-34.009)	34.16(32.0 0-37.75)	29.33(20.7 5-36.75)	30.50(29.2 5-33.75)	183.75(175. 25-205.75)
No	26.72(21.7 5-31.00)	24.81(21.0 0-29.00)	26.12(22.0 0-30.25)	30.14(26.7 5-34.00)	25.87(22.7 5-32.00)	26.35(23.0 0-30.00)	160.03(147. 50-178.50)
Test statistics*	U: 223.000 p: .093	U: 206.500 p: .050	U: 123.500 p: .001	U: 184.500 p: .020	U: 226.000 p: .103	U: 189.000 p: .025	U: 153.500 p: .005

* t-test was used for the data that provide parametric test assumptions. Mann Whitney U test was used for the data that do not provide parametric test assumptions. Psychological Well-being Scale was used.

Table 6. Correlations of psychological resilience level with burnout and psychological well-being levels

	Total Resilience	Total Burnout	Total Psychological Well-being
Total Resilience	1	-.240**	.576**
Total Burnout	-.240**	1	-.103
Total Psychological Well-being	.576**	-.103	1
Mean	64.51	44.65	164.34
Sd	15.32	9.38	32.68

*Correlation is statistically significant at the level of .01.

The analysis results of whether the oncology nurses' burnout levels differ significantly according to socio-demographic variables are presented in Table 4. As can be seen in Table 4, it was found that the levels of depersonalization of unmarried nurses (7.96±3.93) were higher than those who were married (5.35±4.74) in the marital status variable (t: 2.333, p: .023). The levels of emotional exhaustion (20.65±6.06), depersonalization (7.65 ± 4.38) and total burnout (48.31 ± 8.58) of the nurses who were not satisfied with working as oncology nurses were higher than those who were satisfied with their jobs (14.81 ± 7.50, 5.37 ± 4.56, 41.78 ± 9.08, respectively) (t: 3.410, p: .001; t: 2 .047, p: .045; t: 2.968, p: .004, respectively). The levels of emotional exhaustion (18.26(13.50-22.50)), depersonalization (6.80(3.00-10.50)) and total burnout (45.77(39.00-51.00)) of the nurses who felt exhausted from working as oncology nurses were higher than those who were satisfied (11.77(5.00-18.50), 3.66(0.00-8.00), 37.55(30.50-45.50) respectively) (U: 134.000, p: .022; U: 155.500, p: .048; t: U: 137,000, p: .025, respectively). The levels of emotional exhaustion (18.58(13.00-23.75)) and total burnout (46.45(39.25-51.00)) of the nurses who felt psychologically weak while working as oncology nurses were found to be higher than those who did not feel psychologically weak (14.16(6.75-19.00), 39.83(35.00-44.50), respectively) (U: 293,000, p: .045; U: 244.500, p: .007, respectively). In support of this result, the levels of emotional exhaustion (21.46±7.56), depersonalization (9.30±5.05) and personal failure (18.38±3.22) of the nurses who felt psychologically strong as oncology nurses were higher than those who did not feel strong (16.37±7.14, 5.66±4.21, 21.50±4.95 respectively) (t: 2.273, p: .026; t: 2.685, p: .009; t: 2.155, p: .035, respectively) (Table 4).

Table 7: State of psychological resilience level predicting burnout and psychological well-being levels

Model	R	R ²	Sd	β	Beta	t	F	p
Burnout	.054	-.326	14.99	82.01	9.04	9.07	3.90	.00
Psychological well-being	.006	.368	12.62	20.97	8.02	2.50	31.83	.00

Predictors: (Constant), Total psychological well-being, total Maslach burnout scores.; *Beta score for burnout; **Beta score for psychological well-being

The analysis results of whether the oncology nurses' psychological well-being levels differ significantly according to socio-demographic variables are presented in Table 5. As can be seen in Table 5, the levels of environmental mastery (26.12(23.00-29.25)) and total psychological well-being (167.39(151.00-188.25)) of female nurses were found to be higher than male nurses (21.00±(18.00-27.00), 141.42(111.00-176.00), respectively) (U: 117,000, p: .032; U: 143.500, p: .037, respectively). The levels of positive relations with others (32.55±7.50), self-acceptance (28.32±6.91) and total psychological well-being (171.42±25.56) of married nurses were higher than unmarried nurses (28.30±4.83, 25.23±5.16, 153.46±24.51) (t: 2.555, p: .013; t: 1.954, p: .042; t: 2.249, p: .028). The scores of self-acceptance of the nurses who were satisfied with

working as oncology nurses (28.37 ± 5.34) were higher than those who were not satisfied (25.48 ± 7.35) ($t: 2.852, p: .049$). The scores of purposes in life (27.54 ± 6.93) and self-acceptance (27.69 ± 6.74) of the nurses who felt psychologically strong as oncology nurses were found to be higher than those who did not feel strong ($22.23 \pm 4.63, 24.69 \pm 4.28$, respectively) ($t: 2.617, p: .003; t: 2.528, p: .031$, respectively). The levels of autonomy (30.00 ± 5.52), environmental mastery (27.65 ± 5.24), personal growth (29.30 ± 5.94), positive relations with others (33.42 ± 5.88), purposes in life (28.61 ± 6.25), self-acceptance (30.00 ± 4.61) and total psychological well-being (179.00 ± 25.90) of the nurses who had knowledge of psychological resilience concept were higher than those who did not have knowledge ($25.55 \pm 6.96, 24.02 \pm 5.23, 25.67 \pm 5.72, 29.22 \pm 7.01, 25.12 \pm 6.94, 25.22 \pm 6.77, 154.82 \pm 33.38$, respectively) ($t: 2.743, p: .005; t: 2.749, p: .008; t: 2.482, p: .016; t: 2.526, p: .014; t: 2.072, p: .042; t: 3.148, p: .003; t: 3.128, p: .003$, respectively). The levels of environmental mastery ($28.33(25.25-32.75)$), personal growth ($31.50(29.50-34.009)$), positive relations with others ($34.16(32.00-37.75)$), self-acceptance ($30.50(29.25-33.75)$) and total psychological well-being ($183.75(175.25-205.75)$) of the nurses who received education about the psychological resilience concept were higher than those who did not receive education ($24.81(21.00-29.00), 26.12(22.00-30.25), 30.14(26.75-34.00), 26.35(23.00-30.00), 160.03(147.50-178.50)$) ($U: 206.500, p: .050; U: 123.500, p: .001; U: 184.500, p: .020; U: 189,000, p: .025; U: 153.500, p: .005$) (Table 5).

The analysis results of the relationship of psychological resilience level with burnout and psychological well-being levels and of the state of psychological resilience level predicting burnout and psychological well-being levels are presented in Table 6 and Table 7. When the tables were examined, it was found that psychological resilience was closely related to both burnout and psychological well-being. In this context, when the results of regression analysis are examined; psychological resilience is a significant predictor of burnout level ($R: .054; R^2: -.326; t: 9.07; p: .00$) and it can be said that 32% of the burnout experienced by oncology nurses is explained by psychological resilience. Similarly, psychological resilience is a significant predictor of psychosocial well-being level ($R: .006; R^2: -0.360; t: 2.747; p: 0.002$), and it can be said that 36% of the psychosocial health level is explained by the psychological resilience of oncology nurses (Table 6).

Discussion

Cancer is generally considered as a stressful experience in terms of its life-threatening and challenging treatment processes. This experience can affect not only sick individuals but also nurses who provide them with non-stop care. In this context, it was aimed to evaluate the psychological resilience, burnout and psychological well-being levels of oncology nurses and related factors with this study.

When the psychological resilience levels of the participants were examined in terms of marital status variable, the levels of psychological resilience of married nurses were higher than those who were unmarried. Cañadas-De la Fuente et al. (2018) found that the overall burnout levels of married nurses were lower in their study in which burnout levels of the nurses were evaluated. In a different study conducted by Wang et al. (2018), it was concluded that social support is an important factor that increases the psychological resilience level. Therefore, it can be said that both of these situations are

due to the fact that having a source of social support like spouse/partner is one of the protective factors effective in the emergence of psychological resilience concept. When the literature was examined, it was reported that emotional exhaustion was seen more in married nurses (Al-Turki 2010, Moreira et al. 2009). However, it is noteworthy that the levels of depersonalization of unmarried nurses were higher in our study. This may be the result of unmarried nurses transferring their psychological / emotional loading related to the work environment to their social lives due to lack of adequate social support.

Oncology nurses may experience high levels of burnout as they witness the cancer process and pain experiences of the individuals (Gomez-Urquiza et al. 2016, Yu et al. 2016, Wu et al. 2016). This can lead to undesirable consequences, such as the decrease in job satisfaction, negative impact on professional identity, and reduced quality of care (Cañadas-De la Fuente et al. 2018, La Fuente-Solana et al. 2019). As a result of the study conducted by Girgis et al. (2009), it was concluded that oncology nurses experienced high levels of burnout and this situation increased communication problems with patients. In a different study completed by Kutluturkan et al. (2016), it was found that there was a relationship between burnout and psychological resilience. When the results of the study in terms of burnout levels of nurses are evaluated, it is seen that oncology nurses have moderate burnout in the statistical sense, and most of them stated that they felt exhausted. This difference between the statistical test results and the statement of nurses is thought to be due to the fact that nurses do not know how to conceptually classify their burnout and / or which concepts may be related to burnout. The levels of emotional exhaustion, depersonalization and overall burnout of the nurses who felt exhausted while providing care were found to be higher. In particular, the levels of emotional exhaustion and total burnout of the nurses who were not satisfied with being oncology nurses were found to be higher. When the psychological resilience level data, which may have potential effects on burnout level, were examined, it was found that the psychological resilience levels of the nurses who unwillingly performed oncology nursing and who were not satisfied with being oncology nurses were found to be low. Therefore, individual awareness and willingness to practice his/her profession are important factors for nurses to be able to work efficiently in terms of both individual and professional aspects in specialized clinics such as oncology and to experience psychosocial problems like burnout.

Effects related to the work environment such as inefficiencies in teamwork, ineffective communication and problems in problem solving skills may also affect nurses in terms of psychosocial aspects (Brunetto et al. 2013). On the other hand, it is known that a peaceful working environment allows both employees and individuals receiving care services to feel psychologically well. Increased psychological well-being, especially in a group providing 24-hour care, such as nurses, is a desirable and expected situation in increasing the effectiveness of health care services (Vévoda et al. 2016, Wu et al. 2016). In this context, the levels of tenacity and personal competence of the nurses who felt psychologically weak in the process of providing care for the oncology patients were found to be low and their levels of emotional exhaustion and overall burnout were found to be higher when the results of the study according to the nurses' feeling of being psychologically strong and / or weak were examined. On the contrary, it was determined that both psychological resilience levels and tolerance of negative affect and

tenacity and personal competence scores of the nurses who felt psychologically strong while providing care for cancer patients were high. At the same time, while these nurses' perceptions of emotional exhaustion, depersonalization and personal failure were lower; the scores of self-acceptance and purposes in life were higher. These results may be the result of the participant nurses' dissatisfaction related to the clinics in which they work, their unwilling working and emotional/psychological loading of the working environment.

Psychological resilience is a concept that activates the individual in initiating a more positive adaptation process to experiences that can be evaluated as traumatic (Luthar et al. 2014). Thus, it helps individuals become more psychologically resistant (Bonanno et al. 2011, Bonanno et al. 2012). Having knowledge of psychological resilience plays a role in raising individual awareness of psychological health, protective factors and improvement of psychological well-being (Thomas and Revell, 2016, Üzar-Özçetin and Hiçdurmaz 2017). In this context, the levels of tenacity and personal competence, tolerance of negative affect and psychological resilience of the nurses who have knowledge about the concept of psychological resilience are high when the results of the study are examined. This may be due to the improvable nature of psychological resilience. It may be possible to improve psychological resilience by increasing psychological protective factors through having knowledge about this concept. Consistent with these results; the scores of autonomy, environmental mastery, positive relations with others, personal growth, purposes in life, self-acceptance and total psychological well-being of the nurses who had knowledge and received education about psychological resilience concept were found to be high. It can be said that these results are due to the mentioned positive returns of psychological resilience.

The levels of psychological resilience, burnout and psychological well-being that are addressed together can affect each other at various levels. In consequence of this study, the result indicating that psychological resilience level is a significant predictor of burnout and psychological well-being levels proves this effect. Similarly, Smith and Young (2017) showed that psychological resilience and psychological well-being concepts are related to each other in their study. As a result of a different study in which the relationship between psychological resilience and burnout was examined by Lu et al., it was concluded that burnout was directly related to low-level psychological resilience. These results emphasize that considering the mentioned concepts together can be effective in achieving positive psychosocial development and the importance of the study in terms of centering on the concepts that are important in oncological care.

As the results of the study show, oncology nurses' psychological resilience and psychological well-being levels have various effects on reducing burnout levels and providing effective care service. Thus, the results of this study may draw a roadmap for researchers in providing the needed support to reduce burnout experienced intensively among nurses. In this sense, the study is thought to contribute to the literature.

The application of the study in two university hospitals and the completion of the study with a total of 66 oncology nurses constitute the limitations of the study. Due to these limitations, study results cannot be generalized.

Psychological resilience levels of oncology nurses may be directly related to burnout and psychological well-being levels. Increased burnout levels and decreased psychological well-being levels of nurses who experience the patients' processes very closely during

the provision of care services to the cancer patients and who are with them in their most challenging processes may depend on the low levels of psychological resilience. Even if psychological resilience levels of oncology nurses are statistically moderate, they are insufficient in reducing burnout and increasing psychological well-being of the nurses. Therefore, it can be said that as a result of supporting psychological resilience levels of oncology nurses at a level that increase individual strength and to the extent needed, nurses can provide more effective care services to individuals who experience cancer process in overcoming this process more easily and healthily.

Consequently, oncology nurses' psychological resilience level is seen to be effective in burnout and psychological well-being. This is valuable as it shows that it is important to increase the level of psychological resilience. In this context, it may be suggested to carry out interventional studies which may be effective in increasing psychological resilience levels of oncology nurses in future studies in the field. Similarly, it is recommended to conduct qualitative studies that will provide a deeper understanding with subjective experiences of oncology nurses' current psychological resilience levels and the dynamics that may play a role in the development of this levels.

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