

Traditional and complementary medicine use for knee osteoarthritis

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ABSTRACT

Objectives: This study aims to determine the traditional and complementary medicine (TCM) use in patients with knee osteoarthritis, by whom these methods are recommended, which methods provide the patients with the best outcome, and to contribute to the awareness of physicians about TCM methods.

Methods: One hundred four patients over the age of 40 who were diagnosed with knee osteoarthritis and had complaints for at least 6 months were included in the study. The TCM applications in the previous treatments of the patients, and whether they used additional medications or not, and finally, the TCM method they benefited from the most, and who recommended and applied these methods were questioned and recorded.

Results: In our study, we found that the most commonly used treatments were phytotherapy products and supportive drugs, in line with the literature. We did not find the use of hypnosis, hirudotherapy, reflexology, homeopathy, osteopathy, chiropractic, maggot applications, apitherapy, or music therapy methods. TCM methods of patients, we determined that they learned from their families and close circles rather than the doctors they applied to.

Conclusions: Patients diagnosed with knee osteoarthritis commonly use TCM methods, phytotherapy being in the first place.

Keywords: Alternative treatment, phytotherapy, pain, musculoskeletal diseases, degenerative diseases, arthralgia

Knee osteoarthritis is one of the most common forms of arthritis, with pain and limited function [1]. Knee osteoarthritis incidence and prevalence have been increasing due to aging, an increase in life expectancy, and the epidemic of obesity [2]. It is reported that approximately 250 million people suffer from knee osteoarthritis throughout the world and the associated treatment costs sum up to \$185,5 billion per year only in the United States of America (USA) [3, 4], whereas World Health Organization (WHO) estimates that 9.6% of the males and 18% of the females, over 60 years of age, get diagnosed with osteoarthritis

[5]. The main focus of treatment is to relieve pain, restore function, and slow down disease progression [6, 7]. There are six key recommendations comprising diagnosis, self-management, physiotherapy, pharmacotherapy, orthobiology, and complementary and integrative health care available in the latest guide published in the USA in 2020 for the non-surgical treatment of knee osteoarthritis (Table 1) [8]. Most commonly, pharmacological treatments have been adopted. However, the potential side effects of pharmacological treatment (digestive problems, heart failure, and renal impairment) limited their use. In

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addition, the dissatisfaction with traditional treatments due to medical, psychological, social, and economic costs leads patients and physicians to seek alternative methods [8, 9]. Traditional medicine is defined as the sum of knowledge, skills, and practices based on the theories, beliefs, and experiences of different cultures in the prevention, diagnosis, and treatment of physical and mental diseases and in the protection and improvement of health [9]. Complementary medicine comprises the applications and products that are not available in the country's tradition or currently used modern medicine but available in various fields of medicine and the health care system [9]. These practices were adopted also by WHO, whereas a field of study called Traditional, Complementary and Integrative Medicine has been constituted [9]. Complementary/ alternative/ traditional/ functional/ integrative medicine/ folk medicine/ non-traditional medicine terms are being used interchangeably in various coun-

tries [10]. WHO reported that 88% of its 170 member states use complementary treatment [11]. Evidence-based assessment is usually difficult due to the poor methodology of studies in this area; however, these treatments are being considered natural and adopted by patients and specialists. Besides, patients may believe that these treatments are natural and safe, even though they may be unwilling to communicate with their health care professionals regarding medication use. The characteristics of these methods such as easier access, cost efficiency, and a longstanding increase in their usage rates. Traditional and complementary medicine (TCM) applications, known as GETAT in Turkey, have been gradually increasing throughout the world since the 1990s. The Regulation comprises acupuncture, ozone, mesotherapy, prolotherapy, hypnosis, hirudotherapy, reflexology, homeopathy, phytotherapy, osteopathy, chiropractic, maggot applications, apitherapy, cupping, and music therapy

Table 1. Non-surgical treatment suggestions for knee osteoarthritis

Diagnosis
-Self- management: Exercise, weight loss and bracing
-Physical therapy
-Pharmacotherapy
a. Topical pharmacotherapy
b. Oral pharmacotherapy (acetaminophen and/or oral non-steroidal anti-inflammatory drugs), duloxetine, opioids (including tramadol)
c. Intra-articular injections
1. intra-articular corticosteroid injection
2. intra-articular viscosupplementation injection
-Orthobiologics:
a. platelet-rich plasma injections
b. stem cell injections (eg, mesenchymal adipose-derived, and bone marrow-derived)
-Complementary and Integrative Health:
a. Dietary Supplements, and Nutraceuticals: Avocado and soybean extract, Boswellia serrata, Cannabidiol, Chondroitin, Curcumin, Collagen, Glucosamine, Glucosamine plus chondroitin, Methylsulfonylmethane, Omega-3 fatty acid, Pycnogenol, Rosehip, Traditional Chinese medicine, Vitamin D, Vitamin E, Willow bark extract.
b. Acupuncture
c. Massage
d. Light touch
e. Meditation
f. Tai chi
g. Yoga

methods. Even though the TCM methods seem to be accepted among physicians, many health specialists are devoid of the necessary information required to help patients make decisions. Despite the best application recommendations, the integration of complementary treatments into knee osteoarthritis management may be controversial and there is no international consensus on whether the complementary treatments must be included in knee osteoarthritis management and when or how this must be done [10, 11].

This study aims to determine the treatment management and TCM use in patients with knee osteoarthritis, by whom these methods are recommended, which methods provide the patients with the best outcome and to contribute to the awareness of physicians about TCM methods.

METHODS

This prospective, cross-sectional study has been conducted upon the ethics committee's approval between 01/06/2021 and 01/11/2021. All procedures have been carried out in compliance with the Principles of the Helsinki Declaration developed by the World Medical Association. 104 patients over the age of 40, who applied to the Physical Medicine and Rehabilitation (PMR) outpatient clinic with knee pain, were diagnosed with knee osteoarthritis, had complaints for at least 6 months, and had been followed up for 3 months, were included in the study. In all the patients, knee osteoarthritis was diagnosed and classified by clinical evaluation and anteroposterior radiograph of the osteoarthritic knee. The radiographic imaging of the stiffer knee was evaluated based on the Kellgren-Lawrence grading system (K-L) [12]. According to K-L, knee osteoarthritis can be doubtful (grade I); mild (grade II); moderate (grade III); or severe (grade IV). Patients with severe systemic disease, malignant disease, acute infection, being pregnant or in breastfeeding period, with psychiatric and neurological diseases causing communication challenges, patients who had knee joint replacement, suffering from acute meniscus and ligament injuries were excluded from the study. It was questioned whether the patients had been treated before with one of the TCM methods recommended by the Ministry of Health. The study was introduced

to the patients who had been treated with at least one TCM method in the last five years and met the required criteria, whereas the patients who agreed to participate were included in the study and were asked to sign an informed consent form. Patients were questioned in terms of age, gender, height, weight, body mass index BMI), educational background, employment status, previous job if not employed (office or physical labor), presence of additional disease, smoking, major injury in the knee (fracture and/or soft tissue trauma in the knee that requires a cast or splint application) or recurrent minor injuries (fall, sprain history that does not require a cast or splint application), number of pregnancy and number of children, age of menopause, history of stress/anxiety/depression (the patients undergoing treatment due to the presence of any of these complaints), hobby activities (activities performed by bending the knees or kneeling), the manner of praying (regular or seated), toilet type (European or squat type), use of high heels, drugs used, whereas the obtained information was recorded in a form. Besides, all participants were questioned in terms of previous physical therapy, spa treatment, whether they exercise regularly, intraarticular (IA) injections (corticosteroid, viscosupplementation), orthobiological treatments (platelet-rich plasma injections (PRP), stem cell injections (mesenchymal adipose-derived, and bone marrow-derived) (MSC), dietary supplements (glucosamine sulfate, chondroitin sulfate, and collagen of animal origin). Knee pain severity was evaluated according to the Visual Analogue Scale (VAS). VAS; A common, simple method with a well-established validity and reliability. The physician described each one of the numbers from 0 to 10 marked on a 10 cm line and asked the patients to mark the severity of pain on the move, at rest, and at night separately (0 = no pain, 5 = moderate pain, 10 = very severe pain). The presence of varus/valgus deformities was checked and recorded during the examinations performed while the K-L score and presence of chondrocalcinosis were checked and recorded in the x-rays taken. The TCM applications (acupuncture, ozone, mesotherapy, prolotherapy, hypnosis, hirudotherapy, reflexology, homeopathy, phytotherapy, osteopathy, chiropractic, maggot applications, apitherapy, cupping, and music therapy) in the previous treatments of the patients, and whether they used additional medications or not, and finally, the TCM method they bene-

Table 2. Distribution of demographic characteristics

		n (%)
Age	54 and younger	22 (21.2)
	55-64	45 (43.3)
	65 and older	37 (35.6)
Gender	Female	89 (85.6)
	Male	15 (14.4)
Educational background	Primary School	83 (79.8)
	High School	17 (16.3)
	Undergraduate	4 (3.8)
Employment	Employed	11 (10.6)
	Unemployed	93 (89.4)
Previous employment	Office	7 (6.7)
	Housewife	67 (64.4)
	Physical labor	30 (28.8)
BMI	Normal	11 (10.6)
	Overweight	33 (31.7)
	1 st degree obese	33 (31.7)
	2 nd degree obese	27 (26)
Smoking	Smoker	14 (13.5)
	Non-smoker	90 (86.5)
Diabetes	Diabetic	33 (31.7)
	Non-diabetic	71 (68.3)
Hypertension	Available	52 (50)
	Not available	52 (50)
Major trauma in the knee	Available	5 (4.8)
	Not available	99 (95.2)
Repeating knee trauma	Available	29 (27.9)
	Not available	75 (72.1)
Stress/anxiety/depression	Available	80 (76.9)
	Not available	24 (23.1)
Number of pregnancy	0	18 (17.3)
	1-2	32 (30.8)
	3-4	36 (34.6)
	5 and more	18 (17.3)
Number of children	0	19 (18.3)
	1-2	42 (40.4)
	3-4	34 (32.7)
	5 and more	9 (8.7)
Age of menopause	40 and younger	15 (14.6)
	41-50	68 (65.2)
	51 and older	21 (20.2)

BMI = Body Mass Index

fit from the most, and who recommended and applied these methods were questioned and recorded.

Statistical Analysis

Data analysis was performed with SPSS 26.0 software and the study was carried out with a 95% confidence level. Frequency (n) and percentage (%) are provided for categorical (qualitative) variables while average (X), standard deviation (ss), minimum and maximum statistics are provided for numeric variables. Chi-square test techniques and independent samples t-test were used in the study. In the study, independent samples t-test was used to compare the benefits from the applications according to VAS and K-L measurements, and the chi-square test was used for the relationship between the benefit from the applications and demographic characteristics

RESULTS

The distribution of demographic and some clinical characteristics of the 104 patients included in the study is shown in Tables 2 and 3. The mean value of the knee VAS was 5.93 ± 1.21 (range: 3-9), and the mean value of the KL score was 2.71 ± 0.63 (range: 2-4). It is determined that 50.96% of the patients had at least one PMR before, and the treatments they received and benefited from are listed in Table 4. Although the most received treatment method is phytotherapy (59.6%), the most beneficial treatment is IA VS treatment (25.9%). When TCM treatments were evaluated (Table 5), it was determined that the first preferred treatment was phytotherapy (59.6%), and the most beneficial methods were phytotherapy (20%) and mesotherapy (20%). In Table 6, however, the comparison of VAS and KL measurements according to the benefits of the treatment methods applied is shown. There was a significant difference in VAS score between patients who used and did not use phytotherapy. It was determined that patients with mild pain preferred this treatment. On the contrary, it was determined that those with severe pain preferred this treatment in patients who had leeches (Table 6). In addition, patients with high K-L scores preferred viscosupplementation, while patients with lower K-L scores preferred cupping therapy (Table 6).

Table 3. Distribution of other clinical features

		n (%)
History of swelling in the knee	Available	56 (53.8)
	Not available	48 (46.2)
Hobby activities	Available	21 (20.2)
	Not available	83 (79.8)
Manner of prayer	Regular	33 (31.7)
	Seated	50 (48.1)
	Not available	21 (20.2)
High heel usage	Available	13 (12.5)
	Not available	91 (87.5)
Toilet type	European style	86 (82.7)
	Squat toilet	18 (17.3)
Medication	Paracetamol	18 (17.3)
	NSAID	68 (65.4)
	Not available	18 (17.3)
Exercise therapy	Available	23 (22.1)
	Not available	81 (77.9)
Number of TCM treatment	1	27 (26)
	2	52 (50)
	3-4	25 (24)
Varus/valgus	Varus	55 (52.9)
	Valgus	7 (6.7)
	Not available	42 (40.4)
Chondrocalcinosis	Available	22 (21.2)
	Not available	82 (78.8)
Medical advice	Available	25 (24)
	Not available	79(76)
TV, internet	Available	42 (40.4)
	Not available	62 (59.6)
Neighbor, relative advice	Available	60 (57.7)
	Not available	44 (42.3)

TCM = Traditional Complementary Therapy

DISCUSSION

Due to the potential side effects of pharmacological and surgical treatments, ACR reported that it supports the use of non-pharmacological treatments, including

physiotherapy and exercising (13). The prevalence of physiotherapy intended for knee osteoarthritis has been reported in the literature at rates varying between 24.8% and 52% [14-16]. Consistent with the literature, this rate is found to be 50.96% in our study. Numerous studies are showing that spa treatment is beneficial in knee osteoarthritis, and it is widely being used throughout the world [17, 18]. In our study, 47.1% of our patients had received spa treatment at least once before. Numerous studies are evaluating the clinical effects of VS, steroids, PRP, or MSC injections in the treatment of knee osteoarthritis. In a meta-analysis performed by the use of steroids and VS is recommended for suitable patients with knee osteoarthritis [19]. For pain and inflammation, it is of the opinion that steroids are probably the best treatment whereas it is followed by VS. It could not be shown that single PRP, multiple PRP, and adipose MSC interventions cause a significant reduction in joint pain or improvement of joint function compared to placebo. Nevertheless, the differences in treatment effects are small, clinically insignificant, and there are other factors such as cost and patient preferences. These facts may change the treatment preferences of patients with knee osteoarthritis. In our study, 56.7% of the patients were treated with VS, 54.8% with steroids, and 18.3% with PRP. When the treatment that the patients benefited from the most was questioned, 25.9% of the patients preferred VS, 14.4% preferred steroid, and 6.7% preferred PRP in the first place. The prevalence of TCM use is particularly high among osteoarthritis patients throughout the world [20-23]. A recent study has emphasized that more than one-third of adults with osteoarthritis seek complementary care to manage their health and that dialogues that encourage open and non-judgmental communication and sharing between health care providers and patients to provide the best possible patient care are necessary [22]. Also in these studies, considering the fact that patients do not provide accurate information about the use of TCM, and they hide that they benefit from TCM, it is thought that the rate of resorting to these methods may be even higher. WHO states that the integration of these applications into health systems will promote the safe and effective use of TCM [11, 24, 25]. In countries such as China, Korea, USA, Germany, Switzerland, Cuba, Japan, and Chile, 40-86% of the population resort to TCM at least once a year [26]. The methods used vary

Table 4. Distribution of the patients who resort to intra-articular injections, orthobiologics, diet supports, Spa and TCM methods and the most effective therapies

		n (%)	n (%)*
Phytotherapy	Available	62 (59.6)	3 (2.9)
	Not available	42 (40.4)	
Viscosupplementation	Available	59 (56.7)	27 (25.9)
	Not available	45 (43.3)	
Steroid	Available	57 (54.8)	15 (14.4)
	Not available	47 (45.2)	
Spa	Available	49 (47.1)	10 (9.6)
	Not available	57 (52.9)	
Supportive medication	Available	49 (47.1)	2 (1.9)
	Not available	57 (52.9)	
Cupping/bloodletting	Available	43 (41.3)	10 (9.6)
	Not available	61 (58.7)	
Leech	Available	32 (30.8)	2 (1.9)
	Not available	72 (69.2)	
Prolotherapy	Available	25 (24)	7 (6.7)
	Not available	79 (76)	
Acupuncture	Available	20 (19.2)	7 (6.7)
	Not available	84 (80.8)	
PRP	Available	19 (18.3)	7 (6.7)
	Not available	85 (81.7)	
Mesotherapy	Available	18 (17.3)	10 (9.6)
	Not available	86 (82.7)	
Ozone	Available	9 (8.7)	4 (3.8)
	Not available	95 (91.3)	
Massage	Available	6 (5.8)	0
	Not available	98 (94.2)	
Stem Cell injections	Available	1 (0.96)	0
	Not available	103 (99)	

*1st most effective therapy . PRP = Platelet-Rich Plasma, TCM = Traditional Complementary Therapy

according to the country's geographical localization, ethnic origin, educational and socioeconomic factors, and religious beliefs, lifestyles, and cultures. Paltiel *et al.* [27] determined that the types of TCM used the most in Israel were homeopathy, relaxation therapy, and reflexology, while spiritual treatments, vitamins and herbs, and mind/body approaches are being used in the USA. Frass *et al.* [28] state that an increase in using TCM was observed in all countries between

1990 and 2006, whereas the methods being used the most are herbal therapy, chiropractic, massage, and homeopathy. While the TCM methods used the most in Western countries are multivitamins, meditation, hypnotherapy, homeopathy, acupuncture, relaxation exercises, and aromatherapy, while herbal therapies seem to be prioritized in the East. In a study conducted, the rate of TCM usage in Turkey was found to be 60.5% [29]. In another study, it was found that 48%

Table 5. Distribution of the most preferred and most effective TCM applications

	n (%)*	n (%)**
Phytotherapy	62 (59.6)	20 (19.2)
Supportive medication	49 (47.1)	10 (9.6)
Cupping/bloodletting	43 (41.3)	19 (18)
Leech	32 (30.7)	5 (4.8)
Prolotherapy	25 (24)	13 (12.5)
Acupuncture	20 (19.2)	12 (11.5)
Mesotherapy	18 (17.3)	20 (19.2)
Ozone	9 (8.6)	6 (5.7)
Massage	6 (5.8)	2 (1.9)

TCM = Traditional Complementary Therapy

*Distribution of most preferred applications, **Distribution of most effective applications.

of cases with osteoarthritis resorted to the TCM method [30]. In patients diagnosed with osteoarthritis, knee osteoarthritis is the disease in which the most complementary medicine method is used, whereas TCM was used in approximately 1/3 of the patients [31-33]. In recent years, significant results have been obtained in the treatment of knee osteoarthritis due to the continuous development of TCM studies [34, 35]. In the studies conducted in our country, it has been determined that the most commonly used TCM methods are herbal treatments and nutritional supplements, while other methods comprise bodybased applications, prayer, religious practices, massage, vitamins, and special diets [29-32]. In our study, unlike other studies, we questioned only the TCM applications approved by the Ministry of Health, and consistent with the literature, we found that the most frequently used treatments were phytotherapy products and supportive drugs. Herbal treatments have been one of the most frequently used traditional methods from past to present, since they are considered cheaper, easily accessible, and have fewer side effects compared to other treatment methods [36, 37]. Individuals have been trying to relieve the symptoms of their diseases by benefiting from the analgesic and anti-inflammatory properties of these treatments [29, 35]. The absence of the methods such as hypnosis, hirudotherapy, reflexology, homeopathy, osteopathy, chiropractic, maggot applications, apitherapy, and music therapy in our

study may be related to the fact that these methods are not yet widely known by patients and physicians in our country, and that the number of professionals who will apply these methods is insufficient. The ways to access the TCM method used show a great variety. In the study of Ulusoy *et al.* [31], most of the individuals who resorted to TCM were encouraged by their relatives or the mass media, while 13.6% reported that they resorted to it in line with the recommendations of the physicians. Similarly, in the study of Karadağ *et al.* [30], the recommendation by the family and social sphere took the first place with a rate of 52.5%. 2.8% of the patients reported that they resorted to TCM upon the recommendation of a physician. In the study conducted by Dikici *et al.* [32], nearly half of the patients had resorted to TCM methods with the influence of family and friends, while 21.8% resorted to these methods upon the recommendation of a physician. Similarly, in our study, the most frequent motivation to resort to TCM was upon the recommendation of neighbors/relatives (57.7%), while the rate of the patients being treated upon the recommendation of a physician was 24%. Tekçi [38], in his study, examined the knowledge and attitudes of research assistant physicians about TCM applications and found that 66% of physicians knew about leech application, 63% about acupuncture, 62.5% about hypnosis, 9.5% about ozone therapy, and 47% about music therapy. The least known methods were found to be chiropractic, apitherapy, prolotherapy, osteopathy, and homeopathy. Despite the best application recommendations, the integration of complementary treatments into osteoarthritis management may be controversial and there is no international consensus on whether the complementary treatments must be included in osteoarthritis managements and when or how this must be done. Despite several well-written and wellconsidered guides, there is no direct recommendation for TCM applications. This lack of appropriate clinical advice and information is a challenge for clinicians on how to advise patients the best since some of these treatments have a particularly high profile in the common press. Therefore, understanding the patterns of TCM users provides health care professionals with the opportunity to make more comprehensive treatment decisions and to improve relationships with patients. As a result, patients diagnosed with knee osteoarthritis

Table 6. Comparison of VAS, K-L measurements according to the effectiveness of the therapy methods applied

		Knee VAS		K-L Score	
		Mean \pm SD	<i>p</i> value	Mean \pm SD	<i>p</i> value
Spa	Available	5.88 \pm 1.33	0.804	2.76 \pm 0.66	0.663
	Unavailable	5.95 \pm 1.18		2.7 \pm 0.63	
Mesotherapy	Available	5.68 \pm 1.09	0.195	2.68 \pm 0.61	0.749
	Unavailable	6.03 \pm 1.24		2.72 \pm 0.64	
Phytotherapy	Available	5.19 \pm 1.3	< 0.001	2.56 \pm 0.64	0.138
	Unavailable	6.19 \pm 1.06		2.77 \pm 0.63	
Viscosupplementation	Available	5.95 \pm 1.19	0.910	2.87 \pm 0.61	0.005
	Unavailable	5.92 \pm 1.24		2.53 \pm 0.62	
Steroid	Available	6.02 \pm 1.08	0.535	2.76 \pm 0.54	0.545
	Unavailable	5.87 \pm 1.29		2.68 \pm 0.69	
Prolotherapy	Available	6.11 \pm 1.05	0.494	2.89 \pm 0.66	0.164
	Unavailable	5.89 \pm 1.24		2.67 \pm 0.62	
PRP	Available	6.5 \pm 1.24	0.084	2.58 \pm 0.79	0.459
	Unavailable	5.86 \pm 1.19		2.73 \pm 0.61	
Supportive Medication	Available	6.12 \pm 1.11	0.493	2.76 \pm 0.75	0.707
	Unavailable	5.9 \pm 1.23		2.7 \pm 0.61	
Bloodletting	Available	6.03 \pm 1.24	0.596	2.52 \pm 0.57	0.043
	Unavailable	5.89 \pm 1.2		2.79 \pm 0.64	
Leech	Available	6.53 \pm 1.13	0.037	2.87 \pm 0.74	0.308
	Unavailable	5.83 \pm 1.2		2.69 \pm 0.61	
Ozone	Available	6.33 \pm 1.5	0.300	2.56 \pm 0.53	0.442
	Unavailable	5.89 \pm 1.18		2.73 \pm 0.64	
Acupuncture	Available	6.16 \pm 1.07	0.372	2.63 \pm 0.5	0.545
	Unavailable	5.88 \pm 1.24		2.73 \pm 0.66	

PRP = Platelet-Rich Plasma, VAS = Visual Analog Scale, K-L = Kellgren-Lawrence grading system, SD = standard deviation

commonly use TCM methods, phytotherapy being in the first place. However, they often learn about these methods from their families and close circles rather than the physicians they consulted with. Physicians must have sufficient knowledge about and equipment for these methods, which are increasingly being used in our age, and must be able to inform and guide their patients on this subject. Thus, the level of awareness of the patients about the use of TCM will increase and possible unexpected situations will be able to be prevented by consulting with physicians. Evidence-based recommendations cannot be made well enough due to

the conducted scientific studies not having the quality high enough and to the insufficiency of randomized controlled studies.

Limitations

The shortcomings of the study are; being cross-sectional, the benefit rate of patients not depending on objective evidence, herbal products in phytotherapy treatment being provided from herbalists and not being under the supervision of doctors and the number of patients being low.

CONCLUSION

The treatment to be applied for knee osteoarthritis must be planned according to the individual, whereas pharmacological and non-pharmacological treatments must be applied to the patients together, by considering the current treatment options. Study reports presenting new treatment recommendations for knee osteoarthritis patients continue to be published in the literature, whereas the guidelines containing treatment options for these patients are updated day by day. It is crucial to follow current guidelines and literature to achieve success in the treatment of knee osteoarthritis patients. The use of TCM methods is increasing day by day in many countries. Among the reasons why people resort to TCM services, it can be listed that it is compatible with their culture, less costly, easier to access and it involves no or less interventional procedures, furthermore, it is being seen as a hope for the treatment of chronic diseases. It is aimed to evaluate the patient's condition more efficiently and thus to determine the optimal treatments, to improve the quality of life and health outcomes, and to prevent complications while minimizing morbidity.

Authors' Contribution

Study Conception: SK; Study Design: SK; Supervision: SK; Funding: SK; Materials: SK; Data Collection and/or Processing: SK; Statistical Analysis and/or Data Interpretation: SK; Literature Review: SK; Manuscript Preparation: SK and Critical Review: SK.

Conflict of interest

The authors disclosed no conflict of interest during the preparation or publication of this manuscript.

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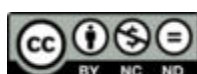
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