

Effect of yoga nidra on the self-esteem and body image of burn patients

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ABSTRACT

Background: This study was conducted to determine effect of yoga nidra on the self-esteem and body image of burn patients.

Materials and methods: This study was performed in a quasi-experimental model with pretest and post-test control groups. The domain of the study was formed with the patients at adult burn unit of a university. One hundred ten patients participated in the study. The data were collected using the Self-Description Form, the Rosenberg Self-Esteem Scale, and the Body Image Scale.

Results: After yoga practice, there was a statistically significant increase and improvement in the self-esteem and body image of the experimental group ($p < 0.05$). A statistically significant decline in the score average of pretest and post-test of body image of the patients in the control group was observed ($p < 0.05$).

Conclusion: It has been observed that yoga practice increases self-esteem and improves the body image of burn patients significantly.

1. Introduction

The type of injuries that cause psychological and physical problems in an individual and that occur due to the exposure of the skin layers to thermal, electrical, chemical agents, or radiation is called burn [1,2]. It is estimated that approximately 180,000 deaths occur every year due to this type of injury worldwide [3]. As a result of precautions, deaths due to this type of injury are less common in high-income and developed countries. Each year in the United States, nearly 40,000 individuals receive treatment as burn patients in hospitals, 30,000 of whom are treated in burn units and 3275 of whom lose their lives as a result of burns [4]. In 2016, in Turkey, 260 individuals lost their lives due to burns [5]. In the process of burn treatment and care, the self-esteem and body image of the patients are generally negatively affected due to the burns [6]. The self is defined as the individual's own feelings, attitudes, physical and mental characteristics, and self-evaluation and awareness [7]. The elements of the concept of the self are often perceived as definitions coming to the individual from his or her surroundings, and the individual evaluates the self with respect to these definitions [8]. The emotional aspect of the self is formed through these evaluations [9]. Self-esteem that constitutes the emotional part of the self implies that the individual accepts himself/herself as is and cherishes himself/her-

self [10]. Burns or sickness can affect the physical or psychological response of the individual to the sickness, and individual's self-esteem either makes the individual orient with the illness or affects this response negatively due to a conflict with the self [1,11]. There is a strong relationship between self-esteem and an individual's body image [12]. Conditions such as burn injuries, which cause changes in the individual's physiological functions and self-esteem, also affect the individual's body image [9,13].

Body image is the entirety of the positive and negative perceptions, reactions, and evaluations of an individual regarding his or her body in the individual's mind [14]. Body image, which is a multidirectional concept, possesses features that include psychological and social aspects and the physical development of the individual at the beginning of the life process [15]. Body image is shaped by the social position of the individual, previous experience, and values [15,16]. The significance/importance of the changes in the person's appearance or a reduction in physical functions differ with respect to the perception of the individual [1,17]. The evaluations of others also affect an individual's body image [18].

Burn injury alters the body image of the individual [1]. The injury that occurs on the skin of the patient causes the patient to think that the body integrity is broken [1,19]. The patient whose appearance is dis-

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torted and who has physical impairment due to burns may experience a change in body image and a personality crisis [1,18]. For example, patients think that their bodies have changed irreversibly after burn injuries, and they worry about the future and experience physical limitations [18]. Burn patients tend to approach their bodies negatively [18]. The tendencies toward stigmatization from others, such as prejudice, lack of eye contact, ignorance or compassion affect body image even more negatively [18]. Patients who encounter this negativity are more likely to get angry and afraid [18].

Yoga, which is one way of coping with these fears, is a body-mind method that has a history of 6000 years or more. Yoga means to unite, connect, or integrate with the universe, and it is widely practiced in the world [20,21]. During yoga, all the systems in the body physically work in harmony, allowing the individual to get rid of contradictory situations, reaching an integrity of body, mind, and soul [21–23]. The term yoga nidra, which is a type of yoga resulting in the integration of body, mind, and soul, means falling asleep through integrity [24]. In yoga nidra practice, to provide complete relaxation, the individual takes the Savasana position (lying on the back with lower and upper extremities separated from each other at approximately 45°) [25]. In yoga nidra practice, the nyasa technique, which is characterized by the consciousness wandering through the different parts of the body, is applied [24]. By wandering the consciousness through the physical body, the individual senses that the body is an energy vibration field [24,25]. When yoga nidra is practiced, the individual contacts the second energy layer by focusing on breathing, examines this layer, and monitors self-breathing without interfering with the process of inhalation-exhalation [24]. The energy of life, called prana, is taken by means of breathing and is distributed to all parts of the body [25].

The most effective method of training the mind in yoga nidra practice is the sankalpa technique. Sankalpa means “intention” or “proposal” in Sanskrit [24,26]. Negative tendencies and habits can be corrected by positive sankalpa so the whole self of the individual changes to a positive direction [24]. In this stage, the nature of the ego begins to be examined, and the physical self and the spiritual self are realized [24].

In the case of illness, which is defined as the deterioration of the balance between the body, mind, and soul, the nurse's comprehension of the individual's anxiety and developing appropriate coping strategies will improve the patient's prognosis [27]. Yoga is one of the most reasonable strategies to use with burn patients. For instance, Tenenhaus et al. have stated in their studies that yoga can help with the independence of burn patients [28]. Miller et al. have reported that yoga improves the cardiovascular function of burn patients and enhances quality of life in both functional and emotional areas [29]. Conn et al. have performed yoga with pediatric burn patients and have found that yoga diminished the somatic and cognitive anxieties of the patients [20].

The results of the literature review showed that there are a limited number of studies on yoga in burn patients [20,28,29], and none have been done in Turkey. Yoga, which enables the individual to turn to the inner world, is considered to be an effective strategy for increasing self-esteem and improving body image when practiced as an independent nursing act with burn patients. It is also expected that the study will contribute to the literature on nursing practices.

The purpose of our study is to determine the effect of yoga on the self-esteem and body image of burn patients. This study is seeking answers to three hypotheses.

H0. There is no effect of yoga on self-esteem and body image of burn patients.

H1. Yoga increases the self-esteem of burn patients.

H2. Yoga improves the body image of burn patients.

2. Method

2.1. Study design and settings

This study is a quasi-experimental pretest post-test with a control group clinical trial that was performed on 110 burn patients hospitalized in the Adult Burn Unit (ABU) of Inönü University Turgut Ozal Medical Center (Turkey). ABU has a 13-bed capacity. There are special rooms that are divided into chambers to prevent patients from being affected by each other. ABU has one faculty member and five assistant physicians working day and night shifts. A total of 15 nurses work the morning and night shifts at ABU: three in the morning and two during the night shift every single days of the week. Nurses provide daily wound care and routine treatment. To minimize the external factors that may affect the study results, data collection was performed in the 17:00–23:00 period in the evenings when no treatment or wound care for the patients were performed.

2.2. Data collection

The domain of our study was formed by inpatients treated in the ABU. The sample was formed through power analysis by 0.05 error, 0.95 confidence interval, 0.7 influence quantity with dual significance levels with 110 patients, of which 55 patients were in the experimental group and 55 patients were in the control group. An improbable sampling method was used in the sample selection from the domain, and patients who met the criteria were included in the study.

Patients between the ages of 18 and 85, who had a burn percentage of 30% or more, who were literate, had no communication problems, and did not have a diagnosed psychiatric disorder were included in the study. Intubation was determined as the exclusion criteria.

To prevent the groups from being influenced by each other, the data were first collected from the control group. Dependent variables of the study were self-esteem and body image; independent variable yoga nidra, and control variables were age, gender, marital status, educational level, occupation, income status, and percentage of burns determined.

2.3. Measurement scales

2.3.1. Self-Description Form

This form, created by the researcher through a literature review, consists of seven questions about the sociodemographic characteristics of the patients and the burn percentage.

2.3.2. Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale is a self-report scale consisting of 63 multiple-choice questions. The scale consists of 12 subdimensions. Rosenberg stated that subscales could optionally be used separately in the research [30].

The reliability of the scale was established by Çuhadaroğlu in 1985 [31]. Cronbach's alpha coefficient of the scale was determined to be 0.75. In our study, Cronbach's alpha coefficient was determined to be 0.88. The first ten items of the scale were used to measure self-esteem appropriately for the purpose of our study.

The Rosenberg Self-Esteem Scale consists of five positive items and five negative items. It is a 4-grade Likert-type measure with “very true,” “true,” “false,” and “very false” options, and five of the questions are encoded in reverse. According to the evaluation system within the scale itself: items 1, 2, 4, 6, and 7 question positive self-assessment and are scored ranging from 3 to 0. Items 3, 5, 8, 9, and 10 question negative self-evaluation and are scored ranging from 0 to 3. The total score ranges between 0 and 30; a score of 15–25 indicates that self-esteem is sufficient, and a score below 15 shows low self-esteem [31].

2.3.3. Body Image Scale

The Body Image Scale used in the study was developed by Secord and Jourand in 1953, and validity and reliability studies were conducted by Hovardaoglu in our country in 1989 [32]. Cronbach's alpha was found to be 0.91. In our study, Cronbach's alpha was detected to be 0.95. The scale contains 40 items, each of which relates to an organ or part of the body (arm, leg, face, etc.) or a function (such as sexual activity level). The total score of the scale with a response ranging from 1 to 5 for each item and the response options of "I do not like," "I am neutral," "I like," and "I like very much" ranges from 40 to 200, and the magnitude of the score obtained indicates the level of satisfaction. The cut-off score of the scale is 135, and those with a score below 135 are defined as having a lower body image [32].

2.4. Ethical approval

Ethical Committee Approval with number 2017/6–9 of the Ethics Committee of Inonu University Health Sciences Ethics Committee was given. Written permission was also obtained for conducting the study in the ABU. Individuals participating in the study were informed about their right to leave when they wanted, and their written informed consents were taken.

2.5. Intervention

Beginning in March 2017, pretest forms (Self-Descriptive Form, Rosenberg Self-Esteem Scale and Body Image Scale) were given to the control group first, and post-test forms (Body Sense Scale, Rosenberg Self-Esteem Scale) were given after 4 weeks of observation. After data were collected from the control group, then pretest forms were given to the experimental group. The post-test forms were given after 30 min of yoga practice for 3 days a week for 4 weeks for each patient. The data were collected from the patients by the researcher via a one-to-one interview. The application of data collection tools took about 20 min for each patient. To minimize the external factors that might affect the study results, data collection was performed during the hours of 17:00–23:00 in the evenings when no treatment or wound care for the patients were performed. For the collection of data, the Self-Descriptive Form, Rosenberg Self-Esteem Scale and Body Image Scale, which were prepared through a literature review, were used. The application plan of the study is shown in Fig. 1.

The researcher who would be practicing yoga participated in the yoga training program before the study. In the experimental group, the procedures to be performed were explained by via nursing intervention material (audio CD) including yoga practice. The study was carried out in a one-on-one style with patients on three days a week for 30 min in private patient rooms in the ABU.

The steps taken during the 30-min yoga practice are as follows.

1. The patient in the bed in a prone position (shavasana) was asked to close his or her eyes for 2 min to completely relax, take deep breaths, and dream of getting rid of tension through breathing and to keep his or her eyes closed during commands.
2. The patient was instructed by the researcher to mentally name all the parts of his or her body for 10 min to become aware of his or her whole body.
3. The patient was asked to repeat the positive thought (sankalpa) he or she desired to happen for 3 min with determination and awareness and to concentrate on this thought.
4. The patient was asked to visualize that for 2 min of time when he or she exhaled, so his or her life energy proceeded from the top of the head to the bottom of the spine and when he or she inhaled his or her life energy moved from the bottom of the spine to the top of the head.

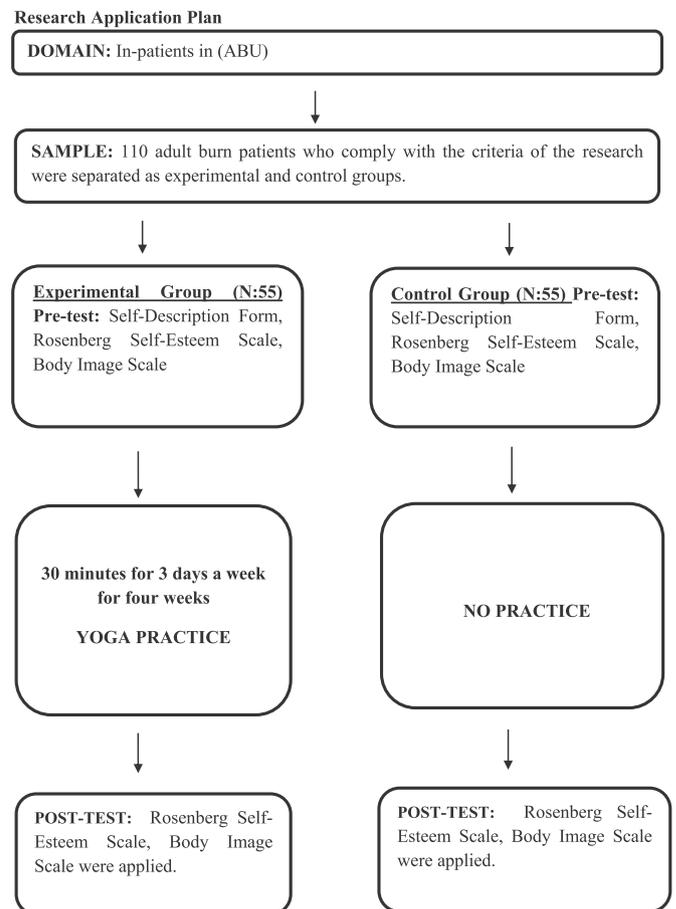


Fig. 1. Research application plan.

5. The patient was asked to dream about his or her body lying in bed for 13 min and to concentrate on breathing. The patient was asked to concentrate on the passage of the breaths through the stomach, the chest, the throat, and the nose and to count the breaths by counting down from 37 by repeating the numbers silently. The patient was kept in a deep silence [26,33].

2.6. Data analysis

A statistical program was used for the statistical analysis of the data this the study. The results were evaluated at a 95% confidence interval and a $p < 0.05$ significance level. In evaluating the descriptive characteristics of the control and experimental groups, a chi-square test was used for the comparison of percentage, mean, standard deviation, and control variables. An independent sample t -test was used for inter-group self-esteem and body image mean score comparison, a paired sample test was used for in-group self-esteem, a body image mean score comparison was used after yoga practice, and Cronbach's alpha was used in reliability analysis.

3. Results

The distribution of descriptive characteristics for the individual patients included in the study are shown in Table 1. There was no statistically significant difference between the groups in terms of age, gender, marital status, education level, occupation, income status, and burn percentage in the experimental and control groups of the study ($p > 0.05$). The results show that both groups have a homogeneous

Table 1
Distribution of descriptive characteristics of patients with respect to groups.

Group	Control (n = 55) Frequency (%)	Experimental (n = 55) Frequency (%)	p	
Age				
18-38	32 (58.2)	30 (54.5)	0.21	
39-59	11 (20)	18 (32.7)		
60-85	12 (21.8)	7 (12.7)		
Gender				
Female	33 (60)	25 (45.5)	0.12	
Male	22 (40)	30 (54.5)		
Marital Status				
Married	39 (70.9)	42 (76.4)	0.51	
Single	16 (29.1)	13 (23.6)		
Educational Level				
Literate	18 (32.7)	13 (23.6)	0.24	
Elementary school graduate	17 (30.9)	14 (25.5)		
High school graduate	17 (30.9)	19 (34.5)		
University degree	3 (5.5)	9 (16.4)		
Occupation				
Blue-collar worker	6 (10.9)	10 (18.2)	0.35	
Civil servant	4 (7.3)	5 (9.1)		
Self-employed	16 (29.1)	16 (29.1)		
Retired	2 (3.6)	1 (1.8)		
Housekeeper	27 (49.1)	20 (36.4)		
Unemployed	0 (0.0)	3 (5.5)		
Income level				
Expenditures exceed income	41 (74.5)	36 (65.5)		0.51
Income equals expenditures	12 (21.8)	15 (27.3)		
Income exceed expenditures	2 (3,6)	4 (7,3)		
Burn percentage				
30-45	41 (55.4)	33 (44.6)	0.26	
46-61	10 (38.5)	16 (61.5)		
> 62	4 (40)	6 (60)		

Table 2
Comparison of test mean scores of pretest for self-esteem and body image for the patients of the control and experimental groups.

Variable Measures	Group	Group		Independent Sample t-test
		Control (n = 55)	Experimental (n = 55)	
		Mean ± SD	Mean ± SD	
Self-Esteem	Pre-test	15.49 ± 5.06	15.56 ± 5.57	t = 0.72 p > 0.05
	Post-Test	15.16 ± 5.49	17.65 ± 6.58	
Body Image	Pre-test	121.47 ± 28.48	117.34 ± 26.50	t = 2.15 p < 0.05
	Post-Test	120.85 ± 28.28	135.63 ± 24.43	

distribution with respect to their descriptive characteristics. The comparison of the self-esteem and body image pretest and post-test mean scores of the patients in the control and experimental groups are shown in Table 2.

The pretest self-esteem and body image mean scores of the control group were determined to be 15.49 ± 5.06 and 121.47 ± 28.48, respectively, (p = 0.94). The pretest self-esteem and body image mean scores of the experimental group were determined to be 15.56 ± 5.57 and 117.34 ± 26.50, respectively, (p = 0.43). While the self-esteem of the experimental group was higher in the pretest than in the control group, it was found that body image was lower, but there was not a statistically significant difference between the two groups.

The mean scores of self-esteem and body image post-test in the control group were determined to be 15.16 ± 5.49 and 120.85 ± 28.28, and the mean scores of the experimental group were determined to be 17.65 ± 6.58, 135.63 ± 24.43. It was determined

that the self-esteem (p < 0.05) and body image mean scores (p < 0.05) of the patients in the experimental group increased. Statistically, a significant difference between the groups was detected.

The comparison of the self-esteem and body image in-group pretest and post-test mean scores of the patients in the experimental group are shown in Table 3.

The self-esteem mean scores of the patients in the experimental group were 15.56 ± 6.40 in the pretest and 17.65 ± 6.58 in the post-test. The body image mean score of the patients in the experimental group were 117.34 ± 26.50 in the pretest and 135.63 ± 24.43 in the post-test. There was a statistically significant difference between the self-esteem and the body image mean scores of the experimental group (p < 0.05).

The comparison of self-esteem and body image pretest and post-test mean scores of the patients in the control group are shown in Table 4.

The self-esteem mean scores of the patients in the control group were 15.49 ± 5.06 in the pretest and 15.16 ± 5.49 in the post-test. In the control group, the body image mean scores of the patients were 121.47 ± 28.48 in the pretest and 120.85 ± 28.28 in the post-test. While the decrease in the self-esteem score of the control group was statistically insignificant (p > 0.05), the deterioration of body image was statistically significant (p < 0.05).

Table 3
Comparison of within group pretest and post-test mean scores for self-esteem and body image of the experimental group patients.

Variables	Pre-test	Post-test	t	p
	Mean ± SD	Mean ± SD		
Self-Esteem	15.56 ± 6.40	17.65 ± 6.58	2.42	p < 0.05
Body Image	117.34 ± 26.50	135.63 ± 24.43	6.81	p < 0.05

Table 4
Comparison of within group pretest and post-test mean scores for self-esteem and body image of the control group patients.

Variables	Pre-test	Post-test	t	p
	Mean ± SD	Mean ± SD		
Self-Esteem	15.49 ± 5.06	15.16 ± 5.49	0.68	p > 0.05
Body Image	121.47 ± 28.48	120.85 ± 28.28	5.69	p < 0.05

4. Discussion

The need for the use of yoga in the nursing practice of burn patients has become increasingly important in recent years. Tenenhaus et al. stated that yoga could help burn patients regain their independence [28]. Miller et al. noted that yoga improves the cardiovascular function of burn patients and improves their functional and emotional quality of life [29]. Conn et al. performed yoga with pediatric burn patients and found that it reduced somatic and cognitive anxiety [20].

In the literature, there were no studies investigating the effect of yoga on the self-esteem and body image of burn patients. Therefore, the data obtained from this study were compared with the data of different studies on yoga in the literature.

In the study, it was determined that the self-esteem of the patients in the control and experimental groups was sufficient in the pretest (Table 2). The result of this study were similar to other studies [34,35]. It has been stated that spiritual beliefs are a way of coping with the trauma of burn patients and post-traumatic situations [36]. Receiving support from the relatives of patients in acute treatment stages [37], using different coping methods that enable them to be spiritually self-confident, suggests that self-esteem is sufficient for the pretest [2].

It has been stated that yoga is a body-mind method that helps build self-esteem [34]. Tamagawa et al. found that patients with breast cancer who participated in an 8-week period, six days a week with 45-min sessions of yoga were found to have an increase in self-esteem [38]. Koch et al. found that yoga significantly increased self-esteem in relation to menopausal symptoms in studies investigating the effect of yoga on the self-esteem of patients with breast cancer [39]. Taspinaret et al. determined that after seven weeks of yoga practice, the self-esteem of the participants increased in sedentary adults [35]. Cramer et al. found that yoga increased the self-esteem of abdominally obese women significantly [40]. Kovacicet et al. noted that yoga increased the self-esteem of patients in the experimental group to whom they applied a “yoga in daily life” program after breast cancer surgery [34].

When the pretest and post-test self-esteem mean scores were compared between the control and experimental group patients, it was determined that the self-esteem of the experimental group increased significantly after yoga practice (Table 3). There was no statistically significant change in the self-esteem of the control group who did not perform any intervention (Table 4). The results of this research confirm the hypothesis that “yoga increases the self-esteem of burn patients.”

In our study, it was observed that body image was low in the pretest, contrary to the studies investigating the effect of yoga on body image in different patient groups.

A discomfort in body perception is a common problem encountered in burn patients due to scar tissue and some amputated extremities [41,42]. Patients’ fear of losing functional parts of the body like feet and hands cause them to think that they could experience worse things [43] and cause them to have problems, such as depression, guilt, loss of relationships [44,45]. Negative societal reactions result in a more negative body image for the patients [20,43]. Due to these problems, the body image was low in the pretest. Yoga has been defined as a body-mind method that can be effectively used to improve treatment and body image globally [35,40]. In this study, a significant improvement was observed when the post-test body mean scores of the patients in the

experimental group were compared with the ones of the control group. Rahmani et al. found that when yoga exercises were practiced for patients with breast cancer, the body image of the yoga participants improved significantly [46]. Cramer et al. determined that yoga increased the body image significantly when they studied the effect of yoga on the body image of women with abdominal obesity [40]. Taspinaret et al. established that yoga improved body image in sedentary adults [35].

In this study, the patients in the control group, who did not receive any intervention, showed a significant deterioration in body image in the post-test (Table 4). Cramer et al. found that the deterioration in the body image of women with abdominal obesity without any yoga practice was statistically significant, thus supporting our study results [40]. When the results were evaluated, the research hypothesis was confirmed in the form of “Yoga improves the body image of burn patients.”

4.1. Limitations of the study

Because the patients enrolled in the study are confined to patients receiving inpatient treatment at the ABU, the results of the study cannot be generalized to all burn patients, but they can be used to compare with different research findings.

5. Conclusion and implications in practice

As a result of this study, it was determined that yoga is an effective method to increase the self-esteem and the body image in burn patients. The strengths and weaknesses of our study contain suggestions that will guide future study. It may be suggested that the nurses in burn units teach yoga practice to patients to use as a method of coping. In addition, it is advisable to investigate the effect of yoga on the stress anxiety situations of patients returning to their inner world from their own body image, in addition to investigating the effect of a patient’s spiritual approach on participating in yoga practice.

Statement

This study was produced from Ahmet Özdemir’s doctoral thesis under the supervision of Assistant Professor (Ph.D) Serdar Saritaş.

Conflicts of interest

Authors declare that they have no conflict of interests.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ctcp.2019.02.002>.

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