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Review Article

A Review of Nursing Thesis on Complementary and Supportive Medicine Practices for Patients with Osteoarthritis: A Systematic Review

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1. Introduction

Abstract

The aim of this study was to examine nursing thesis on complementary and supportive medicine practices for patients with osteoarthritis (OA) in Türkiye and to guide future related studies and nursing practices. The data in the study were obtained by searching the keywords "osteoarthritis", "complementary", "alternative treatment", "holistic complementary and alternative treatment", "integrative treatment", "nursing", "acupress", "massage", "aromatherapy", "reflexology", "reiki", "yoga, 'herbal treatment' in the database of the National Thesis Center of the Council of Higher Education after a literature review. A total of 359 thesis were reached as a result of screening with keywords. The study included 10 randomized controlled thesis conducted between 1997 and 2024 in the Department of Nursing, Institute of Health Sciences. According to the results of the study, complementary and supportive medicine practices (hot-cold compress application, ginger compress and flaxseed poultice compress application, aromatherapy massage (St. John's wort oil, black cumin oil, nettle-ginger oil, olive oil), acupressure application and reflexology were found to be effective in pain, fatigue, functional capacity, quality of life, self-efficacy symptoms of individuals diagnosed with osteoarthritis. It was concluded that complementary and supportive medicine practices such as hot and cold compress application, acupressure, aromatherapy (massage) application, and herbal treatment were used in patients with osteoarthritis. These practices were found to have positive effects in reducing pain, increasing self-efficacy and quality of life, decreasing mobility limitation and improving functional status in patients with osteoarthritis.

Keywords: Osteoarthritis, Nursing, Complementary and Supportive Medicine, Thesis

Osteoarthritis is an insidiously irreversible, progressive, degenerative joint disease that causes constructive damage to cartilage and bone, inflammation in synovial tissue, and osteophyte formation (1). It is stated that approximately 528 million individuals experience OA worldwide (2). It affects 1 in 7 adults in the United States (3). It is known that 73.0% of individuals living with OA are 55 years of age or older and are women (4). It is stated that 344 million people living with OA experience moderate or violent pain and can benefitting from rehabilitation (5). With the ageing population and growing obesity, the prevalence of OA is hoped to go on to rise universally (2). OA negatively affects many people worldwide due to its most important symptoms, loss of function and pain. OA is seen as one of the top 10 diseases that cause the most disability in developing countries. It is reported that 80.0% of OA patients have limited movement, and 25.0% have difficulty performing daily living activities (2). OA is a status that reduces the quality of life and negatively affects the daily functions of the individual (6,7). Studies have shown that as the severity of pain due to OA increases, fatigue increases, the quality of life of individuals decreases, the quality of sleep due to pain decreases, and conditions such as anxiety and depression occur (8–12).

It is emphasized that focusing on controlling the increasing quality of life and pain is important in treating and managing OA. Treatment methods include various non-pharmacological methods such as exercise, physiotherapy, aromatherapy, acupuncture, acupressure, massage, hot-cold applications

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(13,14), pharmacological treatments (drugs like opioids, acetaminophen and Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) and surgical interventions like intra-articular fluid change (15–17). When the literature is examined, it is seen that among the methods frequently used by individuals to relieve pain. It is seen that 43.4% have rest-activity restrictions, 38.8% apply something to the painful area, 33.7% apply massage to the painful area, and 32.6% apply hot applications (18). The most commonly used methods to relieve pain in OA patients are aromatherapy, massage, reflexology, and hot-cold applications, and it is generally seen that pain is reduced by applying oils like olive, black cumin, rosemary, lavender oil and ginger (19,20). The National Institute for Complementary and Integrative Health (NICIH) defines complementary and integrative medicine as a medical approach practiced by trained individuals that combines conventional medicine with Complementary Alternative medicine (CAM) practices that have been shown through science to be safe and effective (21).

It is important for the development of colleagues to support nurses receiving master's and doctoral education to conduct scientific studies on complementary and supportive medicine practices, to investigate the benefits and possible side effects of these methods, and to support the literature with randomized controlled studies. After analyzing the thesis studies on this subject, a general conclusion can be drawn about the depth, prevalence, effectiveness and applicability of complementary and supportive treatment methods applied to OA patients (21-34). This scientific article may provide health professionals with a perspective on the effective management of symptoms of OA patients and shed light on future studies on the subject.

2. Methods

As a result of the search with keywords, a total of 359 theses were reached. One thesis without open access was excluded. Full text and open access 358 theses were analyzed. After screening, 248 descriptive theses, outside the nursing field, did not include supportive and complementary practices, and excluded keywords were excluded from the study. Master's-doctoral theses and 10 randomized controlled theses in the field of nursing, which were conducted with OA patients and included complementary and supportive care, were included in the study. The sample selection flow chart of the study is given in Figure 1 (Prisma Flow Diagram). Two independent researchers summarised the studies and then compared and agreed upon. After the studies were identified, two authors independently reviewed the titles and abstracts of the studies. Then, the full articles of eligible studies were reviewed, and the reasons for the exclusion of each study were recorded.





The data were collected through a literature review. The keywords "OA", "complementary", "alternative treatment", "integrative treatment", "nursing", "acupress", "massage", "aromatherapy", "reflexology", "herbal treatment", "yoga" were searched in the literature and the database of the National Thesis Center of the Council of Higher Education Board. A total of 359 thesis were reached as a result of screening with keywords. The study included 10 randomized controlled thesis conducted between 1997 and 2024 in the Department of Nursing, Institute of Health Sciences (Table 3).

3. Results

Looking at the status of the thesis according to the distribution types, it was determined that three of them were master's thesis and seven of them were doctoral thesis (Table 1).

Types of Thesis	n	%
Master Thesis	3	30.0
Doctoral Thesis	7	70.0
Total	10	100.0

Table 1. Thesis by Distribution Types (n=10)

Table 2 shows the distribution of complementary and supportive medicine application thesis conducted with OA patients according to years. It is seen that one thesis was conducted in 2008, two thesis in 2012, one thesis in 2014, two thesis in 2018, two thesis in 2019, and one thesis in 2021 (Table 2).

Years	Years Number of thesis (n)	%
2008	1	10.0
2012	2	20.0
2014	1	10.0
2016	1	10.0
2018	2	20.0
2019	2	20.0
2021	1	10.0
Total Number of Thesis	10	100.0
Reached		

Table 2. Distribution of Complementary and Supportive Medicine Practice Thesis with OA Patients by Year (n=10)

Among the thesis examined, nurses conducting master's and doctoral thesis evaluated the effectiveness of different complementary and supportive applications on the local cold and hot application in case of pain, stiffness, inadequacy in physical functions and quality of life for different symptoms experienced by patients with OA, poultice and compress application in pain and inadequacy of physical functions, aromatherapy (massage with various oils), acupressure for quality of life, functional status and pain, and reflexology in pain and fatigue (22–31) (Table 3).

Complementary and Supportive Methods	Evaluation Parameters	Result
	Pain	Effective
Local hot application	Stiffness	
	Physically function	
	Quality of Life	
	Pain	Effective
Local cold application	Quality of life	
	Movement limitation	
	Functional status	
Ginger kidney compress application	Physically function	Effective
	Pain	
Flaxseed poultice compress application	Pain	Effective
	Hand functions	
Aromatherapy (Massage)		Effective
(Lavender, Eucalyptus, Ginger, Apricot kernel, Almond	Pain	
and sweet almond, Nettle-ginger essential and St. John's	Functional status	
wort oil application)		
Acupressure	Functional status	Effective
	Quality of life	
	Pain	
Foot Reflexology with Black Cumin Oil	Pain	Effective
	Fatigue	

Table 3. Distribution of Thesis on Problems Experienced by OA Patients and Complementary and Supportive Methods Applied for These Problems (n=10)

3.1. OA and local hot-cold application

It has been determined that local hot application/hot compress application improves physical function, pain and, public welfare perception and quality of life in patients with OA (23–25) (Table 4).

In studies where local cold application/ice application was applied to patients with knee OA, pain scores were degraded, and healing in physical functions was found (22,24,31).

3.2. OA and Aromatherapy (Massage)

Aromatic oil massage (Lavender, Eucalyptus, Ginger, Apricot Kernel, Almond and Sweet almond oil) in patients with OA reduces pain intensity, improves functional status and increases quality of life (26). St. John's wort oil massage applied to individuals with OA reduces pain and improves physical functions (29) (Table 4). It is stated that massage with nettle-ginger essential oil improves pain functions in OA patients (31)(Table 4).

3.3. OA and reflexology

In patients with knee OA, it was determined that knee and foot reflexology massage with black cumin oil reduced fatigue and pain in patients (30)(Table 4).

3.4. OA and acupressure

Acupress applied in OA patients has been found to pain relief, improving the quality of life and functional status (27) (Table 4).

3.5. OA and herbal compress application

It was determined that ginger compress application in OA patients reduced pain and increased physical functions compared to hot compress and the control group (25). Flaxseed poultice compress applied to patients with OA was found to cause improvement in patients' pain and hand functions (28) (Table 4)

Thesis Types Thesis Author Publication Vear	Thesis Title	Complementary and Supportive Methods Used	Objective	Method/Scale Used	Result
PhD Thesis Yildirim N. 2008	The Effect of Hot Application on Pain, Stiffness, Difficulties in Performing Daily Physical Activities and Quality of Life in Patients with Knee OA	Local hot application. Reasons for Using TAT -Pain -Abstinence -Difficulty with physical activities Quality of life	It was conducted to determine the effect of hot application on pain, stiffness, difficulties in performing daily physical activities and quality of life in patients with knee OA.	 It was conducted as an experimental research. It was conducted with 80 patients, 40 in the Experimental group and 40 in the Control group. A total of 15 times, every other day for 4 weeks, hot application with a digital moist heating pad was applied to the knee/knees affected by OA for 20 minutes. ACR Criteria Data Collection Form Hot Application Schedule WOMAC OA Index LK 3.1 SF-36 	It was found that the change in pain, physical function and health perception quality of life scores of individuals in the experimental group was important.
Master's Degree Thesis Uludag E. 2012	The Effect of Local Cold Application on Pain and Limitation of Movement in Patients with Knee OA	Local cold application Reasons for Using TAT -Pain and limitation of movement	It was conducted to determine the Effect of Local Cold Application on Pain and Limitation of Movement in Patients with Knee OA.	 Made as an experimental research It was done with a total of 70 individuals, 35 in the control group and, 35 in the experimental group. Cold application was applied to the knees affected by OA 15 times every other day for 20 minutes for 4 weeks. Sociodemographic Data Form Health Assessment Questionnaire (HRA) Numerical Rating Scales (NSR) Cold Application Schedule 	A significant difference was found in the pain reduction and limitation of movement complaint scores of patients in the experimental group after cold application.

Table 4. Summary of Nursing Thesis on Complementary and Supportive Methods in OA Patients (n=10)

PhD Theorie	Self-Management of Patients	Superficial local hot and cold	Self-Management of	√	It was planned as a	In the hot and cold
Thesis Aciksoz S. 2012	with Primary Knee OA Superficial Local Hot and Cold Applied Pain, Functional Status of Application Methods And Its Impact on Quality of Life	application. Using TAT Causes -Pain -Functional status	Patients with Knee OA Local Hot and Cold Applied Functional Status, Pain of Application Methods and to examine its effect on quality of life.	* * *	randomized controlled experimental study. 32 experimental hot application group, 32 control cold application group, 32 control group, a total of 96 patients. Western Ontario McMaster's Universities OA Index (Western Ontario McMaster's Universities OA I ndex=WOMAC) Quality of Life Scale (Nottingham Health Profile-NHP) Hot-Cold Application Form Introductory Information Form	application groups, there was a decrease in first- measurement pain scores, functional status scores, and quality of life scores after application compared to before application.
				\checkmark	Pain Scale (Visual	
PhD Thesis Senturk S. 2014	Effect of Ginger Kidney Compress Application to the Lumbar Region of Individuals with Knee OA on Pain Level and Physical Functions	-Hot Compress Application -Ginger Kidney Compress Application Using TAT Causes -Pain -Physical function	This study was conducted to determine the effect of ginger kidney compress applied to the waist region of individuals with knee OA on pain level and physical functions.	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	Anologous Scale-VASJIt was done as an experimental randomized controlled study.43 The experiment was conducted with a total of 124 people, including gingerbread kidney compress, 41 hot compresses, and 40 Control groups.Patient Introduction Form VAS WOMAC OA Index Hot Compress Application Ginger Kidney Compress Application It was practiced every day for 30 minutes at the same time for a week.	The decrease in VAS Pain and WOMAC OA Index scores of the individuals in the ginger kidney compress group was found to be higher and the difference was significant.

Tablo 4 (Continued)						
PhD	The Effect of Aromatherapy	-Aromatherapy Massage	It was conducted to	\checkmark	Designed as an	It has been determined that
Thesis	Massage on Knee Pain and	(Lavender, Eucalyptus, Ginger	determine the		experimental non-	aromatherapy massage is
Arslan D.	Functional Status in	oil, Almond oil, Sweet almond	Effect of		randomized study.	more effective than classical
2016	Individuals with OA	oil, Apricot kernel oil	Aromatherapy	\checkmark	33 aromatherapy massage	massage. It has been
		application)	Massage on Knee		groups, 30 classical	determined that
		-Classic Massage (Olive oil)	Pain and Functional		massage groups, 32	aromatherapy massage
		application	Status in		control groups, totaling 95	applied to individuals with
			Individuals with		patients.	OA reduces knee morning
		Using TAT	OA.	\checkmark	Individual identification	stiffness and pain and
		Causes			form	improves physically
				\checkmark	Visual Comparison Scale	functions.
		-Pain			(VCS)	
		-Functional status		\checkmark	The Western Ontario and	
					McMaster University	
					(WOMAC) OA Index	
Master's Degree	The Effect of Acupress	-Acupressure	This study was	✓	A total of 8 sessions 2	Acupressure was found to
Thesis	Applied to Individuals with	illeapi coour c	conducted to		sessions per week for 4	reduce pain intensity.
Avdemir T.	Knee OA on Pain, Functional	Using TAT	determine the		weeks, were applied to	improve functional status
2018	Status and Quality of Life	Causes	effect of		individuals with knee OA	and quality of life in
-010	Status and Quanty of Life	Guibeb	acupressure on	\checkmark	Pre-test-post-test control	individuals with knee OA
		-Pain	pain. functional		group experimental study	
		-Functional status	status and quality	\checkmark	It was conducted with a	
		-Quality of life	of life in individuals		total of 90 patients, 45 in	
		Quality of mo	with knee OA.		the acupress group and 45	
					in the control group.	
				\checkmark	Patient information form	
				\checkmark	Visual Analog Scale (VAS)	
				\checkmark	WOMAC OA Index. SF-36	
					Quality of Life Scale	

Tablo 4 (Continued	d)					
PhD Thesis Babadag Savas B. 2018	The Effect of Flaxseed Poultice Compress Application on Pain and Hand Functions in Patients with Hand OA	-Flaxseed Poultice Compress Using TAT Causes -Pain -Hand Functions	It was performed to evaluate the effect of flaxseed poultice compress application on pain and hand function in individuals with primary interphalangeal hand OA.	✓ ✓ ✓ ✓ ✓ ✓ ✓	It was conducted as an experimental randomized controlled trial. It consisted of experimental group I (flaxseed poultice compress) (n=33), experimental group II (hot compress) (n=29) and control group (n=20). The intervention was administered once a day for seven days (consecutive days). Descriptive Characteristics Data Form Visual Analog Scale (VAS) AUSCAN (Australian- Canadian) OA Hand Index Side Effect Assessment Form	On the 8th and 15th day, a statistically significant difference was found in the mean VAS and AUSCAN scores in the flaxseed poultice compress group compared to the hot application and control group. It was determined that flaxseed poultice caused improvement in pain and hand functions in patients with hand OA.
PhD Thesis Sonmez Z.D. 2019	The Effect of St. John's Wort Oil Applied Locally to the Knee Region on Pain Intensity and Physical Functions in Individuals with Knee OA	-St. John's Wort Oil Using TAT Causes -Pain -Physical functions	It was conducted to determine the effect of St. John's wort oil applied locally to the knee region on pain intensity and physical functions in individuals with knee OA.	✓ ✓ ✓	It was conducted as an experimental randomized controlled study. It was conducted with a total of 60 patients, 30 in the St. John's wort oil (intervention group) and 30 in the olive oil (placebo control group) group. St. John's wort oil was applied locally to the knee region three times a day for three weeks in individuals with OA. Patient information form	The rate of painkiller use in the intervention group was significantly lower than in the placebo control group. -St. John's wort oil application was found to be more effective than olive oil application in individuals with knee OA. -St. John's wort oil decreased VAS pain and WOMAC OA index scores, decreased pain and increased physical function in individuals with knee OA.

52

Tablo 4 (Continued)						
Master's Degree Thesis Karaca C. 2019	Evaluation of the Effectiveness of Massage with Nettle-Ginger Essential Oils and Ice Application on Pain in Patients with Knee OA	-Nettle-ginger essential oil Using TAT Causes - Pain	It was conducted to evaluate the effectiveness of massage with nettle-ginger essential oils and ice application on pain levels in patients with knee OA.	✓ ✓ ✓ ✓	It was conducted as an experimental randomized controlled study. A total of 66 individuals were included, including 22 individuals who would receive aromatherapy with nettle-ginger oils (experimental group), 22 individuals who would receive ice application (experimental group) and 22 individuals who would form the control group. Individuals in the aromatherapy massage and cold application groups were applied every time they came and for 15 minutes. Ice application: 2 sessions per week for 15 minutes for 4 weeks. Aromatherapy massage: 3- 4 ml of oil was taken into the hand 2 times a week and massaged 8 times for 15 minutes.	Although NRS 8th session values decreased significantly in all three groups, the highest decrease was observed in the massage group.

Tablo 4 (Continued)						
PhD Thesis Bakir E. 2021	The Effect of Foot Reflexology and Knee Massage with Black Cumin Seed Extract Oil on Pain and Fatigue Symptoms in Elderly People with Knee OA	-Foot Reflexology with black cumin oil -Knee massage Using TAT Causes - Pain -Fatigue	It was conducted to examine the effect of foot reflexology and knee massage applied with black cumin seed extract oil on pain and fatigue symptoms in elderly individuals with knee OA.	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	Conducted as an experimental randomized controlled trial After randomization, the participants were divided into five groups with 30 participants in each group. 1) Reflexology with Black Cumin Seed 2) Placebo Reflexology, 3) Knee massage with black cumin 4) Placebo Knee Massager 5) Control group "Patient Identifying Information Form" "Kellgren and Lawrence" "PainVisual Analog Scale (A-VAS)" "Fatigue Severity Scale Western Ontario and Mc Master Universities OA Index "WOMAC" Participants in the application groups were given one session a week for 6 weeks, lasting 30 minutes.	In OA patients, foot reflexology and knee massage with black cumin oil reduced the severity of pain and fatigue more than the group without oil, and in all groups; foot reflexology with black cumin reduced the severity of pain and fatigue.

4. Discussion

Non-adherence to pharmacological treatment is frequently observed in OA patients due to minor and major complications caused by chronic disease (15–17). Increasing the quality of living with OA individual is possible by increasing their compliance with treatment. Complementary and supportive medicine practices can be used to increase the quality of living of OA patients, increase their compliance with treatment, and minimize the symptoms of disease and treatment (17,25,32–34).

When reviewing the literature thesis studies, it is seen that OA local hot-cold application is used in pain treatment (23,24,35) (Table 4). In OA patients, local hot application / hot compress application improves physical function, pain score and general health perception quality of life (23,24) (Table 4). Tse et al. (2013) stated in their study that individuals frequently use hot applications and that they benefit (36) from them. The hot application causes dilatation in the vessels, increases inflammation, relaxes the muscles and decreases the viscosity of the synovial fluid. Hot applications reduce muscle tension by stimulating reflexes that inhibit pain through heat receptors (37). In studies with knee OA and local cold application/ice, it was found that patients' pain scores decreased and physical functions improved (22,24,31). The following statements can be made based on the results of this research: local hot-cold application in OA patients can be used to alleviate symptoms and improve patient quality of life.

When reviewing the literature thesis studies; It is stated that massage application with aromatic oils (Lavender, Eucalyptus, Ginger, Apricot Kernel, Almond and Sweet almond oil) in indivuduals with OA reduces the severity pain, improves physical functional status and increases the quality of life (26,29,31) (Table 4). Aromatherapy massage is an application that has positive effects such as positively affecting health, relaxing tense muscles, regulating blood circulation, stimulating neural, vascular and hormonal conditions, increasing cell events, and removing metabolic excess from tissues (38-40). A limited number of studies have been found in the literature using aromatherapy in knee OA. In studies conducted with individuals with knee OA. It has been found that it reduces pain and has an impact on improving the quality of life (39,40). In a study conducted by Zhang et al. in 2018, evaluating the effect of aromatherapy in treating patients with knee OA, they applied lavender oil to the patients for 4 weeks (34). As a result of the research, they concluded that it reduced the patients' VAS pain scores and morning stiffness and that it was a safe and inexpensive method. Kabiri et al. in 2018 investigated the impacts of massage therapy and aromatherapy on fatigue in individuals with knee OA. They detected that the fatigue severity scores of the aromatherapy massage group decreased more significantly than the other groups (10). Aromatherapy has been recommended to reduce fatigue in diseases that reduce the quality of life, such as OA. In line with these results, it can be said that aromatherapy massage is not superior to standard massage, but aromatic massage therapy improves pain, stiffness and functional status in the short term.

When thesis studies were reviewed in the literature, it was determined that knee massage with black seed oil and foot reflexology reduced fatigue and pain in patients with knee OA (30) (Table 4). According to the result of the studies of Lee et al. in 2011, in which they examined the effects of foot reflexology on pain, fatigue and sleep, 18 studies were selected for fatigue, and 11 studies were selected for pain, according to the results of these studies; foot reflexology can be efficiently even with a single practice (41).

As a result of the systematic review conducted by Mahboubi et al. in 2018 to determine the effect of black cumin oil on pain in rheumatoid arthritis, they concluded that black cumin oil has antiinflammatory and analgesic effects (42). In the study conducted by Jerin et al. in 2018 on rats to determine the long-term effects of black cumin (Kalozira) oil on pain, the rats in the experimental group were given a single dose of black cumin oil intraperitoneally one hour before the pain stimulus, while

no intervention was made to the control group (43). It was concluded that these physiological pain markers were less in rats given black cumin oil as a result of the pain stimulus given with current. It was concluded that the reason for this difference was the analgesic effect of the active ingredient in black cumin. In the study conducted by Özdelikara et al. in 2019 where they examined the effects of reflexology on anxiety and fatigue in patients with Multiple Sclerosis, it was determined that there was a decrease among the pre and post-test score in the fatigue severity scores of the groups that received 30 minutes of reflexology once a week. They reported that reflexology application reduced the fatigue scores of the patients and was an effective intervention for fatigue (44). In the study conducted by Gökmetin et al. in 2016, where they examined the effect of aromatherapy and reflexology on the management of pain and fatigue in rheumatoid arthritis; the reflexology group received 40 minutes of reflexology once a week, the aromatherapy group received 30 minutes of knee massage 3 times a week, and the control 79 group received no intervention (9). Pain and fatigue scores decreased statistically significantly in all groups. It was observed that reflexology application provided a reduction in all pain markers, including morning stiffness, compared to aromatherapy and was the most effective method. Based on the results of this study, it can be said that reflexology application with black cumin oil can be safely used in reducing the severity of fatigue, pain, anxiety and increasing the comfort of the individual in OA patients.

When thesis studies in the literature are reviewed, it has been determined that acupressure applied to OA individuals reduces pain and improves functional conditions and quality of life (27) (Table 4). Acupressure is based on acupuncture. It is a method used to stimulate acupuncture points with the help of fingers or hands by applying technical/mechanics compression (45,46). It is thought to accelerate the healing process and is a traditional Chinese medicine method based on the redistribution of life energy Qi. Acupressure therapy aims to relax the body, balance the hormones, increase blood circulation and muscle mobility, strengthen immunity and improve physical health (47). Nursing care are to alleviate the symptoms that develop during the disease and treatment process and support symptom management (48). It is stated in the literature that acupressure reduces pain, nausea, fatigue and stress levels, increases sleep quality and improves the quality of life of individuals in this context (49,50). It is stated in the literature that acupressure reduce pain and symptom violence, and advance functional status and quality of life (27,51). Based on these results, it is seen that acupressure application increases physical functions, reduces pain and improves the quality of life in patients with OA. It can be suggested that acupressure application be widespread in OA patients.

When thesis in the literature is reviewed, it is determined that ginger compress application among herbal compress applications in OA individuals reduces pain and increases physical functions (35). In another study, it is determined that flaxseed poultice compress applied to OA patients causes improvement in pain and hand mission of individials (52) (Table 4). When studies on compress applications in the literature are examined, it is determined that there is a significant decrease in pain, fatigue, general effect and functional status scores in OA patients after 1 week of local ginger therapy, and health satisfaction increases by 80% (53). In another study that tried to explain the effect of ginger compress in adults with OA, it is stated that a gradual change is observed in the pain of the patients, it provides a positive change in perspective, provides comfort and flexibility in the body, and increases joint flexibility (54). In another study conducted to determine the effect of ginger kidney compress practical to the lumbar area for 30 minutes for 7 days on pain intensity and physical functions in patients with knee OA; it was stated that individuals in the ginger compress group had a significant decrease in pain intensity and OA indexes equated to individuals in the hot compress and check groups (25). Based on these results, it can be stated that herbal compress application can be used safely because it reduces pain and increases physical flexibility in OA patients. Nurses can evaluate herbal compress application therapy as a part of holistic and complementary treatment for patients with OA symptoms.

5. Conclusion and Recommendations

Pain is a common complaint in patients with OA. Pain is an unpleasant condition that disrupts individuals' daily life activities, makes them dependent in their daily life activities when not controlled over time, reduces the quality of life, causes symptoms such as chronic fatigue, and affects individuals holistically, both physically, psychologically and sociologically. Although pharmacological drugs are used in patients with OA due to the symptoms experienced, it was concluded that patients turn to complementary and supportive medicine practices; aromatic massage, cold-hot application, reflexology, herbal compress applications due to the side effects of pharmacological drugs. It was observed that these practices were effective on the symptoms of patients, pain, fatigue, quality of life, and increased physical activity. Nurses have important roles in complementary and supportive practices. The low number of nurses certified in this field or the lack of a sufficient number of nurses negatively affects the accessibility of patients to these services. In this sense, our solution suggestions include increasing evidence-based complementary and supportive medicine practice studies, making necessary arrangements to integrate nurses into evidence-based clinical practice studies, and introducing economically incentive arrangements.

Limitations

Limitations of the study include the inclusion of open-access graduate theses in the Turkish National Thesis Database.

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