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Article *in* Holistic Nursing Practice · January 2022

DOI: 10.1097/HNP.0000000000000497

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Evaluation of the Impacts of Reiki Touch Therapy on Patients Diagnosed With Fibromyalgia Who Are Followed in the Pain Clinic

■ *Hava Gökdere Çinar, PhD, RN* ■ *Şule Alpar, PhD, RN* ■ *Seher Ilhan, MD*

The aim of this study is to investigate the effects of Reiki application on pain, anxiety, and quality of life in patients with fibromyalgia. The study was completed with a total of 50 patients: 25 in the experimental group and 25 in the control group. Reiki was applied to the experimental group and sham Reiki to the control group once a week for 4 weeks. Data were collected from the participants using the Information Form, Visual Analog Scale, McGill-Melzack Pain Questionnaire, State-Trait Anxiety Inventory, and Short Form-36. There was a significant difference between the mean Visual Analog Scale pain scores during and before the first week ($P = .012$), second week ($P = .002$), and fourth week ($P = .020$) measurements of the individuals in the experimental and control groups, after application. In addition, at the end of the 4-week period, the State Anxiety Inventory ($P = .005$) and the Trait Anxiety Inventory ($P = .003$) were significantly decreased in the Reiki group compared with the control group. Physical function ($P = .000$), energy ($P = .009$), mental health ($P = .018$), and pain ($P = .029$) subdimension scores of quality of life in the Reiki group increased significantly compared with the control group. Reiki application to patients with fibromyalgia may have positive effects on reducing pain, improving quality of life, and reducing state and trait anxiety levels.

KEY WORDS: *fibromyalgia*, *pain*, *Reiki*, *soft tissue rheumatism*, *therapeutic touch* *Holist Nurs Pract* 2022;00(00):1–11

INTRODUCTİON

Fibromyalgia is a chronic syndrome whose etiology and pathophysiological mechanisms are not fully understood. It is characterized by pain-sensitive points in certain parts of the body; pain is commonly seen in the musculoskeletal system, and is also characterized by nonmusculoskeletal clinical symptoms such as fatigue, irritable colon syndrome, and sleep disturbance.[1-4] The etiology of fibromyalgia is not known exactly. However, there are sources indicating that neuroendocrine dysfunctions, central pain mechanisms, and central sensitization are among the main causes.[5] There are sources showing that factors such as deterioration in muscle microcirculation, genetic predisposition, central pain and sleep disorders, decrease in biogenic amine levels, decrease in pressure pain threshold, deterioration of immune and autonomic functions, and physical trauma are also responsible.[6,7]

Fibromyalgia syndrome (FMS) can be triggered by several factors. For example, emotional traumas, infections, physical damage, changes in the brain serotonin levels and hormonal diseases, fatigue, widespread pain, and sleep disturbance can trigger FMS.[8] At the same time inappropriate exercises or bad postures are factors triggering the disease. Also FMS is encountered 8 times greater in first-degree relatives and studies showing family groups suggest a genetic component.[9]

In patients diagnosed with fibromyalgia whose main complaint is pain, signs such as fatigue (96%),

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We would like to thank the patients who agreed to take part in the study.

This study was produced from the doctoral thesis.

The authors have disclosed that they have no significant relationships with, or financial interest in, any commercial companies pertaining to this article.

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DOI: 10.1097/HNP.0000000000000497

sleep disorder (83%), tension-type headaches or migraine (70%), cognitive disorder (46%), irritable bowel syndrome (60%), irritable bladder syndrome (12%-35%), and temporomandibular dysfunction (60%) are seen.[7] Most of the time, in patients who describe widespread pain related to the musculoskeletal system, physical examination and laboratory and radiological signs are normal.[10] Physicians need to adopt a "multidisciplinary approach" including rheumatology, neurology, psychiatry, and rehabilitation to treat fibromyalgia.[11]

The treatment process of FMS is particularly difficult. For an effective treatment, the disease must be considered a systemic disease rather than a disease of one part of the body or another. To gain the maximum benefit from the treatment, the symptoms must be seen holistically at every stage.[12] To this purpose, pharmaceutical and nonpharmaceutical methods may be used together or separately in controlling FMS.[13]

Evaluating the results of various treatment combinations for FMS, very different conclusions were drawn. To clear up this confusion, the American Pain Society, the Association of the Scientific Medical Societies in Germany, and the European League against Rheumatism have published standard treatment guides, which can be used for FMS.[12] In these guides the drugs recommended for use are analgesics and nonsteroid anti-inflammatory drugs, antidepressants, and antiepileptics.[6,12] Other pharmacological materials, which can be used in addition to the treatment, are dopamine agonists, antiemetics, magnesium citrate, and growth hormone.[6]

Treatment for FMS is basically a multidisciplinary approach. The key to successful FMS treatment is individualization.[14] Treatments mostly comprise nonpharmacological approaches aimed at increasing the patient's physical functions and activity, improving general health, and managing symptoms.[12] The safety of complementary and alternative therapies (CATs) and the side effects of the pharmacological medications have encouraged the use of CAT among patients with FMS.[15] These approaches are patient education, psychotherapy, cognitive-behavioral treatments, physical-medical applications, exercise, hydrotherapy, aromatherapy, acupuncture, and energy therapy.[6,12,16]

Reiki touch therapy is classified among complementary therapies as an energy therapy.[16-19] Reiki is a biofield energy therapy that focuses on optimizing the body's natural healing abilities by balancing the life force energy or qi/chi.[20,21] Reiki is generally used as a treatment for musculoskeletal pain, anxiety, and depression because it causes relaxation.[20,22-24] Reiki is a patient-centered care and recovery approach, which is noninvasive, does not entail advanced technology, is inexpensive, and encourages a holistic approach.[25,26]

Reiki is a type of therapy in which noncontact procedures and visualization techniques are used with the hands to improve the energy flow in a person. Reiki procedures involve touching the hands, head, neck, chest, the pit of the stomach, and the groin, respectively, focusing on the 7 main chakras, which are equivalent to the endocrine and lymphatic systems and the large organs (each position is sustained for 3-5 minutes). In problem areas this can be extended to 10 to 20 minutes. The treatment process takes 30 to 90 minutes on average. During the procedure the patient is in a supine or prone position and there is no need to remove the clothing.[27] These invisible energy centers are powerful electrical fields.[25,28]

Existing studies have generally examined the use of Reiki for conditions such as fibromyalgia, pain, and depression.[29] However, there is an inadequate number of evidence-based studies discussing the place of Reiki procedures in the provision of comfort to patients, taking the role of nurses who are responsible for ensuring patient comfort in patient care into account.[17,18,26] In a study by Herman et al,[30] 55% of patients with fibromyalgia used energy medical methods such as Reiki, therapeutic touch, qigong, and magnetic treatment. Bukowski and Berardi[31] reported that, at the end of 11 Reiki sessions conducted during a 9-year-old child case, anxiety levels declined. In a study by Kundu et al[32] on Reiki given to pediatric patients, an increase in relaxation and comfort was observed. The findings of a study by Denison[33] conducted with fibromyalgia patients showed that therapeutic touch could be used to raise the quality of life. However, no existing study could be found in Turkey on the use of Reiki in patients with fibromyalgia. Therefore the study was conducted to determine the impacts of Reiki touch therapy on patients diagnosed with fibromyalgia who were followed in an outpatient pain department. The study sought to examine 3 hypotheses:

Hypotheses 1 (H1): Reiki touch therapy has an impact on reducing pain in patients diagnosed with fibromyalgia.

Hypotheses 2 (H2): Reiki touch therapy has an impact on reducing anxiety levels in patients diagnosed with fibromyalgia.

Hypotheses 3 (H3): Reiki touch therapy has an impact on the quality of life in patients diagnosed with fibromyalgia.

METHODS

The study was conducted as an experimental and double-blind study to determine the impacts of Reiki touch therapy on patients diagnosed with fibromyalgia who were followed in a pain polyclinic. The sample of the study comprised 50 patients who applied to the Algology Polyclinic of Bursa Uludag University Medical Faculty Hospital due to fibromyalgia pain between July 2015 and June 2016, were diagnosed with fibromyalgia, met the inclusion criteria, and agreed to take part in the study.

Study design and settings

The 50 patients were listed according to their name order and then the odd numbers in the list were included in the experimental group (25 individuals), while the even numbers were included in the control group (sham Reiki) (25 individuals) via the simple random sampling.

The inclusion criteria for the study were being able to communicate verbally, being older than 18 years, being conscious and having no sight or hearing loss, having been diagnosed with fibromyalgia for at least 2 years, having received medical treatment, and not having received Reiki previously.

The exclusion criteria for the study were having participated in the study voluntarily in the first place, but not liking the Reiki procedure afterward, or wanting to leave the study for some other reason.

Data collection

The individuals who met the sample criteria and were to be included in the study were first informed of the aim of the study and then their written consent was obtained. Patients in the Reiki group and the control group were called to the hospital on different days so that they would not influence each other. Information about sociodemographic characteristics was first collected from all patients via the Information Form. Then the Visual Analog Scale (VAS) pain score and the McGill-Melzack Pain Questionnaire (MPQ) were used to evaluate pain, the State-Trait Anxiety Inventory (STAI) was used to measure the state and trait anxiety status, and the SF-36 was used to evaluate the quality of life.

The study was conducted as double-blind. All data were collected by a nurse independent of the researchers. Both practitioners, one giving Reiki and the other giving sham Reiki, entered the patient's room together for the procedure and left together. A nurse who did not know which group the patients belonged to collected the data. The patients were not disclosed to which group they were assigned. İt was only the practitioners who knew which individuals were in each group. The Reiki procedure and the data collection were both conducted with the patient in a supine position in bed.

Reiki touch therapy was performed once a week for 4 weeks by a researcher who had received training on practicing Reiki, on 25 patients in the experimental group and sham Reiki was performed on 25 patients in the control group by a specialist from the Anesthesia and Algology Department (each application lasted about 30 minutes). The applications took place in a quiet room in the outpatient department. During both the Reiki and the sham Reiki, the hands of the practitioner remained in each position in 11 regions of the patient's body (the channels through which energy enters the body) for 3 to 5 minutes (respectively the head, eyes, forehead, neck, heart, stomach [solar plexus], navel [sacral plexus], groin, knees, ankles, and feet). The hands remained in the areas of pain for more than 5 minutes.

Before and after each session, a pain assessment was made using the VAS pain score and MPQ. After that, the State Anxiety Inventory was filled out. In addition to the VAS pain score, the MPQ, State Anxiety Inventory (at the end of the fourth and last session), health-related quality of life Short Form-36 (SF-36), and Trait Anxiety Inventory were applied again (Table 1).

Measurement scales

Information Form

This is a patient description form created by the researcher via literature review, consisting of 14 questions. The questions are intended to access sociodemographic characteristics.

Visual Analog Scale (VAS pain score)

The VAS was used to determine the intensity of pain. The individuals were asked to indicate the intensity of the pain they felt on a 10-cm horizontal

TABLE 1. Research Action Plan

Groups	Reiki Weeks	Data Gathering Instruments Applied Before Sessions	Application	Data Gathering Instruments Applied After Sessions
Experimental group				
	First session	Data form, VAS pain score, MPQ, State-Trait Anxiety Inventory	Reiki	VAS pain score, MPQ, State Anxiety Inventory
	Second session	VAS pain score, MPQ, State Anxiety Inventory	Reiki	VAS pain score, MPQ, State Anxiety Inventory
	Third session	VAS pain score, MPQ, State Anxiety Inventory	Reiki	VAS pain score, MPQ, State Anxiety Inventory
	Fourth session	VAS pain score, MPQ, State Anxiety Inventory	Reiki	VAS pain score, MPQ, State-Trait Anxiety Inventory
Control group				
	First session	Data form, VAS pain score, MPQ, State-Trait Anxiety Inventory .	Sham Reiki	VAS pain score, MPQ, State Anxiety Inventory
	Second session	VAS pain score, MPQ, State Anxiety Inventory	Sham Reiki	VAS pain score, MPQ, State Anxiety Inventory
	Third session	VAS pain score, MPQ, State Anxiety Inventory	Sham Reiki	VAS pain score, MPQ, State Anxiety Inventory
	Fourth session	VAS pain score, MPQ, State Anxiety Inventory	Sham Reiki	VAS pain score, MPQ, State-Trait Anxiety Inventory

Abbreviations: MPQ, Melzack Pain Questionnaire Form; VAS, Visual Analog Scale.

line marked with numbers from 0 to 10, where 0 indicated no pain and 10 unbearable pain.

McGill-Melzack Pain Questionnaire Form

The Turkish validity and reliability of the scale, developed by Melzack and Targerson (1971), was demonstrated by Kuğuoğlu et al.[34] This form is the most widely examined multidimensional method for pain assessment. The form consists of 4 sections. The first section has statements about the location of the pain, the second section has statements describing the pain, the third section assesses the duration of the pain, and the fourth section assesses the severity of the pain. The Cronbach α value obtained from the tool was found to be 0.98.[34-37] In this study the Cronbach α value was calculated to be 0.78.

The State-Trait Anxiety Inventory

The STAI comprises 2 separate inventories, each with 20 questions. This is a pen and paper test to determine the level of trait (momentary) and state anxiety.

1. State Anxiety Inventory (STAI-state): This inventory determines how a person feels at a particular moment and under particular conditions.
2. Trait Anxiety Inventory (STAI-trait): This inventory determines how a person feels independent of situations and conditions in which they find themselves.[38]

When applying the inventory scale, the State Anxiety Inventory is given first.

The feelings or behaviors specified on the State Anxiety Inventory were to be marked (1) not at all, (2) a little, (3) a lot, or (4) completely. After the State Anxiety Inventory, the Trait Anxiety Inventory was applied. In responding to this scale, the thoughts, feelings, or behaviors represented by the items were to be indicated by selecting (1) almost never, (2) occasionally, (3) often, or (4) all the time, as appropriate. The scores on each scale can range from 20 to 80.[38-40] The power analysis for this study was found to be between 0.88 and 0.89 for the Trait Anxiety Inventory and between 0.85 and 0.93 for the State Anxiety Inventory.

Short Form-36

The generic scale SF-36 is a quality of life scale, developed for Rand Corporation by Ware et al in 1988 and updated to its present form. The study used the updated Turkish version tested for validity and

reliability by Koçyiğit et al[41] in 1999, as a basis. The SF-36 scale comprises 36 multiple-choice questions. In the reliability testing of the scale, the Cronbach α coefficient of each subscale was found to be between 0.7324 and 0.7612. The scale consists of the following dimensions: physical functionality (restrictions in physical activity because of health problems), physical role (restrictions in daily life activities because of health problems), physical pain, general health (a person's evaluation of their general health), liveliness/energy, mental health, social functionality, and emotional role (restriction in daily life activities because of mental health problems). A high score on the scale indicates a good level of health, while a low score indicates deterioration in health.[31-44] In this study, the Cronbach α coefficients for the subscales were found to be between 0.67 and 0.91.

Data analysis

The sample size for the experimental and control group was calculated at the power of 80%. Twenty-five participants were included in the experimental group and 25 in the control group. The data were analyzed using the SPSS Version 20.0 and the results reporting P values $< .05$ were considered statistically significant. The statistical analysis for the data was conducted using the χ^2 test, independent-samples test, Mann-Whitney U test, Wilcoxon signed rank test, and frequency tests.

Ethical principles of the study

Prior to starting the study, ethics committee approval was obtained from the Clinical Research Ethics Committee of Bursa Uludag University Medical Faculty (Decree No. 2015-12/22) and institutional permission from the Algology and Anesthesia Department of Bursa Uludag University Medical Faculty Hospital. The participants completed an informed consent form. Individuals participating in the study were informed of their right to leave whenever they wanted to, and their written informed consent was taken. The Reiki practitioner (the researcher) had taken Reiki 1, Reiki 2, and Violet Flame Reiki courses and performed the Reiki procedures.

RESULTS

The mean age of the patients who took part in the study was 43.56 ± 9.52 years in the experimental group and 40.68 ± 10.20 years in the control group. Of the patients, 88% were female and 12% were male, 34% were university graduate, 41% were married, and 30% were not employed. No statistically significant difference was found between the experimental and control groups with regard to gender ($P = 1.000$), age ($P = .307$), education level ($P = .835$), or marital status ($P = 1.00$).

Examining their illness, 56% of the patients had another chronic illness in addition to fibromyalgia and the highest rate of these was migraine (30.45%). Sixty-two percent of the participants did not regularly take any medication and those taking medication mostly took analgesics (48.5%) and antidepressants (45.05%). No statistically significant difference was found between the experimental and control groups with regard to duration of fibromyalgia pain ($P = .662$), presence of a chronic illness ($P = 1.00$), current illnesses ($P = .39$), continuous use of medication ($P = .771$), medications taken ($P = .930$), nonpharmacological methods used to relieve pain ($P = .152$), or knowledge of Reiki ($P = .774$).

No statistically significant difference was found between the individuals in the experimental and control groups with regard to the mean VAS pain scores before the first Reiki session ($P = .394$), the mean VAS scores before the second Reiki session ($P = .138$), or the mean VAS pain scores before the third Reiki session ($P = .144$). Before the fourth Reiki session ($P = .016$), the mean VAS pain score of the experimental group was found to be significantly lower than that of the control group. Comparing the differences between the mean VAS pain scores before and after the sessions of the individuals in the experimental and control groups, a statistically significant difference was found between the means of the first ($P = .012$), second ($P = .002$), and fourth ($P = .020$) Reiki sessions. However, no statistically significant difference was found between the means of the third Reiki session ($P = .246$) (Table 2).

Examining the MPQ scores of the experimental and control groups according to the application order prior to the application sessions, no statistically significant difference was found between the first ($P = .394$), second ($P = .138$), and third Reiki sessions ($P = .144$). However, in the fourth Reiki session a statistically significant difference was found ($P = .016$). Examining the differences between a comparison of the MPQ scores of the experimental and control groups before and after the sessions, a statistically significant difference was found between

TABLE 2. Comparison Between the Experimental and Control Group Patients With Regard to the Mean VAS-Pain Scores and Differences[a]

Groups	Significance				Application Order					
	First: BA[b] VAS Pain Scores $\bar{X} \pm Ss$	Second: BA[b] VAS Pain Scores $\bar{X} \pm Ss$	Third: BA[b] VAS Pain Scores $\bar{X} \pm Ss$	Fourth: BA[b] VAS Pain Scores $\bar{X} \pm Ss$	First: BA-AA[c] VAS Pain Scores $\bar{X} \pm Ss$	Second: BA-AA[c] VAS Pain Scores $\bar{X} \pm Ss$	Third: BA-AA[c] VAS Pain Scores $\bar{X} \pm Ss$	Fourth: BA-AA[c] Vas Pain Scores $\bar{X} \pm Ss$
Experimental	6.16 ± 2.95	4.72 ± 2.26	3.08 ± 2.72	2.16 ± 2.35	−3.32 ± 2.24	−3.16 ± 2.28	−1.88 ± 1.81	−1.24±1.42
Control	5.72 ± 2.18	3.72 ± 2.49	4.24 ± 2.72	3.48 ± 2.10	−1.92 ± 1.73	−1.36 ± 1.72	−1.24 ± 1.09	−.40±.57
P	.394	.138	.144	.016	.012	.002	.246	.020

Abbreviation: VAS, Visual Analog Scale.
[a]Independent-samples Mann-Whitney *U* test.
[b]BA (before application): Comparison of the VAS pain scores of the experimental and control groups prior to carrying out any procedure.
[c]BA-AA (before application-after application): Comparison of the VAS pain scores of the experimental and control groups before and after the Reiki procedure.

the first ($P = .012$), second ($P = .002$), and fourth Reiki sessions ($P = .020$). However, no significant difference was found with regard to differences before and after the third Reiki session ($P = .246$) (Table 3).

In the evaluation performed before the first, second, third and fourth Reiki sessions of the experimental and control groups, no statistically significant difference was found between the STAI-state ($P = .387$) and mean STAI-trait scores before the first Reiki sessions ($P = .409$). In an evaluation of the differences between the mean STAI-state ($P = .005$) and STAI-trait scores ($P = .003$) before and after the fourth Reiki session, a statistically significant difference was found (Table 4).

Comparing the experimental and control groups with regard to the quality of life according to the mean differences in the first and fourth weeks, a statistically significant difference was found between the physical function ($P = .000$), energy ($P = .009$), mental health ($P = .018$), and pain ($P = .029$) lower dimension scores (Table 5).

DISCUSSION

This study was conducted to examine the impacts of Reiki touch therapy applied to the patients followed in a pain clinic with fibromyalgia diagnosis on pain, anxiety, and quality of life. In individuals diagnosed with fibromyalgia, symptoms disrupting comfort and well-being coexist.[44-49] The study determined that 48.5% of the patients took analgesics, 45.05% antidepressants, and 22.45% vitamin-containing medicine to cope with symptoms. Similarly in the literature it is indicated that depression and anxiety are encountered frequently in fibromyalgia.[10,50,51] Denison[33] found that 80% of patients diagnosed with fibromyalgia took painkillers, 86% antidepressants, and 86% vitamin-containing medicine. Semiz et al[48] determined that 30% of patients with fibromyalgia took analgesics. Madenci et al[49] found that cases with FMS had depression and anxiety. Our study results and the literature reviews demonstrate that it is necessary to handle patients diagnosed with fibromyalgia with both a pharmacological and nonpharmacological approach in a multidisciplinary way.

Fibromyalgia syndrome is a chronic syndrome characterized by widespread pain in the musculoskeletal system and sensitive painful points in certain areas of the body.[1,52,53] The results of the

TABLE 3. Comparison of the MPQ Scores and Mean Point Difference (n = 50)[a]

	Significance				Application Order			
Groups	First: BA[b] MPQ $\bar{X} \pm Ss$	Second: BA[b] MPQ $\bar{X} \pm Ss$	Third: BA[b] MPQ $\bar{X} \pm Ss$	Fourth: BA[b] MPQ $\bar{X} \pm Ss$	First: BA-AA[c] MPQ $\bar{X} \pm Ss$	Second: BA-AA[c] MPQ $\bar{X} \pm Ss$	Third: BA-AA[c] MPQ $\bar{X} \pm Ss$	Fourth: BA-AA[c] MPQ $\bar{X} \pm Ss$
Experimental	3.52 ± 1.47	2.84 ± 1.24	1.80 ± 1.47	1.28 ± 1.27	− 2.00 ± 1.38	− 2.04 ± 1.20	− 1.04 ± 1.01	− 0.52 ± 1.12
Control	3.20 ± 1.00	2.44 ± 1.26	2.24 ± 1.30	2.08 ± 0.99	− 1.20 ± 0.81	− 0.40 ± 1.73	− 0.76 ± 0.77	− 0.32 ± 0.47
P	.394	.138	.144	.016	.012	.002	.246	.020

Abbreviation: MPQ, Melzack Pain Questionnaire Form.
[a]Independent-samples Mann-Whitney *U* test
[b]BA (before application): Comparison of the MPQ pain scores of the experimental and control groups prior to carrying out any procedure.
[c]BA-AA (before application-after application): Comparison of the MPQ pain score differences of the experimental and control groups before and after the Reiki procedure.

experimental-control group comparisons in the study revealed that the Reiki energy therapy is an effective method for reducing pain in patients with fibromyalgia (Tables 2 and 3). The H1 hypothesis was accepted. The findings of the study are in agreement with similar studies investigating the effectiveness of the Reiki application on stopping pain in patients suffering from rheumatoid arthritis,[54] lumbar pain,[55] chronic pain,[56,57] chest pain,[58] and oncologic pain.[28] In addition, when examining the literature, although Reiki was found to be more effective than sham Reiki in relieving pain in the findings of Kent et al,[59] significant results were also found in the sham Reiki-applied groups. This shows us that the placebo effect of sham Reiki is too strong to ignore. When we look at the literature, we see that McManus[60] reviewed existing clinical studies comparing the effect of Reiki and placebo, and showed that Reiki was more effective than placebo in 8 of 13 studies, but found no difference in 4 of them. The results of this study and similar studies in the literature demonstrate that Reiki application is an effective method for coping with pain.

Examining the state and trait anxiety status of the patients in the experimental and control groups who took part in the study, there was a decline in the anxiety levels of the patients in the control group, although partially. However, there was a more distinct and significant decline in the anxiety status of the Reiki group, including the last week (Table 4). Examining similar studies in the literature, the study conducted by Bukowski and Berardi[31] with a 9-year-old child case found that the 11-session Reiki application increased the child's relaxation and comfort. Also Kundu et al[32] found that the Reiki application increased the relaxation and comfort in pediatric patients. Oliveira et al[57] found that Reiki application decreased stress levels in patients with chronic pain. Topdemir and Sarıtaş[61] determined that the Reiki application could be used effectively in controlling preoperative anxiety. The study results and literature reviews reveal the effectiveness of the Reiki application on coping with anxiety. The H2 hypothesis was accepted.

The studies conducted with patients diagnosed with FMS found that the quality of life was lower in these patients compared with the healthy control group.[62] In this study the physical function, energy, mental health, and pain lower dimension scores of the quality of life of the experimental group increased after the 4-week Reiki application in such a way that there was a

TABLE 4. Comparison of the Mean State-Trait Anxiety Inventory Scores and Mean Differences Between the Patients in the Experimental and Control Groups (n = 50)[a]

	Significance				Application Order			
Groups	STAI-State $\bar{X} \pm Ss$ First: BA[b]	STAI-State $\bar{X} \pm Ss$ Second: BA[b]	STAI-State $\bar{X} \pm Ss$ Third: BA[b]	STAI-State $\bar{X} \pm Ss$ Fourth: BA[b]	STAI-State $\bar{X} \pm Ss$ First: BA-AA[c]	STAI-State $\bar{X} \pm Ss$ Second: BA-AA[c]	STAI-State $\bar{X} \pm Ss$ Third: BA-AA[c]	STAI-state $\bar{X} \pm Ss$ Fourth: BA-AA[c]
Experimental	38.76 ± 12.61	34.6 ± 11.73	31.76 ± 12.65	29.80 ± 11.94	−0.22 ± 0.21	−0.19 ± 0.21	−0.14 ± 0.23	−0.16 ±0 .15
Control	41.60 ± 12.98	36.80 ± 12.86	33.48 ± 8.15	30.88 ± 9.64	−0.25 ± 0.18	−0.15 ± 0.13	−0.11 ± 0.22	−0.04 ± 0.13
P	.387	.540	.127	.566	.841	.514	.923	0.005
	1. STAI-Trait $\bar{X} \pm Ss$					**1-2. STAI-Trait Difference $\bar{X} \pm Ss$**		
Experimental	50.16 ± 12.70					−0.16 ± 0.08		
Control	52.72 ± 11.90					−0.04 ± 0.13		
P	.409					.003		

Abbreviations: STAI-state, State Anxiety Inventory; STAI-trait, Trait Anxiety Inventory.
[a]Independent-samples Mann-Whitney *U* test.
[b]BA (before application): Comparison of the State-Trait Anxiety Inventory mean scores of the experimental and control groups prior to carrying out any procedure.
[c]BA-AA (before application-after application): Comparison of the State-Trait Anxiety Inventory mean scores of the experimental and control groups before and after the Reiki procedure.

TABLE 5. Comparison and Distribution of the Quality of Life Subdimension Mean Scores and Mean Differences Between the Patients in the Experimental and Control Groups (n = 50)[a]

Quality of Life Subdimensions	Experimental Group	Control Group		Experimental Group	Control Group	
	First BA[b] $\bar{X} \pm Ss$	First BA[b] $\bar{X} \pm Ss$	*P*	First BA and Fourth BA[c] $\bar{X} \pm Ss$	First BA and Fourth BA[c] $\bar{X} \pm Ss$	*P*
Physical function	44.00 ± 26.14	55.00 ± 30.55	.167	1.0 ± 1.17	0.18 ± 0.34	.000
Physical role	13.00 ± 17.10	18.00 ± 21.37	.444	0.62 ± 0.97	0.50 ± 0.87	.651
Emotional role	15.33 ± 19.79	22.66 ± 20.34	.162	0.11 ± 0.49	0.22 ± 0.53	.737
Energy	31.40 ± 25.84	44.40 ± 25.95	.055	0.79 ± 1.07	0.16 ± 0.41	.009
Mental health	50.72 ± 26.65	63.20 ± 26.50	.150	0.56 ± 1.85	0.10 ± 0.27	.018
Social function	55.50 ± 38.70	59.00 ± 39.44	.727	0.50 ± 1.22	0.25 ± 0.99	.064
Pain	37.80 ± 28.58	47.20 ± 14.49	.204	1.64 ± 2.53	0.27 ± 0.35	.029
General health perception	42.80 ± 28.90	49.80 ± 31.73	.408	1.13 ± 2.93	0.27 ± 0.67	.138

[a]Wilcoxon signed rank test.
[b]BA (before application): Quality of life subdimension mean scores of the experimental and control groups prior to any intervention.
[c]First BA (before application) and fourth BA (before application): Quality of life subdimension mean score differences before the first and fourth Reiki sessions of the experimental and control groups.

statistically significant difference compared with the control group patients (Table 5). Similarly in the study conducted by Shirani et al[54] with patients suffering from rheumatoid arthritis, the physical function, energy/fatigue, mental health, and pain lower dimensions of the Reiki group significantly recovered compared with the control group. Also the findings of the study conducted by Denison[33] with fibromyalgia patients, the study conducted by Olson et al[63] with cancer patients, and the study by Orsak et al[64] with patients receiving chemotherapy demonstrated that there was an increase in the patients' quality of life. The findings of this study demonstrating the positive impacts of the Reiki energy therapy on quality of life are in agreement with the literature. The H3 hypothesis was accepted.

One of the strong aspects of the study was that the experimental and control groups were homogeneous in terms of their sociodemographic and disease characteristics. On the other hand, the perspective of the study was extended by evaluating the effectiveness of Reiki on patients via multiple parameters such as pain, anxiety, and quality of life (Table 1). In addition, the study was conducted as double-blind. A limitation was that the results acquired in the study comprised the cases included in the study and could not be generalized to the entire society. Additionally, as there is an inadequate number of studies evaluating the effectiveness of Reiki on patients with fibromyalgia, the results of the publications applying Reiki on other cases were also discussed.

CONCLUSION

In the weekly evaluations performed after the 4-week Reiki touch therapies, the pain levels of the patients diagnosed with fibromyalgia significantly decreased compared with the control group. The anxiety status of both the experimental and control group patients showed a decline after the Reiki application in the first, second, and third weeks. However, the anxiety status in the fourth week showed a decline only in the Reiki group. This result made us think that the lack of social support may have increased the anxiety levels in the control group. In addition, as a result of the study Reiki energy therapy created positive impacts on the quality of life. This change, which would create a significant difference especially in the physical function, energy, mental health, and pain lower dimensions, explains the reason for the decrease in the

patients' anxiety status. We clearly see that it is necessary to evaluate the pain, anxiety, and quality of life parameters of individuals diagnosed with fibromyalgia together and that Reiki can be used actively in regulating these 3 parameters. Thus, it is recommended that experimental studies aimed at the Reiki application be also conducted in patient groups with a larger sample size. Also, the necessary setting and legal infrastructure can be created to apply Reiki as a nursing intervention in every area where patient care is given. Reiki can be included in undergraduate education curricula and in the artistic skills of nursing.

Highlights

- After applying Reiki to the patients diagnosed with fibromyalgia once a week for 4 weeks, the pain levels in weeks 1, 2, and 3 decreased in such a way that there was a significant difference compared with the control group patients.
- The measurements performed on the patients diagnosed with fibromyalgia as a result of the 4-week Reiki application showed that the state and trait anxiety levels decreased in such a way that there was a significant difference compared with the control group.
- As a result of the 4-week Reiki application in the patients diagnosed with fibromyalgia, the quality of life significantly increased with regard to the physical function, energy, mental health, and pain lower dimension scores compared with the control group.

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