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EXAMINATION OF SPIRITUAL WELL-BEING, PSYCHOLOGICAL RESILIENCE LEVELS, AND QUALITY OF LIFE OF PATIENTS WITH CANCER UNDERGOING OUTPATIENT CHEMOTHERAPY

AYAKTAN KEMOTERAPİ UYGULANAN KANSERLİ HASTALARIN SPİRİTÜEL İYİLİK HALİ, PSİKOLOJİK DAYANIKLILIK DÜZEYİ VE YAŞAM KALİTESİNİN İNCELENMESİ

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ABSTRACT

Purpose: The study was conducted to determine the spiritual well-being, psychological resilience levels, and quality of life of patients with cancer undergoing outpatient chemotherapy.

Method: The study population consisted of 200 patients with cancer undergoing outpatient chemotherapy in two public hospitals in Istanbul between April 2023 and July 2023. Data were collected with face-to-face interviews and a Personal Data Form, the Spiritual Well-Being Scale (FACIT-SP-12), the Brief Psychological Resilience Scale (BPRS), and the EORTC QLQ-C30 Quality of Life Scale**.**

Results: The mean total score of FACIT-SP-12 was 32.94±7.39, the average score of the Meaning subscale was 11.75±2.81, the average score of the Peace subscale was 10.05±3.85, and the average score of the Belief subscale was 11.14±3.21. The mean total score of the BPRS was 20.28±3.63. The average score of the Functional Scale, which is the sub-dimensions of the EORTC QLQ-C30 Quality of Life Scale, was 71.71±18, the average score of the Symptom Scale was 40.77±19.31, and the average score of the General Quality of Life was 66.29 ± 24.06. Spiritual well-being strengthens its positive impact on the General Quality of Life and Functional Scale. Spiritual well-being strengthens its negative impact on the Symptom Scale.

Conclusion: Spiritual well-being, psychological resilience level and quality of life of the patients were found to be moderate. Psychological resilience increased as the spiritual well-being of the patients increased. Psychological resilience has a direct impact on quality of life and an indirect impact with the role of spiritual well-being.

Keywords: Cancer, Spiritual Well-Being, Psychological Resilience, Quality Of Life

ÖZET

Amaç: Bu çalışma, ayaktan kemoterapi uygulanan kanserli hastaların spiritüel iyilik hali, psikolojik dayanıklılık düzeyi ve yaşam kalitesini belirlemek için yapılmıştır.

Yöntem: Çalışma, Nisan 2023-Temmuz 2023 tarihleri arasında İstanbul ilinde bulunmakta olan kamuya ait iki hastanede ayaktan kemoterapi uygulanan 200 hastayla gerçekleştirilmiştir. Araştırma verileri, Kişisel Bilgi Formu, Spiritüel İyi Oluş Ölçeği (FACIT-SP-12), Kısa Psikolojik Sağlamlık Ölçeği (KPSÖ) ve EORTC QLQ-C30 Yaşam Kalitesi Ölçeği (EORTC QLQ-C30) ile yüz yüze görüşme yoluyla toplanmıştır.

Bulgular: FACIT-SP-12 toplam puan ortalaması 32.94±7.39, alt boyut puan ortalamaları ise Anlam 11.75±2.81, Barış 10.05±3.85, İnanç 11.14±3.21 olarak bulunmuştur. KPSÖ toplam puan ortalaması 20.28±3.63'tür. EORTC QLQ-C30'nun alt boyutları olan Fonksiyonel Ölçek puan ortalaması 71.71±18.62 Semptom Ölçeği puan ortalaması 40.77±19.31, Genel Yaşam Kalitesi puan ortalaması 66.29 ± 24.06'dır. Spiritüel İyi Oluş, psikolojik sağlamlığın Fonksiyonel Ölçek ve Genel Yaşam Kalitesi üzerine olan pozitif etkisini güçlendirmektedir. Spiritüel iyi oluş, psikolojik sağlamlığın Semptom Ölçek üzerine olan negatif etkiyi güçlendirmektedir.

Sonuç: Hastaların spiritüel iyilik hali, psikolojik dayanıklılık düzeyi ve yaşam kalitesi orta düzeyde bulunmuştur. Hastaların spiritüel iyilik hali artıkça psikolojik dayanıklılığı artmaktadır. Psikolojik dayanıklılığının yaşam kalitesi üzerinde doğrudan ve spiritüel iyilik halinin rolüyle birlikte dolaylı etkisi bulunmaktadır.

Anahtar Kelimeler: Kanser, Spiritüel İyilik Hali, Psikolojik Dayanıklılık, Yaşam Kalitesi

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INTRODUCTION

As one of the important healthcare concerns in the world and our country, cancer is defined as a disease characterized by uncontrolled cell proliferation and abnormal spread, affecting human life at physiological, psychological, social, and economic levels (Hintistan et al., 2015). Cancer, which creates a great burden on families and societies, affects individuals from all walks of life negatively, regardless of gender, rich or poor, children, young or old. Cancer ranks second among the causes of mortality in our country and the world. Approximately one in every 6 deaths globally and one in every 5 deaths in our country occur because of cancer and it is responsible for approximately 22% of all deaths (IARC, 2020; Turkey Cancer Statistics 2017, 2021).

Chemotherapy, one of the cancer treatments, is employed to kill cancer cells or control the proliferation of these cells. Although only cancer cells are destroyed during the treatment, normal cells are also damaged in the body, causing side effects. As well as the disease process, cancer patients also face side effects such as fatigue, nausea, vomiting, alopecia, constipation, diarrhea, pain, weight loss, and psychological problems because of chemotherapy (Hintistan et al., 2015). Cancer is a type of disease that includes feelings and thoughts such as fear, hopelessness, helplessness, guilt, abandonment, and death anxiety, and must be addressed in integrity with its spiritual and psychosocial aspects (Aşut, 2020; Hintistan et al., 2015). Cancer poses significant difficulties in combating both psychological and physical symptoms (Otuzoğlu, 2017).

The quality of life of cancer patients is affected negatively by long-term treatment that affects their spiritual needs as well as their physiological, emotional, and psychosocial needs. Physiological needs are easier to measure than psychosocial and spiritual needs because they are a more understandable and concrete concept compared to spiritual and psychosocial ones. For this reason, physiological needs that can be easily measured in the treatment and care of patients are evaluated first, and abstract spiritual and psychosocial needs are often ignored because they are difficult to measure (Mingir, 2022). Spirituality is defined as the individual's effort to discover and embrace their relationships with themselves and others, their place in the universe, and the meaning of life (Bulkley et al., 2013). Cancer patients also face a life-threatening, long-lasting, completely incurable, unpredictable, progressively worsening, and even fatal disease (Otuzoğlu, 2017). Spirituality has positive impacts on these problems experienced by patients. For this reason, spiritual well-being positively affects the psychological resilience of patients (Ölmez and Karadağ, 2022).

Psychological resilience is the process of acquisition or adaptation and is considered the process of a person's adaptation to major stressors such as traumas, threats, tragedies or difficulties in family and relationships, serious healthcare concerns, and work, and financial problems. In other words, it is the ability of a person to recover from difficult life experiences or the ability to successfully overcome changes or disasters (Basım and Çetin, 2011). Psychological resilience gives individuals the ability to heal from the pain they experience and take responsibility for their lives. People with life-threatening diseases such as cancer need to be psychologically healthy, increase their strength, overcome the symptoms they experience, understand the value of life, and try to find new meanings (Özçetin and Hiçdurmaz, 2017).

In studies conducted to date to determine the quality of life of cancer patients, the most common problems experienced by patients (e.g., pain, fatigue, nausea, loss of appetite, hair loss, difficulty breathing, vomiting, diarrhea, insomnia, heartburn, digestive problems, vision loss, and headaches) make the lives of people diagnosed with cancer difficult and reduce their quality of life (Dur, 2017).

The basis of nursing in modern healthcare is a holistic care approach that takes into account the physical, mental, economic, cultural, emotional, and spiritual aspects of the individual. Spiritual health, the fourth element of health, is defined as "not only the absence of disease and disability but also a state of complete physical, social and spiritual well-being" and the importance of spiritual health is emphasized (Kutlu et al., 2022). Spirituality might affect decisions, attitudes, and behaviors regarding the treatment and care of cancer patients (Bulkley et al., 2013). In our country, no study has been found in which the spiritual well-being, psychological resilience level, and quality of life of cancer patients are evaluated together. For this reason, our study will provide new data to the literature on this subject. The present study was conducted to determine the spiritual well-being, psychological resilience level, and quality of life of cancer patients who received outpatient chemotherapy.

MATERIAL AND METHOD

Type of Study

The study had a descriptive, cross-sectional, and correlational design.

Study Questions

1. What are the levels of spiritual well-being of patients receiving outpatient chemotherapy?
2. What is the psychological resilience level of patients receiving outpatient chemotherapy?
3. What is the quality of life of patients receiving outpatient chemotherapy?
4. Does spiritual well-being affect the psychological resilience and quality of life of patients receiving outpatient chemotherapy?

Place and Time

The data of the study were collected in the Outpatient Chemotherapy Units of two hospitals in Istanbul between April 2023 and July 2023.

Population and Sample

The sample comprised 200 patients diagnosed with cancer and received outpatient chemotherapy in two public hospitals in Istanbul between April 2023 and July 2023 and who met the inclusion criteria. In the power analysis performed with the GPower 3.1 program for the current sample size (n=200), the impact size was found to be 0.25 at 95% power and the margin of error was found to be 0.025.

Inclusion criteria

- Participating in the study voluntarily
- Being 18 years of age or older
- Having been diagnosed with cancer
- Having received one or more cycles of chemotherapy
- Being competent to answer all questions

Exclusion criteria

- Not being able to speak Turkish
- Having psychiatric problems

Data Collection Tools

Data were collected with the Personal Data Form, Spiritual Well-being Scale (FACIT-SP-12), Brief Psychological Resilience Scale (BPRS), and EORTC QLQ-C30.

Personal Data Form

The form was created by the researcher by reviewing the literature data. The form contained 18 questions to determine the sociodemographic, disease-related characteristics, well-being, and perceptions of patients along with age, gender, education, marital status, income level, stage, duration of diagnosis, presence of another chronic disease, presence of a caregiver (Erdoğan, 2019; Ölmez and Karadağ, 2022; Kaya, 2016).

Spiritual Well-Being Scale (FACIT-SP-12)

The validity-reliability of the Spiritual Well-Being Scale (FACIT-Sp-12), developed by Peterman et al. (2002) to measure the spiritual well-being of individuals in all chronic diseases including cancer, was conducted in our country by Aktürk et al. (2017). The scale, which has 3 sub-dimensions (Meaning, Peace, and Faith) allows the examination of all components of spiritual well-being. The scale is Likert-type and consists of 12 items. The items in the scale have a numbering system from "0" to "4" ("0"-Not at all, "4"-A lot). The total score of the *"Meaning"* sub-dimension (Items 2, 3, 5, 8) varies between "0" and "16" points, the total score of the *"Peace"* sub-dimension (Items 1, 4, 6, 7) varies between "0" and "16" points, and the total score for the *"Faith"* sub-dimension (Items 9, 10, 11, 12) varies between "0" and "16" points. The total scale score varies between "0" and "48". Higher scale values indicate greater spiritual well-being. In the validity-reliability study by Aktürk (2017) in our country, Cronbach's Alpha value was found to be 0.87. In this study, it was found to be 0.80.

Brief Psychological Resilience Scale (BPRS)

Developed by Smith (2008), the Turkish validity-reliability of it was conducted by Doğan (2015). BPRS is a 5-point Likert-style self-report tool consisting of 6 items. The answers are *"Not at all appropriate (1), Not appropriate (2), Somewhat appropriate (3), Appropriate (4), Completely appropriate (5)"*. Items 2, 4, and 6 of the scale are reverse-coded. The score obtained from BPRS varies between "1" and "30". High scores obtained indicate high psychological resilience. The Cronbach alpha reliability value of the scale was found to be 0.83. In this study, Cronbach's Alpha value was found to be 0.76.

EORTC QLQ-C30 Quality of Life Scale

The EORTC QLQ-C30 Quality of Life Scale version 3.0 (EORTC QLQ-C30) was developed by the European Organization for Research and Treatment of Cancer and its Turkish validity-reliability study was conducted by Beşer and Öz in 2003. The EORTC-QLQ-C30 consists of 3 subscales (*"Functional Scale, Symptom Scale,* and *General Quality of Life"*) and 30 questions. The functional scale includes physical, role, cognitive, emotional, and social functions. The symptom scale evaluates fatigue, pain, nausea and vomiting and dyspnea, insomnia, anorexia, constipation, diarrhea, and financial difficulties are also evaluated with one question each. The first 28 of the 30 items of the scale are 4-point Likert-type and the items are scored as *"Not at all: 1, A little: 2, A lot: 3, A lot: 4 points".* In the 29th question, patients are asked to rate their health status (1: very poor, 7: excellent), and in the 30th question, patients are asked to rate their general quality of life. Questions 29 and 30 constitute the General Quality of Life domain. A high score on the *"Functional Scale and General Quality of Life"* and a low score on the *"Symptom Scale"* indicate that the quality of life is high (Beşer, 2003; Çalışkan et al., 2015). The Cronbach alpha value of the scale was found to be 0.90 (Beşer, 2003). In this study, it was found to be 0.84.

Evaluation of Data

The SPSS (Statistical Package for the Social Sciences) 25 program and SPSS PROCESS macro 4 Model were employed in analyses. To evaluate the data, descriptive statistical methods (mean, standard deviation, median, frequency, ratio, minimum, maximum) were made use of to evaluate the data distribution along with the Shapiro-Wilk Test. The Spearman Correlation Analysis was employed to determine the relationships between quantitative data. Regression Analysis was employed to determine the factors that affected the dependent variable. Structural Equation Modeling was used to determine the mediator variable in the factors that affected the dependent variable. Significance levels were taken as $p<0.01$ and $p<0.05$.

Ethical Dimensions of Study

Since the protection of individual rights is required, the Helsinki Declaration of Human Rights was adhered to throughout the study. Before the study, permission was obtained from the Istanbul Sabahattin Zaim University Ethics Committee (39550, 10.12.2022) (Appendix 5), the Institutional Permit from the Istanbul Provincial Health Directorate (212349285, 29.03.2023) (Appendix 6) and the owners of the scales used in the study. Before applying the surveys, the purpose, plan, and benefits of the study were explained to the participants and those who agreed to participate in the study signed the Informed Consent Form (Appendix 7).

RESULTS

The mean age of the patients was 57.43±14.72 years, 52.5% were female, 82.5% were married, 92% had children, 46.5% were primary school graduates, 60.5% had less income than expenses, the disease caused economic difficulties for 44%, 44% received economic support, 11% were working, and 47% were retired. The mean time from the first diagnosis of the patients was 222.64 days, 41% were in Stage 4, 49% were living with their spouse and children, 49% could not provide care for themselves, 59.5% perceived their illness requiring long-term treatment, 45.5% had another chronic illness, and 50.5% had hypertension as an additional chronic illness (Table 1).

Table 1. Socio-Demographic Characteristics of Patients (n=200)

		Mean±SD	Min-Max (Median)
Age		57.43±14.72	19-84 (60)
Diagnosis Time (Days)		222.64±390.94	10-2920 (90)
		n	**%**
Sex	**Female**	105	52.5
	Male	95	47.5
Marital status	**Married**	165	82.5
	Single	35	17.5
Having Children	**Yes**	184	92.0
	No	16	8.0
Number of Children (n=184)	**1 Child**	15	8.2
	2 Children	70	38.0
	3 Children	47	25.5
	4 Children	20	10.9
	5 Children and Above	32	17.4
Educational Status	**Not literate**	19	9.5
	Literate	10	5.0
	Primary education	93	46.5
	Secondary Education	13	6.5
	High school	46	23.0
	Higher Education and Above	19	9.5
Income Level	**Income is More Than Expenses**	12	6.0
	Income Equals Expenses	67	33.5
	Income Less Than Expenses	121	60.5
Case of Disease Causing Economic Hardship	**Yes**	88	44.0
	No	112	56.0
Receiving Economic Support Status	**Yes**	88	44.0
	No	112	56.0
Working Status	**Yes**	22	11.0
	No	178	89.0
Professional Groups	**Housewife**	56	28.0
	Small business	37	18.5
	Worker-Civil Servant	13	6.5
	Retired	94	47.0
Disease Stage	**Stage 1**	15	7.5
	Stage 2	30	15.0
	Stage 3	73	36.5
	Stage 4	82	41.0
Person Living in the House	**Spouse and Children**	98	49.0
	Alone	10	5.0
	With family	8	4.0
	Spouse	52	26.0
	Other*	32	16.0
Failure to Maintain Care Because of Illness Status	**Yes**	98	49.0
	No	102	51.0
Perception of Disease	**Easily Treatable Disease**	52	26.0
	Disease Requiring Long-Term Treatment	119	59.5
	Incurable Disease	29	14.5
Different Chronic Disease Status	**Yes**	91	45.5
	No	109	54.5
Chronic Disease Diagnosis (n:91)	**Hypertension**	46	50.5
	Heart disease	19	20.9
	Diabetes	15	16.5
	COPD**	4	4.4
	Kidney Failure-Neurological Diseases	**7**	7.7

Relative, FriendCOPD: Chronic Obstructive Pulmonary Disease*

The Spiritual Well-being Scale total average score was found to be 32.94±7.39, Meaning sub-dimension average score was 11.75±2.81, Peace sub-dimension average score was 10.05±3.85, Faith sub-dimension average score was 11.14±3.21. BPRS total average score was 20.28±3.63. In EORTC QLQ-C30 sub-dimensions; the Functional Scale average score was 71.71±18, the Symptom Scale average score was 40.77±19.31, the General Quality of Life average score was 66.29±24.06 (Table 2).

Table 2. Means Scores in Spiritual Well-being Scale, Brief Psychological Resilience Scale, and EORTC QLQ-C30 Quality of Life Scale Measurement (n=200)

		Mean±SD	Min-Max (Median)
Spiritual Well-Being Scale Sub-Dimensions	**Meaning**	11.75±2.81	2-15 (12)
	Peace	10.05±3.85	0-16 (11)
	Faith	11.14±3.21	0-16 (11)
Spiritual Well-being Scale		32.94±7.39	2-47 (34)
Brief Psychological Resilience Scale		20.28±3.63	8-30 (21)
EORTC QLQ-C30 Quality of Life Scale Sub-dimensions	**Functional Scale**	71.71±18.62	11.11-100 (73.33)
	Symptom Scale	40.77±19.31	2.56-92.31 (41.03)
	General Quality of Life	66.29±24.06	0-100 (66.67)

To show the impact of psychological resilience on the Functional Scale and the mediating function of spiritual well-being in this impact, the SPSS PROCESS macro 4 Model was employed. The details of the analysis results seen in Figure 1 are given in Table 3. As a result of the analysis, it was found that psychological resilience (β=0.432) and spiritual well-being (β=0.422) positively affected the Functional Scale. In another result, it was reported that spiritual well-being mediated the impact of psychological resilience on general quality of life (β=0.102) and strengthened the impact of psychological resilience on the Functional Scale (β=0.534). These two variables' predictive impact for explaining the Functional Scale was 55.9% (Table 3, Figure 1).

Table 3. Direct and Indirect Effects of Brief Psychological Resilience Scale, Spiritual Well-being Scale, and Functional Scale

Variables	Direct Effect	Indirect Effect	Total Effect	LLC	ULCI	t	p
Brief Psychological Resilience Scale	0.432	0.102	0.534	1.225	0.589	2.395	**0.001***
Spiritual Well-being Scale	0.422			1.752	0.659	1.626	**0.001***

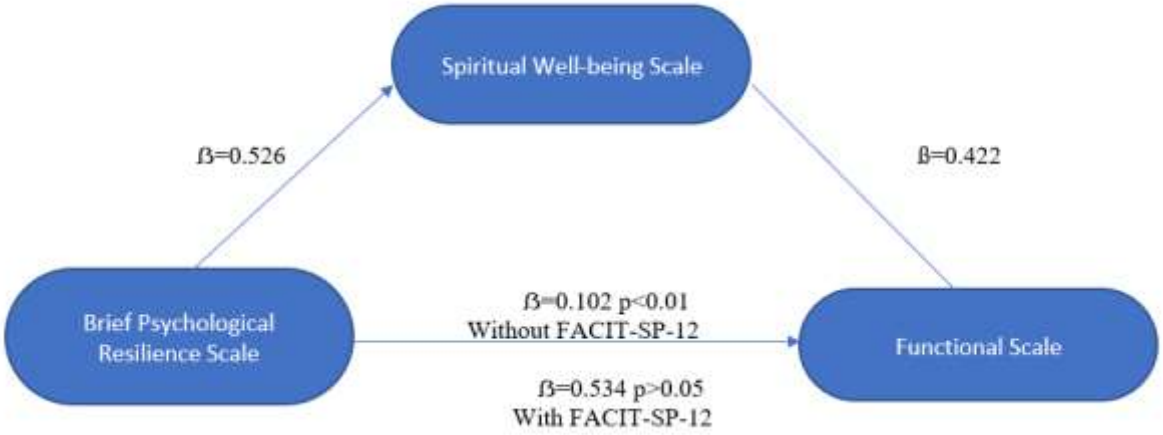

Figure 1. Study Model

To show the impact of psychological resilience on the Symptom Scale and the mediating function of spiritual well-being in this impact, the SPSS PROCESS macro 4 Model was used. The details of the analysis results seen in Figure 2 are given in Table 4. According to the analysis results, both psychological resilience (β=-0.373) and spiritual well-being (β=-0.305) negatively affected the Symptom Scale. According to another result, spiritual well-being played a mediating function in the impact of psychological resilience on the Symptom Scale (β =-0.108) and strengthened the negative impact of psychological resilience on the Symptom Scale (β=-0.481). The predictive impact of these variables for explaining the Symptom Scale was found to be 0.093% (Table 4, Figure 2).

Table 4. Direct and Indirect Effects of Brief Psychological Resilience Scale, Spiritual Well-being Scale and Symptom Scale

Variables	Direct Effect	Indirect Effect	Total Effect	LLC	ULCI	t	p
Brief Psychological Resilience Scale	-0.373	-0.108	-0.480	-0.253	-0.675	1,715	**0.001***
Spiritual Well-being Scale	-0.305			-0.167	-0.952	1,254	**0.001***

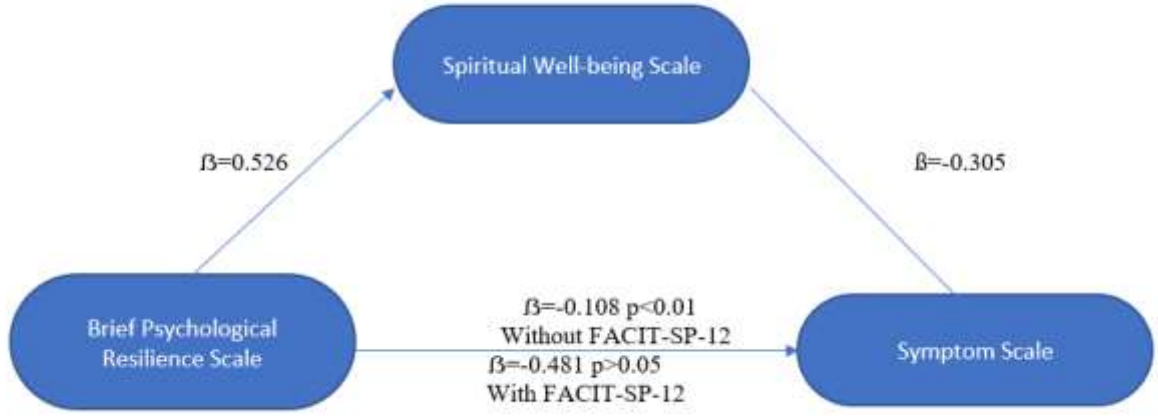

Figure 2. Study Model

To show the effects of psychological resilience on general quality of life and the mediating function of spiritual well-being in these effects, the SPSS PROCESS Macro 4 model was used. The details of the analysis results shown in Figure 3 are shown in Table 5. The analysis results showed that psychological resilience (β = 0.607) and spiritual well-being (β = 0.492) had a positive impact on general quality of life. As a result of another result, spiritual well-being was found to mediate the impact of psychological resilience on General Quality of Life (β = 0.173) and strengthened the positive impact of psychological resilience on General Quality of Life (β = 0.607). The predictive impact of these two variables in explaining quality of life was found to be 53.4% (Table 5, Figure 3.).

Table 5. Direct and Indirect Effects of Brief Psychological Resilience Scale, Spiritual Well-Being Scale, and General Quality of Life

Variables	Direct Effect	Indirect Effect	Total Effect	LLC	ULCI	t	p
Brief Psychological Resilience Scale	0.434	0.173	0.607	1,721	0.765	2,095	**0.001***
Spiritual Well-being Scale	0.492			1,321	0.925	2,726	**0.001***

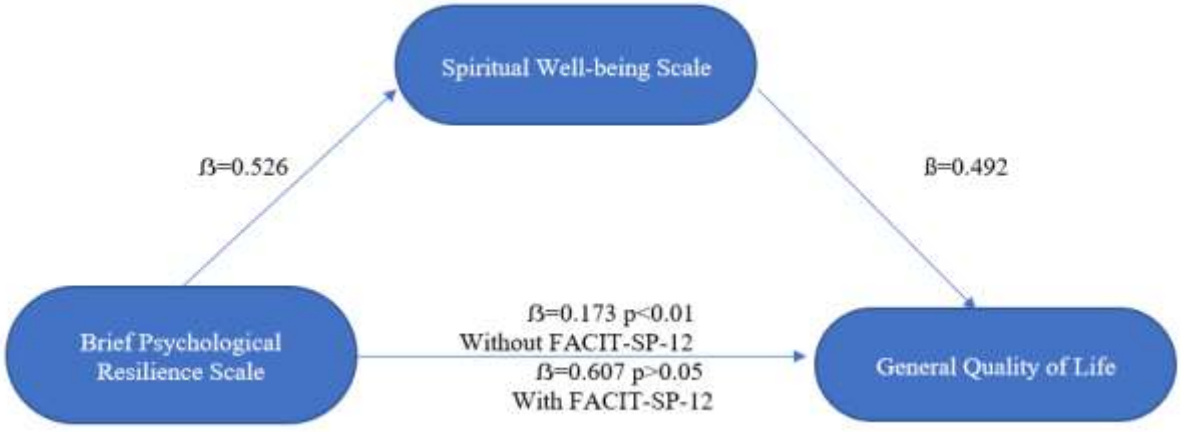

Figure 3. Study Model

DISCUSSION

Life-threatening diseases cause feelings such as fear of death, stress, and loss of hope in patients, and experiencing these feelings prioritizes the patient's spiritual needs. Spirituality is an important resource in health services because it encourages coping strategies and supports the patient's recovery process (Büyükbayram et al., 2022). Psychological resilience is the ability of an individual to experience positive emotions, especially at an individual level, and is an individual characteristic that is usually associated with production. In psychological resilience, the "ability to endure continuous pain or suffering", develops positive psychological effects over time in individuals exposed to potentially traumatic events. Psychological resilience is a dynamic and evolving psychosocial process that we experience. In particular, people with resilience are those who can experience positive emotions even in the face of difficult events (Çetin and Anuk, 2023). The main purpose of the treatment of terminal diseases is to increase the quality of life of individuals. Because the disease and its treatment negatively affect the patient's physical, environmental, mental, and spiritual state (Öner, 2012). This study was conducted to determine the spiritual well-being, psychological resilience, and quality of life in patients diagnosed with cancer who received outpatient chemotherapy.

It was found in the present study that the patients' spiritual well-being (32.94 ±7.39) was at a moderate level and they received the highest score in the Meaning sub-dimension. In other studies, it was reported that patients' general spiritual well-being scores were similar to our study (Ata, 2018; Cheng et al., 2019; İzgü and Gök Metin, 2020; Köktürk Dalcalı et al., 2021; Martins et al., 2020; Yüksel, 2019). Spirituality is conceptualized as a framework that can be divided into several components as meaning, peace, and faith. Meaning and Peace are mainly used to measure the cognitive and emotional dimensions of spirituality. Faith is used to measure the relationship of illness with a person's faith and spiritual faith (Cheng et al., 2019). Spirituality is an important and fundamental dimension of health and has the ability to connect all dimensions of the person (Fisher, 2016). The approach to caring for cancer patients must be based on a bio-psycho-social-spiritual model (Martins et al., 2020). Today, spirituality is considered an important strategy by palliative care specialists in coping with life-threatening diseases (Rabitti et al., 2020). The socio-economic status of patients and effective coping skills affect their psychological well-being, and it can be argued that using these methods is effective in spiritual well-being.

Within the scope of the study, the psychological resilience of cancer patients receiving chemotherapy was found to be at a moderate level (20.28 ±3.68). When the studies conducted previously were evaluated (Atay 2019; Güngör, 2019; Salman 2017), it was found that psychological resilience was reported to be at a moderate level in studies like ours. In the study conducted by Yalçın (2015) with breast cancer patients, the psychological resilience of the patients was found to be significantly low. Resilience is a factor associated with many sociodemographic, clinical, psychosocial, and physiological variables of cancer patients (Aizpurua-Perez, 2020). Psychological resilience is the ability of a person to resist negative effects despite difficult conditions. Individuals can protect their mental health with

their dynamic abilities when faced with difficult processes (Yalçın, 2015). Whether or not patients have an effective coping mechanism affects psychological resilience, and cancer patients under chronic stress experience many healthcare concerns that negatively affect their mental health.

In the study, it was also found that the quality of life of cancer patients receiving chemotherapy was at a moderate level (66.29±24.06). In the literature, it is reported that the quality of life of cancer patients decreases significantly because of both the disease and the treatment process (Jacob et al., 2019; Smyth et al., 2016). When the studies conducted in Turkiye were examined, it was found that the quality of life of cancer patients receiving chemotherapy was at a moderate level, similar to these results (Benzer and Yılmaz, 2022; Düzen and Göktaş, 2021; Kızılırmak et al., 2021; Köksal and Nural, 2024). In the study of Ekinci and Düger (2018), it was determined that patients were hospitalized with certain symptoms and their quality of life decreased because of the inability to manage these symptoms. Symptoms experienced because of chemotherapy reduce the quality of life of patients by restricting their daily life activities. Also, cancer diagnosis and treatment processes can cause psychological problems in patients. Psychological problems can significantly affect patients' quality of life and reduce treatment compliance. Economic difficulties might affect patients' quality of life negatively by restricting their access to treatment and increasing their stress levels (Benzer and Yılmaz, 2022; Köksal and Nural, 2024).

Previous studies reported that psychological resilience scores increase with increasing spiritual well-being scores (Koral and Cirak, 2021; Ölmez and Karadağ, 2022). In a systematic review, evidence showed that psychological resilience is associated with life quality of cancer patients (Lau et al., 2021). In our study, psychological resilience increased as spiritual well-being increased. While there a positive and significant relationship was detected between spiritual well-being and its sub-dimensions, meaning and peace, and the functional scale and general life quality, there is a negative significant relationship between the symptom scale. When the literature is examined, it supports our study (Köktürk Dalcalı et al., 2021). Spirituality is positively associated with quality of life. When spiritual needs are largely unmet, end-of-life patients have to struggle with the general burden of daily troubles and concerns that affect their emotional and spiritual well-being and decision-making processes regarding healthcare (Rabitti et al., 2020). Spirituality appears to be associated with physical and psychological health, especially of cancer patients (Sheppard et al., 2018).

As an important component of general health, spirituality is considered a universal characteristic in which patients seek meaning in life and has been shown to be positively associated with quality of life (Li et al., 2022). It has been concluded that spiritual well-being is associated with the best indicators of physical, mental, and environmental health in people with chronic diseases and that spirituality significantly affects the individual's general quality of life and increases the quality of life (Öner, 2012). Our study results are parallel to the literature data. Spiritual well-being can have a significant impact on basic health measures. In advanced cancer patients, spiritual well-being reduces hopelessness, depression, and the desire to die, while increasing quality of life (Schultz et al., 2017). Chaar et al. (2018) reported that patients with higher FACIT total scores and meaning, peace, and faith sub-scores had higher emotional and cognitive functions, and patients with better general health status and quality of life also had higher meaning, peace, and total FACIT scores (Chaar et al., 2018) .

In the present study, both psychological resilience and spiritual well-being positively affect the overall quality of life. Spiritual well-being mediates the impact of psychological resilience on the overall quality of life and strengthens the positive impact of psychological resilience on the overall quality of life. Psychological resilience not only directly contributes to the quality of life in cancer patients, but also effectively improves the quality of life by increasing their spiritual well-being. In their study, Chen et al. (2023) reported that spirituality played a mediating function in the relationship between psychological resilience and quality of life. Interventions aimed at increasing psychological resilience and then increasing spirituality may be beneficial in improving the quality of life of cancer patients (Chen et al., 2023). Spiritual well-being facilitates adaptation to illness, reduces levels of psychological distress, and has a positive impact on general health. This has also been accepted as an important coping strategy. Previous studies have shown that patients with high spiritual well-being scores have a high quality of life, while patients with low quality of life are more likely to experience anxiety and depression (Bovero et al., 2016; Yılmaz, 2022). In a study conducted in 2021 to determine the impact of spirituality on the quality of life of Lebanese cancer patients and whether the impact on the quality of life mediates the reduction of depression, Rached et al. concluded that spirituality has no direct

relationship with quality of life and that the physical and psychological burden of patients with chronic diseases may outweigh the impact of spirituality on quality of life and make it insignificant (Rached et al., 2022). In the study of Groarke et al. on 204 prostate cancer patients, examining the interaction of stress, threat, and resilience with quality of life and adaptation, they found that resilience was positively associated with quality of life and positive emotions, and negatively associated with distress and negative emotions. While those who underwent surgery were associated with better quality of life and better outcomes, adjuvant treatment alone and surgery combined with adjuvant treatment were associated with lower quality of life and greater negative outcomes (Groarke et al., 2020). Resilience and active coping styles have a positive impact on the quality of life in cancer patients. Social support and resilience are of great importance for people's quality of life. In terms of comprehensive rehabilitation, especially in newly diagnosed patients, a higher level of resilience, a satisfactory perception of social support from family and loved ones, physical and psychological positive coping, and full recovery of social functioning are important (Zhou et al., 2022).

CONCLUSION

The spiritual well-being, psychological resilience levels, and life quality of patients were found to be at a moderate level. Spiritual well-being was measured both in the General Quality of Life and Functional Scales of psychological resilience. Spiritual Well-being mediates the impact of psychological resilience and strengthens its positive effects on the Functional Scale and General Quality of Life. Spiritual well-being mediates the impact of psychological resilience on the Symptom Scale. Spiritual well-being strengthens the negative impact of psychological resilience on the Symptom Scale. Psychological resilience has direct impacts on life quality and an indirect impact through the role of spiritual well-being. Spiritual well-being needs to be maintained for quality of life in cancer patients.

Based on the results, the following recommendations can be made.

- The spiritual well-being, psychological resilience level, and life quality of cancer patients must be evaluated regularly; in addition, strategies must be developed to increase the spiritual well-being, psychological resilience level, and quality of life of patients.
- Those who experience care and financial difficulties because of illness must be supported and followed up regularly.
- Supporting psychological resilience must be an important part of cancer care. Factors that support resilience must be implemented at every stage of the cancer process. Protective factors that will increase psychological resilience must be developed, and training programs must be organized and implemented by healthcare professionals to combat risk factors.
- This study needs to be repeated with a larger population in different regions to evaluate the consistency of the results.

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Conflict of Interest

The authors have no conflict of interest to disclose.

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Author Contributions

Plan, design: YA, ZÖ; **Material, methods and data collection:** YA, ZÖ; **Data analysis and comments:** YA, ZÖ; **Writing and corrections:** YA, ZÖ

REFERENCES

Aizpurua-Perez, I., Perez-Tejada, J. (2020). Resilience in women with breast cancer: A systematic review. *European journal of oncology nursing: the official journal of European Oncology Nursing Society*, *49*, 101854. https://doi.org/10.1016/j.ejon.2020.101854

Aktürk, Ü., Erci, B., Araz, M. (2017). Functional evaluation of treatment of chronic disease: Validity and reliability of the Turkish version of the spiritual well-being scale. *Palliat Support Care*, 15:684-692.

Akyüz, S. (2016). *Kolorektal kanserlere bağlı stoma açılan ve açılmayan hastalarda psikolojik dayanıklılık düzeylerinin karşılaştırılması* (Yüksek Lisans Tezi). Ankara Üniversitesi, Ankara.

Aşut, G. (2020). *COVID-19 pandemisi sırasında tedavi almakta olan kanser hastalarında psikolojik dayanıklılık ve ilişkili faktörler* (Uzmanlık Tezi). Başkent Üniversitesi, Ankara.

Ata, G. (2018). *Onkoloji hastalarında manevi iyiliğin umut ve depresyonla ilişkisi* (Yüksek Lisans Tezi). Atatürk Üniversitesi, Erzurum.

Atay, M. (2019). *Kemoterapi tedavisi gören kanser hastalarında psikolojik dayanıklılık ve hayatının anlamının yaşanan semptomlar üzerine etkisi* (Yüksek Lisans Tezi). Sağlık Bilimleri Üniversitesi, Ankara.

Basım, N.H, Çetin, F. (2011). Yetişkinler için psikolojik dayanıklılık ölçeğinin güvenirlik ve geçerlilik çalışması. *Türk Psikiyatri Dergisi, 22*(2), 104-114.

Benzer, D. Ç., & Yılmaz, F. T. (2022). Kemoterapi alan hastalarda aktiflik düzeyi ve yaşam kalitesinin incelenmesi. *Journal of Innovative Healthcare Practices*, *5*(2), 78-87.

Beşer, N.G., Öz, F. (2003). Kemoterapi alan lenfomalı hastaların anksiyete-depresyon düzeyleri ve yaşam kaliteleri. *Cumhuriyet Üniversitesi Hemşirelik Yüksek Okulu Dergisi, 7* (1), 47- 58.

Bovero, A., Leombruni, P., Miniotti, M., Rocca, G., Torta, R. (2016). Spirituality, quality of life, psychological adjustment in terminal cancer patients in hospice. *European journal of Cancer Care*, *25*(6), 961–969. https://doi.org/10.1111/ecc.12360

Bulkley, J., McMullen, C. K., Hornbrook, M. C., Grant, M., Altschuler, A., Wendel, C. S., Krouse, R. S. (2013). Spiritual well-being in long-term colorectal cancer survivors with ostomies. *Psycho-Oncology, 22*(11), 2513-2521.

Büyükbayram, Z., Aksoy, M., Şayan, G. (2022). Analysis of the spiritual orientations and the hopelessness levels of the patients diagnosed with COVID-19: A cross-sectional study. *Florence Nightingale Journal of Nursing*, *30*(2), 182–189. https://doi.org/10.54614/FNJN.2022.21068

Çalışkan, T., Duran, S., Karadaş, A., Ergün, S., Tekir, Ö. (2015). Kanser hastalarının yaşam kalitesi ve sosyal destek düzeylerinin değerlendirilmesi. *KÜ Tıp Fakültesi Dergisi, 17*(1), 27-36.

Çetin, C., Anuk, Ö. (2023). Covid-19 sürecinde merhamet ve psikolojik dayanıklılık ilişkisi: sağlık hizmetleri meslek yüksekokulu öğrencileri üzerine bir uygulama. *Anasay, 7*(26), 216-237. https://doi:10.33404/anasay.1377525

Chaar, E.A., Hallit, S., Hac, A., Aaraj, R., Kattan, J., Jabbour, H., Habbaz, L.R. (2018). Evaluating the impact of spirituality on the quality of life, anxiety, and depression among patients with cancer: an observational transversal study. *Support Care Cancer,* 26, 2581–2590. https://doi.org/10.1007/s00520-018-4089-1

Chen, C., Sun, X., Liu, Z., Jiao, M., Wei, W., Hu, Y. (2023). The relationship between resilience and quality of life in advanced cancer survivors: multiple mediating effects of social support and spirituality. *Front Public Health*,1-8. http://doi:10.3389/fpubh.2023.1207097. PMID: 37701908; PMC10493315.

Cheng, Q., Liu, X., Li, X., Wang, Y., Mao, T., Chen, Y. (2019). Improving spiritual well-being among cancer patients: implications for clinical care. *Supportive Care in Cancer*, 27, 3403-3409.

Dur, B. (2017). *Prostat kanserinin cinsel yaşam fonksiyonlarına etkisinin belirlenmesi* (Yüksek Lisans Tezi). Ankara Üniversitesi, Ankara.

Düzen, Ö., Göktaş, S. (2021). Akciğer kanser cerrahisi geçiren ve adjuvan kemoterapi alan hastaların yaşam kaliteleri ve sosyal destek düzeylerinin belirlenmesi. Sağlık ve Toplum, 31(3), 153-162.

Ekinci, Y., Düger, T. (2018). Kanser hastalarinda kavrama kuvveti ve quadriceps kas kuvveti ile yaşam kalitesi arasindaki ilişki. *Fizyoterapi Rehabilitasyon*, *29*(1), 27-32.

Erdoğan, T.K. (2019). *Onkoloji hastalarında yalnızlık ve ölüm algısı ile spiritüel iyilik hali arasındaki ilişki* (Yüksek Lisans Tezi). Ondokuz Mayıs Üniversitesi, Samsun.

Fisher, J.W. (2016). Assessing adolescent spiritual health and well-being (commentary related to Social Science & Medicine–Population Health, ref: SSMPH-D-15-00089). *SSM-Population Health*, 2, 304.

Gapstur, S.M., Drope, J.M., Jacobs, E.J., Teras, L.R., McCullough, M.L., Douglas, C.E., Patel, A.V., Wender, R.C., Brawley, O.W. (2018). A blueprint for the primary prevention of cancer: Targeting established, modifiable risk factors. *CA: a Cancer Journal for Clinicians*, *68*(6), 446–470. https://doi.org/10.3322/caac.21496

Gelin, D., Ulus, B. (2015). Hastanede kemoterapi alan hastaların yaşam kalitesi ve bunu etkileyen faktörler. *Acıbadem Üniversitesi Sağlık Bilimleri Dergisi, 6*(1), 31-35.

Groarke, A., Curtis, R., Skelton, J., Groarke, J.M. (2020). Quality of life and adjustment in men with prostate cancer: Interplay of stress, threat and resilience. *PloS One*, *15*(9), e0239469. https://doi.org/10.1371/journal.pone.0239469

Güngör, E. (2019). *Kanser tanısı alan bireylerde travma sonrası büyüme ve psikolojik dayanıklılık düzeylerinin incelenmesi* (Yüksek Lisans Tezi). Atatürk Üniversitesi, Erzurum.

Hintistan, S., Pekmezci, H., Nural, N., Güner, S.G. (2015). Kemoterapi alan hastalarda psikolojik semptomlar. *Cumhuriyet Hemşirelik Dergisi, 4(1)*, 1-9.

International Agency for Research on Cancer (IARC) (2023). Global Cancer Observatory. https://gco.iarc.fr/ Erişim Tarihi: 27.11.2023.

İzgü, N., Gök Metin, Z. (2020). Kemoterapi ve radyoterapi alan kanserli bireylerde yorgunluk ve spiritüel iyilik hali: tanımlayıcı-korelasyonel bir çalışma. *Manisa Celal Bayar Üniversitesi Sağlık Bilimleri Enstitüsü Dergisi*, *7*(3), 310-317. https://doi:10-334087/cbusbed.684123

Jacob, J., Palat, G., Verghese, N., Chandran, P., Rapelli, V., Kumari, S., ... Ozdemir, S. (2019). Health-related quality of life and its socio-economic and cultural predictors among advanced cancer patients: evidence from the APPROACH cross-sectional survey in Hyderabad-India. *BMC palliative care*, *18*, 1-12.

Kaya, G. (2016). *Meme kanserli kadınlarda yaşam kalitesi ve algılanan aile destek düzeyinin belirlenmesi* (Yüksek Lisans Tezi). Genel Kurmay Başkanlığı Gülhane Askeri Tıp Akademisi Komutanlığı, Ankara.

Kızılırmak, D., Göktalay, T., Gülteki, Ö., Havlucu, Y., Çelik, P. (2021). Akciğer kanserinin ve kemoterapinin uyku ve yaşam kalitesi üzerine etkisi. *İzmir Göğüs Hastanesi Dergisi*, *35*(2), 82-90.

Köksal, Z. P., & Nural, N. (2024). Ayaktan Kemoterapi Alan Hastaların Yaşam Kalitesi ve Etkileyen Faktörler: Tanımlayıcı ve Kesitsel Çalışma. *Ordu Üniversitesi Hemşirelik Çalışmaları Dergisi*, *7*(3), 634-644.

Köktürk Dalcalı, B., Durgun, H., Can, Ş. (2021). Onkoloji biriminde tedavi alan hastaların manevi iyi oluşları ve yaşam kaliteleri. *İnönü Üniversitesi Sağlık Hizmetleri Meslek Yüksekokulu Dergisi, 9*(2), 536-553. https://doi:10.33715/inonusaglik.812182

Koral, L., Cirak, Y. (2021). The relationships between fear of cancer recurrence, spiritual well-being and psychological resilience in non-metastatic breast cancer survivors during the COVID-19 outbreak. *Psycho-Oncology*, *30*(10), 1765-1772.

Kutlu, Ö. ve Demir, E. (2022). Pediatri Kliniğinde Yatan Hastaların bakımının Spiritüel İyi Oluşlarının Anksiyete ve Depresyon Düzeyine Etkisinin Belirlenmesi. Balıkesir Sağlık Bilimleri Dergisi, 11(2), 272-279. https://doi.org/10.53424/balikesirsbd.949631

Lau, J., Khoo, A.M.G., Ho, A.H.Y., Tan, K.K. (2021). Psychological resilience among palliative patients with advanced cancer: A systematic review of definitions and associated factors. *Psycho-Oncology*, 30(7), 1029-1040.

Li, J., Xue, L., Pan, H. (2022). Social support and spiritual well-being of patients with esophageal cancer aged over 50 years: The mediating function of rumination. *Frontiers in Psychiatry*, *13*, 805380. https://doi.org/10.3389/fpsyt.2022.805380

Martins, H., Dias Domingues, T., Caldeira, S. (2020). Spiritual well-being of cancer patients undergoing chemotherapy in an outpatient setting: a cross-sectional study. *Journal of Holistic Nursing*, 38(1), 68-77.

Mingir, V.T. (2022). *Kanserli çocukların ebeveynlerinin spiritüel iyi oluş düzeylerinin ve yaşam kalitelerinin incelenmesi* (Yüksek Lisans Tezi). Pamukkale Üniversitesi, Denizli.

Ölmez, N., Karadağ, E. (2022). Ayaktan kemoterapi alan kanserli hastaların spiritüel iyilik hali ve psikolojik dayanıklılık düzeyi arasındaki ilişki. *Sakarya Tıp Dergisi, 12*(3), 390-402 doi: 10.31832/smj.1075527

Öner, H. (2012). *Cerrahi onkolojik hastalarda spiritualite ve yaşam kalitesi* (Yüksek Lisans Tezi). Cumhuriyet Üniversitesi, Sivas.

Otuzoğlu, M. (2017). *Onkoloji hastalarının manevi bakım gereksinimlerini belirlemeye yönelik ölçeğin geliştirilmesi* (Doktora Tezi). Hacettepe Üniversitesi, Ankara.

Özçetin, Y.S.Ü., Hiçdurmaz, D. (2017). Kanser deneyiminde travma sonrası büyüme ve psikolojik sağlamlık. *Psikiyatride Güncel Yaklaşımlar, 9*(4), 388-397.

Rabitti, E., Cavuto, S., Iani, L., Ottonelli, S., De Vincenzo, F., Costantini, M. (2020). The assessment of spiritual well-being of cancer patients with advanced disease: which are its meaningful dimensions?. *BMC Palliative Care*, 19(1), 1-8.

Rached, G., Jradi, K., Sleilaty, G., Mekhael, M., Ghayad, T., Mikhael, E., Haddad, F., Dabar, G., Riachy, M., Chelala, D., Honein, K., Richa, S. (2022). Spirituality and the quality of life of cancer patients: An antidepressant impact. *L'Encephale*, *48*(4), 365–370. https://doi.org/10.1016/j.encep.2021.05.002

Salman, F. (2017). *Mastektomi yapılan kadınlarda sosyal destek ve psikolojik dayanıklılık düzeyi arasındaki ilişkinin incelenmesi* (Yüksek Lisans Tezi). Ankara Üniversitesi, Ankara.

Schultz, M., Meged-Book, T., Mashiach, T., Bar-Sela, G. (2017). Distinguishing between spiritual distress, general distress, spiritual well-being, and spiritual pain among cancer patients during oncology treatment. *Journal of Pain and Symptom Management*, *54*(1), 66–73. https://doi.org/10.1016/j.jpainsymman.2017.03.018

Sheppard, V.B., Walker, R., Phillips, W., Hudson, V., Xu, H., Cabling, M.L., He, J., Sutton, A.L., Hamilton, J. (2018). Spirituality in African-American breast cancer patients: implications for clinical and psychosocial care. *Journal of Religion and Health*, 57, 1918-1930.

Smyth, E. N., Shen, W., Bowman, L., Peterson, P., John, W., Melemed, A., Liepa, A. M. (2016). Patient-reported pain and other quality of life domains as prognostic factors for survival in a phase III clinical trial of patients with advanced breast cancer. *Health and quality of life outcomes*, *14*, 1-10.

Türkiye Kanser İstatistikleri 2017 (2021). hsgm.saglik.gov.tr/depo/birimler/kanser-db/istatistik/Turkiye_Kanser_Istatistikleri_2017.pdf Erişim Tarihi:18.11.2022

Yalçın, Y. (2015). *Meme kanseri tanısı almış hastaların teşhisden önce stresli yaşam olaylarıyla karşılaşma durumları ve psikolojik dayanıklılık düzeylerinin belirlenmesi* (Yüksek Lisans Tezi). Gaziantep Üniversitesi, Gaziantep.

Yılmaz, D. (2022). *Kanser hastalarında yaşam kalitesinin spiritüalite anksiyete, depresyon ve aile sosyal destek algısı ile ilişkisi* (Yüksek Lisans Tezi). Çankırı Karatekin Üniversitesi, Çankırı.

Yüksel, Ş. (2019). *Onkolojik cerrahi geçiren hastaların sipiritualite ve umut durumlarının belirlenmesi* (Yüksek Lisans Tezi). Hasan Kalyoncu Üniversitesi, Gaziantep.

Zhou, K., Ning, F., Wang, X., Wang, W., Han, D., Li, X. (2022). Perceived social support and coping style as mediators between resilience and health-related quality of life in women newly diagnosed with breast cancer: a cross-sectional study. *BMC Women's Health*, *22*(1), 198. https://doi.org/10.1186/s12905-022-01783-1