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The Effect of Laughter Therapy/Yoga on Physical and Mental Health: A Review of Nursing Graduate Theses / Kahkaha Terapisi/Yoganın Fiziksel ve Ruhsal Sağlık Üzerindeki Etkisi: Hemşirelik Lisansüstü Tezleri Üzerine Bir İnceleme

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Özet:

Amaç: Çalışma, Türkiye’de uygulanan kahkaha terapi/yogasının fiziksel ve ruhsal sağlık üzerindeki etkilerini konu alan lisansüstü hemşirelik tezlerini incelemek amacıyla yapıldı. **Gereç ve Yöntem:** Nitel araştırma deseninde planlanan çalışmada, veri toplama yöntemi olarak doküman incelemesi kullanıldı. Çalışma, 01.07.2023 ve 15.07.2023 tarihleri arasında, “kahkaha terapisi”, “kahkaha yogası” anahtar kelimeleri kullanılarak, “YÖK Ulusal Tez Merkezi” veri tabanında yıl sınırlaması olmaksızın tarama yapıldı. Veri toplamada araştırmacı tarafından hazırlanan “Tez Değerlendirme Formu” kullanılmıştır. Veriler değerlendirilirken tanımlayıcı istatistikler kullanıldı. **Bulgular:** Tarama sonucunda 2016-2023 yılları arasında 13 teze ulaşılmış olup tezlerin 7’sinin doktora, 6’sının yüksek lisans tezi olduğu saptandı. Tezlerin çoğunlukla 2022 yılında yapıldığı ve %61,55’inin Hemşirelik Anabilim Dalında yapıldığı, büyük bir çoğunluğunun (n=9) randomize kontrollü tipte olduğu belirlendi. Çalışma sonunda kahkaha terapisi/yogasının bireylerde ağrı, depresyon, yorgunluk, ruhsal belirti sıklığı, stres ve kaygıyı azaltmada; psikolojik iyi oluş düzeyi, uyku kalitesi, genel sağlık durumu ve yaşam kalitesini artırmada etkili olduğu saptandı. **Sonuç:** Araştırmamızda sonuç olarak, kahkaha terapisi/yogasının, bireylerin fiziksel ve ruhsal sağlığını geliştirmek için hemşireler için uygun bir yaklaşım olarak değerlendirilebileceği ve etkinliğinin test edilebileceği belirlenmiştir. Kahkaha terapisi/yogası, bakımda kullanılabilir, ilaçsız, basit ve ucuz bir tedavi yöntemi olarak önerilmektedir.

Anahtar Kelimeler: Kahkaha terapisi, kahkaya yogası, hemşirelik, tez.

Abstract:

Objective: The study was conducted to examine the postgraduate nursing theses on the effects of laughter therapy/yoga on physical and mental health in Turkey. **Materials and Method:** The study was planned in a qualitative research design and document analysis was used as the data collection method. The study was conducted between 01.07.2023 and 15.07.2023, using the keywords "laughter therapy", "laughter yoga", in the "YOK National Thesis Center" database without any year limitation. The "Thesis Evaluation Form" prepared by the researcher was used for data collection. Descriptive statistics were used to evaluate the data. **Results:** As a result of the search, 13 theses were reached between 2016 and 2023 and it was determined that 7 of the theses were doctoral theses and 6 were master's theses. It was determined that most of the theses were conducted in 2022, 61.55% of them were conducted in the Department of Nursing, and the majority of them (n=9) were randomized controlled type. At the end of the study, laughter therapy/yoga was found to be effective in reducing pain, depression, fatigue, frequency of mental symptoms,

stress and anxiety, and increasing psychological well-being, sleep quality, general health status and quality of life in individuals.

Conclusion: As a result of our study, it was determined that laughter therapy/yoga can be evaluated as a suitable approach for nurses to improve the physical and mental health of individuals and its effectiveness can be tested. Laughter therapy/yoga is recommended as a drug-free, simple and inexpensive treatment method that can be used in nursing care.

Keywords: Laughter therapy, laughter yoga, nursing, thesis.

1. Introduction

According to the definition of the Turkish Language Association, laughing is “laughing loudly, and laughing is 'to express one's feelings, usually audibly, in the face of events and situations that are pleasing or strange, or 'to have a happy, joyful time, to have fun, to have a good time “ (Özer and Ateş, 2019; TDK 2023). Generally, laughter is considered a visual expression of happiness or a feeling of joy, and it occurs with factors such as being tickled or hearing a joke. Laughter is generally accepted as an expression of happiness and joy (Yim, 2016; Kin, Yıldırım, Yeşilbalkan, 2017). Dr. Madan Kataria, an Indian doctor, suggested that laughter has positive physiological and psychological effects (Fujisawa et al., 2018). Based on this assumption, he developed a laughter therapy/yoga (Bressington et al., 2018).

Laughter therapy/yoga, classified as complementary therapy in medicine, is a unique form of exercise consisting of a combination of laughter and yoga breathing techniques, which allows us to laugh without any sense of humor (Kataria, 2021). Laughter therapy/yoga is used to protect and improve psychological, physical, spiritual, mental, and social functions and to encourage living a desired life through spontaneous and non-spontaneous laughter (Mora, 2010). Therapies that mainly include laughter and humor have been used in health services for centuries to obtain physiological and/or psychological health benefits (Kanbur & Baştemur, 2023). Although it is a different approach from other therapeutic methods, it focuses on the approach that both the body and mind can only be healthy when the psychological aspects of the brain are changed (Bal, 2021).

In recent research, meta-analysis, and systematic review studies, laughter therapy/yoga of individuals with certain age groups and health conditions, increasing the quality of life (Kuru & Kublay, 2017; Heidari, Ghodusi Borujeni, Rezaei, Kabirian Abyaneh & Heidari, 2020), and reducing the level of depression and anxiety (Han, Park, & Park, 2017; Dogan, 2020; Ozturk & Tekkas Kerman, 2022) have shown positive effects on physical and mental health, such as improving sleep quality (Zhao, 2019) and reducing the level of pain (Moon & Lee, 2022).

The literature review revealed that there are many articles and theses on the subject of laughter therapy/yoga in different fields, including nursing. Although there are systematic reviews (Van der Wal & Kok, 2019; Stiwı & Rosendahl, 2022; Üner, Sezer Balcı, & Kadiođlu, 2022) on the subject of laughter therapy/yoga in our country and abroad, no such study has been found in our country for postgraduate theses. Accordingly, this review aims to examine only the type, publication year, purpose, sample and number, methods, and results of graduate theses on laughter therapy/yoga in the field of nursing.

2. Methods

2.1.Type of research

This study was conducted using the document review technique, one of the qualitative research methods, to examine the characteristics of postgraduate theses on laughter therapy/yoga in the field of nursing in Turkey (whether the thesis is a master's or doctoral thesis, year of publication, purpose of the theses, sample group, number of samples, design of the theses, laughter therapy/yoga practice session).

2.2.Population and sample

The population of the study consists of all postgraduate theses related to laughter therapy/yoga in the National Thesis Center Database of the Council of Higher Education. The sample of the study consists of accessible theses related to laughter therapy/yoga in the field of nursing. The search was conducted between July 1-15, 2023, and all theses that were accessed with the keywords "laughter therapy" and "laughter yoga", written by Nursing and/or Nursing departments, and in which the full text of the study was accessed were included in the study. The exclusion criteria were the absence of the words laughter therapy and laughter yoga in the title of the thesis. As a result of scanning the key words determined for the research, 14 theses on the subject were identified. One thesis that was not a nursing study was excluded from the evaluation. Thirteen theses that met the inclusion criteria were included in the study.

2.3.Data collection tools

A standard "Thesis Evaluation Form" was developed by the researcher to summarize the data and the data were evaluated accordingly. The content of the data summarization form includes the author, year, type, department, purpose, method (research type, implementation group, sample size, implementation session/duration) and results of the graduate theses included in the study. Numerical evaluations were used to analyze the data.

2.4.Data collection

In the first search in the National Thesis Center database, keywords were entered and three theses were reached. In the second stage, nine theses were reached by selecting nursing or nursing department. In the third search, the keywords "laughter therapy" and "laughter yoga" were entered and two theses were reached. No restriction was made in terms of research design and date range. As a result, a thesis that did not meet the inclusion criteria was not included in the study.

2.5.Ethical aspects of the research

In the study, there was no need to obtain Ethics Committee permission since all of the postgraduate theses examined in the study were approved to be accessible by their authors via the YÖK National Thesis Center data entry form.

2.6. Statistical analysis

Document review is the process of analyzing written, visual and auditory documents about the subject to be researched. It involves systematically analyzing the content of the sources (Yıldırım and Şimşek, 2013). In content analysis, SPSS 24.0 package (IBM Corp., Armonk, NY, USA) program was used. Number of units (n) and percentage (%) were used for descriptive statistics (number, percentage distribution and mean-standard deviation) in data analysis.

3. Results

As a result of this systematic review, 13 dissertations met the inclusion criteria between 2016 and 2023. It was determined that six of the theses were master's theses and seven were doctoral theses (Table 1). The first thesis, carried out using laughter therapy/yoga, was a doctoral thesis and was conducted in 2016. It was determined that the majority of theses (n=8) were made in 2022; three were quasi-experimental, one was experimental, and nine were randomized controlled experimental studies (Tables 1, 4, and 5).

Table 1. Distribution of graduate theses by type and year

Year	2016	2017	2018	2019	2020	2021	2022	2023	Total
Type									
Master Thesis	-	-	-	-	1	-	5	-	6
PhD Thesis	1	-	1	1	-	-	3	1	7
Total	1	-	1	1	1	-	8	1	13

When the theses included in the study were evaluated according to the nursing programs, 61.55% were conducted in the nursing department, 15.35% in the obstetrics and gynecology nursing department, 7.7% in the surgical diseases nursing department, internal diseases nursing department, and public health nursing department (Table 2).

Table 2. Distribution of the examined theses according to the nursing department/program

Nursing Department/Program	n	%
Department of Nursing	8	61,55
Department of Obstetrics and Gynecology Nursing	2	15.35
Department of Surgical Diseases Nursing	1	7,7
Department of Internal Medicine Nursing	1	7,7
Department of Public Health Nursing	1	7,7
Total	13	100

Table 3 presents the symptoms and parameters used to evaluate the effect of laughter therapy/yoga. Evaluating the effect of laughter therapy/yoga on anxiety and stress, four each on quality of life and sleep quality, two each on depression, pain and cortisol levels, beta endophrine level, serotonin level, fatigue, PMS symptoms, nausea and vomiting, psychological well-being, and mental health. symptom frequency,

physiological parameters, general health status, perception of work performance and attention level. In the majority of these studies, it was determined that laughter therapy/yoga had a positive effect on physical and mental symptoms and parameters.

Table 3. Symptoms and parameters evaluated in theses

Symptoms	Number of Theses	Result
Anxiety	4	It has reduced anxiety.
Stress	4	It has reduced stress.
Life Quality	3	It has increased the quality of life.
Sleep Quality	3	Sleep quality has improved.
Depression	2	Depression level has decreased.
Pain	2	Pain level decreased.
Cortisol Level	2	Saliva cortisol level decreased in 1 thesis, there was no change in serum cortisol level in 1 thesis.
Beta Endorphine Level	1	There was no change in beta endorphine level.
Serotonin Level	1	Serotonin level decreased.
Tiredness	1	The perception of fatigue is reduced.
PMS Symptoms	1	PMS symptoms are reduced.
Nausea-vomiting	1	Nausea and vomiting have decreased.
Psychological Well-Being	1	The level of psychological well-being has increased.
Mental Symptom Frequency	1	It reduced mental symptoms.
Physiological Parameters	1	It has been found to have a positive effect on physiological parameters.
General Health Status	1	It has been found to be effective on general health status.
Perception of Job Performance	1	It has increased the perception of job performance.
Attention Level	1	It has increased the level of attention.

When Tables 4 and 5 are examined, in the postgraduate theses examined, laughter therapy/yoga had a minimum of two sessions and a maximum of 22 sessions; it was determined that it was applied for a minimum of 30 minutes and a maximum of 50 minutes.

Table 4. Examination of master's theses

Author / Year	Purpose	Type of Study	Application Group	Number of Sample	Application Session/Time(minutes)	Result
Kamali, 2020	Determining the effect of laughter yoga on premenstrual (PMS) symptoms	Pretest-posttest quasi-experimental with control group	Women	Laughter group (n=32) Control group (n=48)	2 sessions / 30 minutes	It can be said that laughter yoga has a positive effect on both reducing PMS symptoms and making the person feel good (enthusiasm, energy level, mood, optimism, stress level, friendship level with group members, muscle relaxation level, mental relaxation level, and the desire to laugh for no reason).
Bedez, 2022	Investigation of the effect of laughter yoga on nausea, vomiting and anxiety	Randomized controlled	Hematological cancer patients	Laughter group (n=30) Control group (n=30)	6 sessions / 45 minutes	Laughter yoga has been found to reduce nausea, vomiting, and anxiety symptom distress in hematological cancer patients.
Kuzu, 2022	Determining the effect of laughter yoga on sleep quality, pain, anxiety level and physiological parameters.	Randomized controlled	Hematological cancer patients	Laughter group (n=22) Control group: (n=22)	14 sessions / 30 minutes	With laughter yoga, patients' sleep quality and oxygen saturation value increased; pain level, state anxiety level, respiratory rate and pulse values decreased. No change in body temperature was found.
Karagoz Ince, 2022	Determining the effect of laughter yoga on psychological well-being	Randomized controlled	Gynecological cancer patients	Laughter group (n=35) Control group (n=35)	12 sessions / 35 minutes	Laughter yoga increased the psychological well-being of patients.
Sahin, 2022	Determining the effect of laughter yoga on anxiety and stress levels	Randomized Controlled double blind	Postpartum women	Laughter group (n=71) Control group (n=71)	16 sessions / 30 minutes	Laughter yoga has been found to reduce the anxiety and stress levels of postpartum women.
Karakas, 2022	Evaluation of the effect of laughter therapy on perceived stress level and quality of life	Single blind, parallel group, randomized controlled	Women with breast cancer receiving chemotherapy treatment	Intervention group (n=21) Control group (n=21)	16 sessions / 40 minutes	Laughter therapy can be used as a reliable nursing intervention to reduce the perceived stress levels and improve the quality of life of women with breast cancer receiving chemotherapy.

Table 5. Examination of doctoral theses

Author / Year	Purpose	Type of Study	Application Group	Number of Sample	Application Session/Time(minutes)	Result
Kuru, 2016	Evaluation of the effect of laughter therapy on quality of life.	Pretest-posttest quasi-experimental with control group	Individuals staying in nursing home	Intervention group (n=32) Control group (n=33)	22 sessions / 30-35 minutes	After the laughter therapy application, the quality of life of the individuals staying in the nursing home increased.
Ozturk, 2018	Evaluation of the effect of laughter yoga on the frequency of psychological symptoms and salivary cortisol level.	Randomized controlled	Nursing 1st year students	Experimental group (n=36) Control group (n=36)	8 sessions / 40 minutes	In the first year students of the Department of Nursing; It has been determined that the laughter yoga intervention is effective in reducing mental symptoms and salivary cortisol.
Ozer, 2019	Investigation of the effect of laughter yoga on plasma beta endorphin level, pain intensity and sleep quality.	Randomized controlled	hemodialysis patients	Intervention group (n=33) Control group (n=34)	16 sessions / 30 minutes	Laughter yoga practice did not increase the beta endorphin levels of the patients who underwent hemodialysis treatment, but it was determined that it was effective in reducing the severity of pain, which is the most experienced symptom, and increasing sleep quality.
Kizilkaya, 2022	Determination of the effect of laughter yoga on depression and serotonin levels.	Pretest-posttest quasi-experimental with control group	Patients undergoing bariatric surgery	Experimental group (n=31) Control group (n=31)	10 sessions / 50 minutes	It was found that laughter yoga was effective in relieving depression after bariatric surgery and lowered serotonin levels, but this decrease was not significant.
Uner, 2022	Determination of the effect of laughter therapy on general health status, sleep quality and stress level.	Randomized controlled	Nursing students	Experimental group (n=35) Control group (n=35)	8 sessions / 45 minutes	Laughter therapy was highly effective on improving perceived stress, general health, and sleep quality.

Table 5. (cont.) Examination of doctoral theses

Koroglu Kaba, 2022	Determining the effects of laughter therapy and mindfulness practices on fatigue and work performance perception and attention levels.	Randomized controlled	Nurses	Laughter group (n=33) Mindfulness group (n=34) Control group (n=34)	16 sessions / 30-45 minutes	Laughter therapy and mindfulness practices during the process they were applied decreased the nurses' perception of fatigue, increased their sustainable attention levels and individual job performance perceptions.
Eraydin, 2023	Laughter therapy; Investigation of the effect on serum cortisol level, depression, anxiety, stress levels and quality of life.	Pretest - posttest experimental with control group	Patients receiving hemodialysis treatment	Experimental group (n=40) Control group: (n=40)	12 sessions / 50 minutes	Although laughter therapy does not affect the serum cortisol levels of hemodialysis patients, it is an effective therapy in reducing depression, anxiety and stress levels and increasing the quality of life.

4. Discussion

Laughter is a natural part of our lives; it is a natural, sincere, innate, universal reaction that we give as a reaction to a humorous stimulus (Öztürk, 2018). By combining laughter and breathing techniques, it has started to be used in the field of traditional and complementary medicine today as "Laughter Therapy/Yoga" (Morreall, 1983). The results of this study reflect the effects of laughter therapy on the physical and mental health of individuals with different samples and health conditions.

When Table 1 is examined in the research, it is seen that the theses containing Laughter Therapy/Yoga in experimental design were mostly made at the doctoral level and in 2022 at most. Conducting these studies as randomized controlled, pre-test post-test, single or double-blind, experimental, and quasi-experimental with control groups increased the level of evidence and increased the debatability of the integration of these methods in nursing care practices, including international studies. When the same table is examined, it is understood that nursing research has focused on holistic treatment methods in line with the increasing patient demand for complementary medicine practices in recent years.

Laughter therapy/yoga provides laughter without any jokes, comedy, or humor and supports the realization of heartfelt laughter that does not involve cognitive thinking in individuals. In other words, it is based on the argument that the body cannot distinguish between real and unreal laughter (Kataria 2018). Based on this, according to Auerbach et al. (2014), it is assumed that stimuli associated with laughter can affect health positively by creating distraction (Auerbach, Hofmann, Platt, & Ruch, 2014). In international studies, it has been shown that it reduces pain, fatigue, burnout, stress, anxiety, depression level, nausea, blood pressure and heart rate; It has been shown that sleep quality and well-being affect positively (Özer and Ateş, 2021; Çelik, and Kılınç, 2022; Heidari, Borujeni, Rezaei, Abyaneh, and Heidari, 2020). In fact, in this systematic research, when Tables 4 and 5 are examined, it is seen that laughter therapy/yoga provides effective results at certain rates in the researched areas in the majority of theses.

It was determined that laughter therapy/yoga was mostly investigated (four theses) for anxiety and stress in the theses that were the subject of the scan (Table 3). When we look at the thesis studies of laughter therapy/yoga on anxiety; Eraydın (2023) in his studies with hemodialysis patients, Bedez (2022) and Kuzu (2022) with hematological cancer patients and Şahin (2022) with postpartum women; stated in their thesis results that laughter therapy/yoga had positive effects on reducing anxiety. As a result of a randomized controlled study with cancer patients, laughter was performed with 17 patients and a control group of 17 people; eight sessions in total and 50 minutes of laughter therapy for each session were applied to the laughter group, and it was determined that the anxiety and stress levels of the patients decreased significantly after laughter therapy (Kim and Kim, 2021). With a similar result, another study with Parkinson's patients shows that laughter yoga exercises reduce anxiety in patients (Memarian, Sanatkar, & Bahari, 2017). In contrast, in another randomized controlled study involving individuals with Chronic Obstructive Pulmonary Disease (COPD), laughter yoga caused a positive change in quality of life and other parameters, but did not affect depression and anxiety (Fukuoka, 2016). In line with the research and

theses examined, it is seen that laughter therapy/yoga is most effective in reducing anxiety, although there are differences in the methods used in these studies.

When the thesis studies on the stress of laughter therapy/yoga were examined, they stated in their thesis results that laughter therapy/yoga had positive effects on reducing stress levels (Table 3). In a study conducted by Farifteh et al. (2014) with cancer patients before chemotherapy, they examined the effect of laughter yoga on stress and stated that laughter yoga reduces the stress that occurs before chemotherapy. Similarly, it has been emphasized that laughter yoga practiced by nurses during the Covid-19 pandemic period is an effective method for increasing life satisfaction while reducing the level of perceived stress and burnout (Çelik and Kılınç, 2022). Guleria and Manta (2021) have proven that laughter therapy is an effective method for reducing stress levels in nursing students. As a result, it can be said that laughter therapy/yoga is an effective method for reducing stress levels, in line with studies and theses in the literature.

In these studies, it was determined that quality of life and sleep quality were the other parameters in which the effect of laughter therapy/yoga was the most investigated after anxiety and stress levels (Table 3). Rouhi et al. (2020) stated in their study with individuals with coronary heart disease that laughter yoga alleviated psychological distress during the treatment process and increased the quality of life. In the experimental study with patients receiving hemodialysis treatment, laughter therapy was administered to 40 patients, and 40 patients were included in the control group. As a result of this research, we conclude that laughter therapy is an effective therapy for reducing depression, anxiety, and stress levels and increasing the quality of life of patients (Eraydın, 2023). Karakaş (2022) evaluated the effect of laughter therapy with breast cancer patients receiving chemotherapy treatment on perceived stress level and quality of life, while Kuru (2016) evaluated the effect of laughter therapy performed with individuals living in nursing homes on quality of life; It has been determined that laughter therapy/yoga is effective in increasing the quality of life and other symptoms (Table 3). In another randomized controlled study conducted with breast cancer survivors, laughter therapy was found to increase the quality of life and psychological resilience (Cho & Oh, 2011). In line with nursing graduate theses and research in the literature, it has been concluded that laughter therapy/yoga is effective in increasing quality of life.

The theses examined stated that laughter therapy/yoga had positive effects on improving sleep quality. Physiological parameters, pain, plasma beta endorphin level, general health status, stress, and anxiety were other objective and subjective findings investigated in these studies (Tables 4 and 5). In a randomized controlled thesis study by Özer (2019), it was found that as a result of 16 sessions (30 min each) of laughter therapy applied to hemodialysis patients, the sleep quality of the patients increased, and it was an effective method to reduce the severity of pain, which is the symptom most experienced by the patients. Similarly, 14 sessions (30 min per session) of laughter yoga, which was also applied in Kuzu's (2022) thesis study, were applied, and an increase in the sleep quality of hematological cancer patients was achieved. In addition, it was determined that oxygen saturation, which is one of the physiological

parameters of patients, decreased pain, respiratory rate, and pulse values. In a study conducted on elderly individuals, it was stated that there was a significant decrease in the pulse and systolic blood pressure values of individuals after laughter therapy (Yoshikawa et al. 2018).

In the literature, there is no definite information regarding the application period of laughter therapy/yoga. It was determined that laughter therapy/yoga was applied for a minimum of 30 min and a maximum of 50 min in the examined theses (Tables 4 and 5). It is understood in these theses that laughter therapy/yoga is practiced for an average of 30-45 minutes. According to Ripoll and Casado (2010), the recommended duration of individual sessions is a minimum of 20 minimum and a maximum of 2 hours, at least 8 weeks, and 2 sessions per week. According to Patra and Kumar (2019), it is recommended that each session should be at least 20 min, should be applied for at least 8 weeks, and that these sessions should be routine after the 8th week.

5. Conclusion and Recommendations

In this systematic study, laughter therapy/yoga was determined to be a cheap, safe, effective, and easily accessible method, and it has positive effects on quality of life, sleep quality, and physical and mental symptoms such as depression and pain, especially anxiety and stress. It was determined that nursing master's and doctoral thesis studies on laughter therapy/yoga in our country were conducted as randomized controlled pretest-posttest. It has been observed that the results of the research are mostly close to the international studies. Although the results obtained are effective, a randomized controlled design with more researchers and larger groups will help to increase the level of evidence of the study.

It is recommended that undergraduate, graduate, and clinical in-service nursing training programs be supported to develop themselves and become practitioners in laughter therapy/yoga and similar non-pharmacological treatment methods.

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