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# Effect of Reiki Therapy on Quality of Life and Fatigue Levels of Breast Cancer Patients Receiving Chemotherapy

## KEY WORDS

Breast cancer  
Chemotherapy  
Fatigue  
Nurse  
Quality of life  
Reiki

**Background:** The quality of life of patients receiving chemotherapy decreases, and fatigue is one of the most common symptoms. Reiki is used for cancer patients as an energy-based complementary and alternative method. **Objective:** The aim of this study was to determine the effect of Reiki therapy on the quality of life and fatigue levels in breast cancer patients receiving chemotherapy. **Methods:** This was a pretest-posttest, quasi-experimental study with a control group: 70 patients enrolled with 35 participants in the experimental group and 35 in the control group. The experimental group received 6 sessions of Reiki therapy. The data were collected using a Patient Information Form, the Piper Fatigue Scale, and the European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire. **Results:** The mean scores on the general well-being subscale in the European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire increased in the experimental group and decreased in the control group, whereas the mean scores on the general function and general symptom subscales decreased in the experimental group and increased in the control group. The differences between the groups were statistically significant ( $P < .001$ ). The mean Piper Fatigue Scale scores of the experimental group decreased, whereas that of the control group increased; the group differences were statistically significant ( $P < .001$ ). **Conclusion:** Reiki can reduce fatigue and increase the quality of life of breast cancer patients receiving chemotherapy. **Implications for Practice:** Reiki therapy can be used as a nursing intervention to increase the quality of life and reduce fatigue in breast cancer patients receiving chemotherapy.

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Cancer causes various difficulties and material and non-material losses in individuals, and socio-economic burdens to society.<sup>1</sup> In recent cancer statistics of the International Agency for Research on Cancer, women's cancers were especially noted. According to the GLOBOCAN 2018 data, breast cancer is the second most common cancer type in the world, the most commonly diagnosed cancer and the most leading cause of cancer death among women. One of 4 women diagnosed with cancer has breast cancer.<sup>2</sup>

Certain current treatments applied to reduce mortality in breast cancer patients have significant adverse effects that adversely affect patients' physical, psychological, and social life and decrease their quality of life.<sup>3,4</sup> Considering the quality of life of breast cancer patients is important when evaluating treatment-related problems, providing patient integrated care, and planning the nursing care during treatment.<sup>5,6</sup>

Developments in the medical field provide improved cancer treatment results causing cancer to become a chronic condition by extending the lifespan. During this process, patients intensely experience both the disease process and treatment-related symptoms.<sup>1,7</sup> Fatigue is the most common and inconvenient symptom in breast cancer patients; reported prevalence rates of severe fatigue range from 7% to 52%.<sup>8</sup> Fatigue severely affects the quality of life of breast cancer patients.<sup>9</sup> Previous studies show that breast cancer patients experience high levels of fatigue, especially during treatment, and that even after treatment, fatigue does not always abate. In one-third of patients, fatigue persisted for months and even years.<sup>9-12</sup>

In recent years, important developments have been achieved in breast cancer management including surgery and adjuvant medication.<sup>13</sup> Despite these developments, treatment-related symptoms are still commonly observed.<sup>14-16</sup> Patients strive to reduce treatment-related symptoms and have a higher quality of life using complementary and alternative therapies.<sup>17-19</sup> Energy therapies have an important place in complementary and alternative therapy commonly used in breast cancer patients.<sup>20-22</sup>

Reiki, applied by trained practitioners, is performed by activating the energy centers of the body, including blood and lymph circulation and stimulating the nervous system, thereby enabling energy circulation and positively affecting health by providing mental-physical relaxation.<sup>23-25</sup> Studies investigating the effect of Reiki on cancer patients have shown that it can relieve pain, reduce anxiety and depression, improve quality of life, and reduce fatigue.<sup>26-29</sup>

## Theoretical Framework

For over 40 years, nurses providing complementary care adopted the concept of a human energy field and used energy-based modalities as professional interventions that support health and recovery. Reiki, which is one of the most commonly used energy-based modalities by American nurses, is an integrative recovery model that is used in various acute and chronic health problems.<sup>30,31</sup> The philosophy and principles of Reiki comply with the theory and practices of nursing.<sup>32</sup> Rogers' Theory of Unitary Human Beings includes principles that indicate that humans and the environment interact with one another. Watson's Theory of Human

Caring indicates that an individual existentially has 3 fields: soul, mind, and body; synchronization of these 3 fields indicates a healthy individual. With their approach, theoreticians such as Rogers and Watson provide an important perspective and description to 21st-century nursing practices of professional nursing by physically, emotionally, and mentally evaluating care and recovery.<sup>33</sup>

Evidence-based studies are needed regarding the effect of Reiki application, which is one of the energy-based complementary alternative therapy methods, on quality of life and fatigue in breast cancer patients receiving chemotherapy. The purpose of this study was to determine the effect of Reiki therapy on the quality of life and fatigue levels in breast cancer patients receiving chemotherapy.

## Methods

### Type of the Study

This study used a pretest-posttest quasi-experimental design with a control group.

### Population and Sample

This study was conducted between February 2018 and September 2019 in an outpatient chemotherapy unit of a university hospital in Turkey. The study population was composed of female patients with breast cancer who had been admitted to the outpatient medical oncology clinic of the hospital between the dates of this study and who received chemotherapy in the outpatient chemotherapy unit. The study sample included patients who were between 18 and 54 years of age, who previously received a minimum of 1 course of adjuvant chemotherapy and would receive at least 3 more courses of treatment, who did not have a psychiatric diagnosis, and who obtained 1 to 10 points on the Piper Fatigue Scale. The study sample was determined using the power analysis, which was carried out based on fatigue and quality-of-life mean scores obtained from previous relevant studies.<sup>34,35</sup> As a result, 70 patients were included in the study, 35 for each group based on  $\alpha = .05$  error, 83.59% test power, and  $d = 0.899$  effect size.

### Data Collection

#### DATA COLLECTION TOOLS

Data were collected using a Patient Information Form, the Piper Fatigue Scale, and the European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30).

**Patient Information Form:** The patient information form included questions about patients' marital status, age, education, chemotherapy protocol, disease duration, and disease stage.

**EORTC QLQ-C30 Scale:** This quality-of-life measure includes 30 questions divided into 3 subscales: general well-being, general function, and general symptom. The items are scored as never, 1; a little, 2; pretty much, 3; and very much,

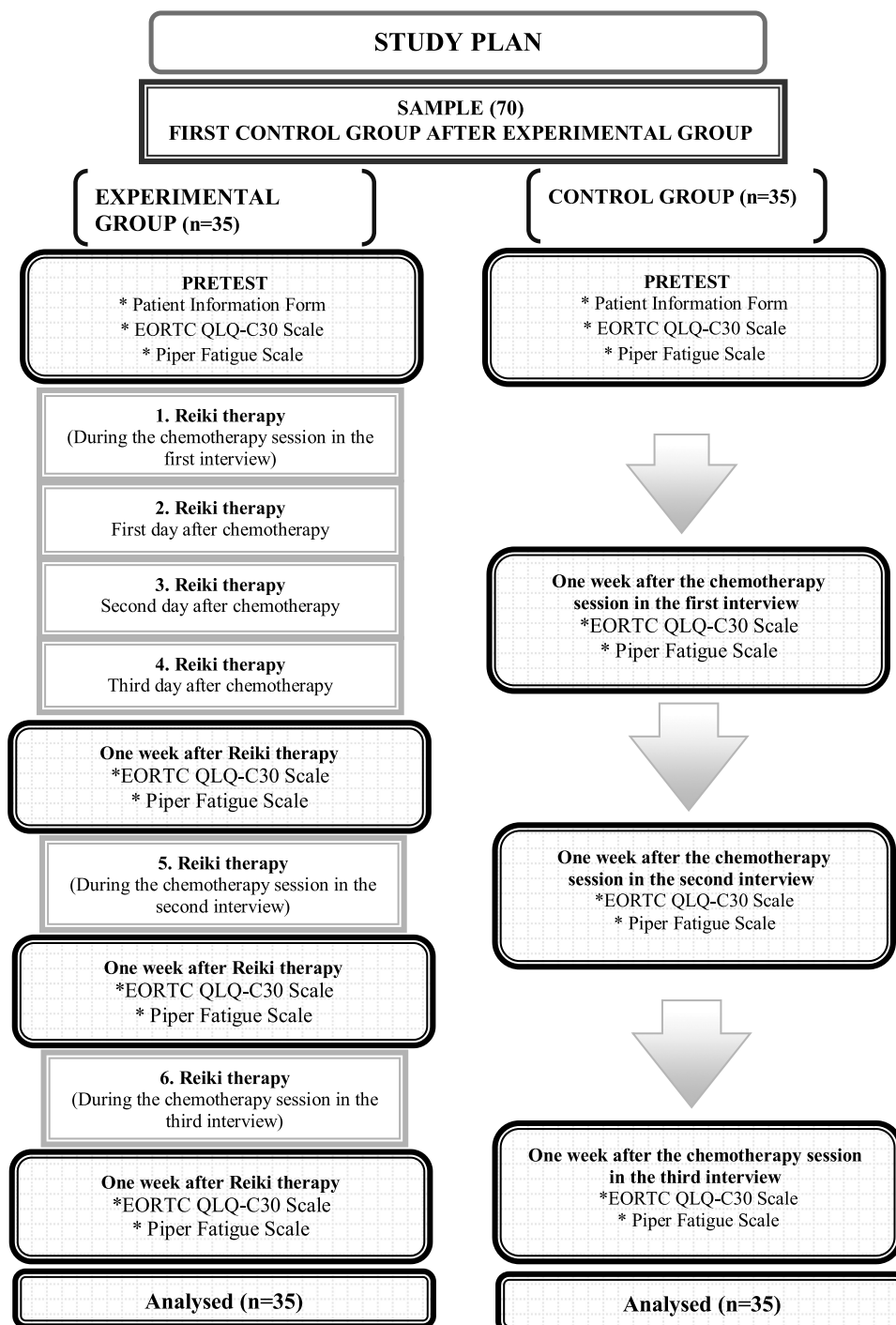
4. Lower scores indicate a higher quality of life. The scale scores were calculated by linearly converting the scores given to the answers to 100.<sup>36</sup> The Cronbach's  $\alpha$  coefficient was .70 in the Turkish validity and reliability study.<sup>36</sup> In this study, the Cronbach's  $\alpha$  coefficient was .90.

**Piper Fatigue Scale:** This scale evaluates an individual's subjective perception of fatigue. The scale scoring is as follows: 0 points = no fatigue, 1 to 3 points = mild level fatigue, 4 to 6 points = moderate level fatigue, and 7 to 10 points = severe level fatigue. The Cronbach's  $\alpha$  coefficient of this scale was .94 in the

Turkish validity and reliability study.<sup>37</sup> In this study, the Cronbach's  $\alpha$  coefficient was .95.

## Reiki Application

The researcher, a second-degree Reiki therapist, performed the Reiki therapy. Reiki is applied touching the energy centers of the body (chakras). There are seven main and many small chakras on a body. Chakras are located on the front and back sides of the body in a



**Figure ■** Study plan.

vertical line that runs along the middle of the body in humans. A complete Reiki therapy includes all the chakras and organs.<sup>38</sup>

Patients were told to lie comfortably on their backs after they were informed about the therapy. While the patient was receiving chemotherapy, each of the 14 Reiki hand positions was applied sequentially. Each of the hand positions took 3 minutes, requiring 42 minutes in total.

### Study Procedure

Eligible participants were informed about the study by a nurse working in the clinic who was independent from the study. Written and oral consents were obtained. Study tools were completed independently by participants. To prevent possible group contamination, the control group's data were collected first, and then participants were enrolled in the experimental group.

Participants in the control group completed the study tools in the interview before the chemotherapy session. The tools were readministered 1 week after the chemotherapy session in the first interview. In the second and third interviews, the tools were again administered the week after the chemotherapy sessions for both interviews. A total of 4 data points comprised the design: 1 was pretest and 3 were posttest after each of 3 chemotherapy sessions. After the study was completed, Reiki therapy was provided to patients in the control group who wanted to receive it.

Participants in the experimental group completed all study tools in the pretest (before the intervention phase). A session of Reiki therapy was applied to these participants during the chemotherapy session that occurred in the first interview and for 3 days following the chemotherapy because in chronic diseases, the initial application is recommended for 4 consecutive days.<sup>38</sup> The measurement tools were administered 1 week after the chemotherapy session. In the second and third interviews, a session of Reiki therapy was applied only during chemotherapy sessions; the measurement tools were readministered 1 week after the chemotherapy sessions in the second and third interviews. Participants received Reiki therapy for 6 sessions in total. A total of 4 measurements were made: 1 was pretest and 3 were posttest after 3 chemotherapy sessions (the Figure depicts the study plan).

### Data Analysis

The data were analyzed using SPSS for Windows, Version 17.0. (SPSS Inc. Chicago, Illinois, Released 2008) software using numbers, percentages, mean, and SD, as well as  $\chi^2$  analysis for the comparison of the 2 groups' demographic characteristics (categorical measurements), independent-group *t* test and Mann-Whitney *U* test for the comparison of the groups' EORTC QLQ-C30 subscale scores and Piper Fatigue Scale scores, dependent-groups variance analysis and Friedman test for intergroup comparisons, and Cronbach's  $\alpha$  coefficients for internal consistency.

### Ethical Considerations

Before the study was conducted, a university ethics committee granted its approval, and official written permission was obtained

from the hospital in which the study was conducted. Verbal and written consent from the participating patients was obtained after they were informed about the study.

## Results

### Patients' Sociodemographic and Disease-Related Characteristics

In the intervention group, 82.9% of participants were married, 40.0% were in the 46- to 55-year age group, and 40% completed primary school. Most (65.7%) of the experimental group participants' disease duration was 12 months or less, 54.3% had stage III cancer, and 45.7% received AC-P (adriamycin-cyclophosphamide-paclitaxel)-type adjuvant chemotherapy (Table 1).

In the control group, 77.1% were married, 45.7% were in the 36- to 45-year age group, and 45.7% completed primary school. Most (60.0%) of the control group participants' disease duration was 12 months or less, 51.4% had stage II cancer, and 40.0% received AC-P-type adjuvant chemotherapy (Table 1).

 **Table 1 • Introductory Characteristics of Patients in the Intervention and Control Groups**

	Experimental Group		Control Group		Test <sup>a</sup>
	n	%	n	%	
Marital status					
Married	29	82.9	27	77.1	$\chi^2 = 0.357$
Single	6	17.1	8	22.9	$P = .550$
Age, y					
25-35	6	17.1	3	8.6	$\chi^2 = 1.547$
36-45	13	37.1	16	45.7	$P = .671$
46-55	14	40.0	13	37.1	
56-65	2	5.8	3	8.6	
Education level					
Literate	3	8.6	5	14.3	$\chi^2 = 1.233$
Primary school	14	40.0	16	45.7	$P = .873$
Secondary school	7	20.0	5	14.3	
High school	8	22.9	7	20.0	
University	3	8.6	2	5.7	
Disease duration					
≤12 mo	23	65.7	21	60.0	$\chi^2 = 0.245$
>12 mo	12	34.3	14	40.0	$P = .621$
Disease stage					
Stage 2	16	45.7	18	51.4	$\chi^2 = 0.229$
Stage 3	19	54.3	17	48.6	$P = .632$
Chemotherapy type					
CEF	7	20.0	6	17.1	$\chi^2 = 0.229$
CAF	5	14.3	4	11.4	$P = .632$
AC	7	20.0	11	31.4	
AC-P	16	45.7	14	40.0	

Abbreviations: AC, adriamycin-cyclophosphamide; AC-P, adriamycin-cyclophosphamide-paclitaxel; CAF, cyclophosphamide-adriamycin-fluorouracil; CEF, cyclophosphamide-epirubicin-fluorouracil.

<sup>a</sup>  $\chi^2$  Test was administered.

Baseline characteristics of the experimental and control groups were statistically similar and were distributed homogeneously ( $P > .05$ ) (Table 1).

The Effect of Reiki Therapy on Patients’ Quality of Life

Table 2 shows the patients’ mean EORTC QLQ-C30 scores obtained in the pretest and posttest first, second, and third measurements. In the pretest, no statistically significant difference was found between the groups’ mean scores on the general well-being, general function, and general symptom subscales of the Quality of Life Scale ( $P > .05$ ). In the first, second, and third measurements after the pretest, the differences between the groups were statistically significant ( $P < .001$ ,  $P < .001$ ,  $P < .001$ , respectively).

The experimental group’s mean general well-being scores gradually increased in the first, second, and third measurements after the pretest. The control group’s mean scores gradually decreased in the first, second, and third measurements after the pretest. In both groups, the differences within the groups were statistically significant in the pretest and first, second, and third measurements ( $P < .001$ ,  $P < .001$ , respectively).

The experimental group’s mean general function subscale and general symptom subscale scores gradually decreased in the first, second, and third measurements after the pretest. The control group’s mean scores gradually increased in the first, second, and third measurements after the pretest. In both groups, the differences within the groups were statistically significant in the pretest and first, second, and third measurements ( $P < .001$ ,  $P < .001$ , respectively).

Effect of Reiki Therapy on Patients’ Fatigue Levels

Table 3 shows the patients’ pretest and posttest mean Piper Fatigue Scale scores. No statistically significant difference was found between the groups in the pretest ( $P > .05$ ). In the first, second, and third measurements after the pretest, the differences between the groups were statistically significant ( $P < .001$ ,  $P < .001$ , and  $P < .001$ , respectively).

The experimental group’s total mean Fatigue Scale scores gradually decreased in the first, second, and third measurements after the pretest. The control group’s mean scores gradually increased in the first, second, and third measurements after the pretest. In both groups, the differences within the groups were statistically significant in the pretest and first, second, and third measurements ( $P < .001$  and  $P < .001$ , respectively).

Discussion

This study investigated the effect of Reiki therapy on the quality of life and fatigue levels in breast cancer patients receiving chemotherapy. Study results showed increased patient quality of life in the Reiki therapy group ( $P < .05$ ). Orsak et al<sup>39</sup> studied the effect of Reiki therapy on quality of life, mood, and symptom distress of adults receiving chemotherapy; quality of life of patients who received Reiki therapy improved. A study at a cancer research center investigated the effects of massage, yoga, and Reiki therapy on the well-being of patients with cancer. All 3 of the interventions reduced patients’ stress and anxiety levels and improved their mental state, perceived general health state, and quality of life. Reiki therapy reduced patients’ pain more than massage or

Table 2 • Intragroup and Intergroup Comparison of Mean European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire Scores						
Quality of Life Scale Subscales	Group	Pretest Mean ± SD	1st Measurement Mean ± SD	2nd Measurement Mean ± SD	3rd Measurement Mean ± SD	Test
General well-being	Experimental	31.90 ± 15.32	50.71 ± 16.08	62.61 ± 11.13	79.04 ± 7.92	$F = 99.519^a$ $P = .000$
	Control	37.14 ± 13.15	30.47 ± 13.54	20.00 ± 10.54	7.14 ± 7.86	$F = 264.266^b$ $P = .000$
	Test <sup>c</sup>	$t = -1.535$ $P = .130$	$t = 5.692$ $P = .000$	$t = 16.441$ $P = .000$	$U = 000.000$ $P = .000$	
General function	Experimental	44.57 ± 15.41	28.44 ± 13.83	17.33 ± 8.17	3.17 ± 3.62	$F = 100.055^a$ $P = .000$
	Control	38.81 ± 16.84	44.12 ± 13.94	55.42 ± 11.74	69.46 ± 10.04	$F = 91.928^a$ $P = .000$
	Test <sup>c</sup>	$t = 1.481$ $P = .143$	$t = -4.724$ $P = .000$	$t = -15.752$ $P = .000$	$U = 000.000$ $P = .000$	
General symptom	Experimental	48.35 ± 11.24	31.79 ± 12.86	18.38 ± 8.89	13.18 ± 1.09	$F = 239.668^b$ $P = .000$
	Control	43.29 ± 17.37	46.81 ± 16.06	47.17 ± 12.57	62.49 ± 12.89	$F = 166.497^b$ $P = .000$
	Test <sup>c</sup>	$t = 1.445$ $P = .154$	$t = -4.316$ $P = .000$	$t = -11.056$ $P = .000$	$t = -21.293$ $P = .000$	

<sup>a</sup> Friedman test was applied.  
<sup>b</sup> Dependent groups’ variance analysis was administered.  
<sup>c</sup> Independent-samples  $t$  test and Mann-Whitney- $U$  test were applied.

**Table 3 • Intragroup and Intergroup Comparison of Mean Piper Fatigue Scale Scores**

Group	Pretest Mean ± SD	1st Measurement Mean ± SD	2nd Measurement Mean ± SD	3rd Measurement Mean ± SD	Test <sup>a</sup>
Experimental	6.72 ± 1.15	5.29 ± 1.45	4.43 ± 1.25	3.42 ± 1.09	$F = 398.916$ $P = .000$
Control	6.64 ± 1.21	7.03 ± 1.02	7.67 ± 0.85	8.40 ± 0.73	$F = 365.892$ $P = .000$
Test <sup>b</sup>	$t = 1.081$ $P = .284$	$t = -5.803$ $P = .000$	$t = -12.669$ $P = .000$	$t = -22.394$ $P = .000$	

<sup>a</sup> Dependent groups' variance analysis was administered.

<sup>b</sup> Independent-samples  $t$  test was administered.

yoga.<sup>40</sup> Tsang et al<sup>41</sup> also found that Reiki therapy reduced adult patients' anxiety and pain and increased their general quality of life. Kirshbaum et al<sup>42</sup> investigated the Reiki experiences and perceptions of female adult cancer patients and documented increased relaxation, peace, tranquility, and sleep quality and decreased depression and pain levels. In their study, Catlin and Taylor-Ford<sup>43</sup> investigated the effect of Reiki therapy in patients who received outpatient chemotherapy and found that Reiki significantly increased patients' comfort and quality of life. Olson et al<sup>29</sup> investigated the effect of Reiki therapy on patients' pain and quality of life and determined that patients who received Reiki therapy experienced less pain and improved quality of life compared with patients who used only opioids. In this study, similar to the results of other studies in which the effects of Reiki in cancer patients were determined, it was found that quality of life increased significantly in the group that received Reiki therapy. Only breast cancer patients receiving adjuvant chemotherapy were included in this study and experimental-control groups were distributed homogeneously. No comparisons were made in the study with other practices or placebo groups. For this reason, it is thought that the effect of Reiki therapy in similar groups is shown more clearly. Reiki therapy is one of the integrative methods representing noninvasive and nonmedical, cost-free methods, which contribute to and positively affect perceived quality of life of cancer patients.<sup>40</sup>

## Findings on Fatigue

The results of the current study showed that fatigue levels decreased in patients in the Reiki therapy group. In their study, Tsang et al<sup>41</sup> documented that fatigue levels of patients who received Reiki had significantly decreased fatigue, whereas there was no difference in the fatigue levels of the comparison resting group. In a study carried out in a cancer center to evaluate a voluntary Reiki program, Reiki therapy was administered to the patients, and fatigue levels were considerably reduced.<sup>28</sup> Similar to the study conducted by Tsang et al,<sup>41</sup> fatigue was found to decrease in patients who received Reiki therapy. Unlike Tsang and colleagues<sup>41</sup> study, whereas fatigue of the patients decreased gradually in the patients who received Reiki therapy, fatigue in the control group increased gradually, and the difference between groups was found to be significant in the present study. The reason for this may be associated with the higher number of sample in this study. Demir et al<sup>27</sup> carried out a study to investigate the effect of distant Reiki therapy on pain, anxiety, and fatigue in

oncology patients and found that the fatigue levels of the group who received Reiki therapy were significantly less than the fatigue levels of the control group. The results of this study are similar to the results of Demir and colleagues<sup>27</sup> study. In patients with breast cancer, there is no criterion standard for nonpharmacological treatment, but various nonpharmacological approaches have shown positive effects in the treatment of fatigue.<sup>9</sup>

## Conclusion

In this study, which was carried out to determine the effect of Reiki therapy on quality of life and fatigue levels in breast cancer patients receiving chemotherapy, the quality of life of patients who received Reiki increased, their general function levels increased, they experienced fewer symptoms, and their perceived fatigue levels were reduced. These results suggest that the administration of Reiki therapy with chemotherapy as a complementary treatment increases the quality of life and reduces fatigue levels. However, future studies are needed to determine the effectiveness of Reiki therapy.

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