

Research Progress in the Treatment of Knee Osteoarthritis with Traditional Chinese and Western Medicine

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Abstract: *Knee Osteoarthritis (KOA) is a clinically common degenerative joint disease and a significant factor affecting the quality of life of middle-aged and elderly populations in China. Characterized by the degeneration of knee joint cartilage, it is a chronic condition. Current Western medical treatments include foundational therapy, pharmacological therapy, reparative therapy, and reconstructive surgery. These approaches typically act rapidly, building patient confidence in the short term, but are often associated with significant adverse effects, relatively transient efficacy, and a substantial economic burden. Traditional Chinese Medicine (TCM) employs internal treatments, external therapies, and functional exercises, which generally exhibit fewer adverse effects, relatively stable therapeutic outcomes, are cost-effective and considered more natural, but often require longer treatment courses, and patient compliance can be suboptimal. Both therapeutic systems possess distinct advantages and can ameliorate symptoms in KOA patients. This article compiles, summarizes, and synthesizes recent research advances in the understanding and treatment of KOA within both TCM and Western medicine, aiming to provide novel insights and methodologies for clinical management.*

Keywords: Knee Osteoarthritis, Traditional Chinese Medicine, Western Medicine.

1. Introduction

Knee Osteoarthritis (KOA) is a highly prevalent knee joint disorder, categorized as a chronic osteoarthropathy. Its primary clinical manifestations include knee pain, limited joint function, and impaired mobility [1]. KOA has become the world's fourth leading cause of disability and is often termed "non-fatal cancer" [2]. The knee is one of the largest joints in the body and is also highly active and prone to injury [3]. Risk factors for KOA include age, gender, obesity, trauma, developmental dysplasia, and joint overuse [4-5]. Furthermore, KOA has been reported to be associated with genetic factors, mechanical stress, and chondrocyte differentiation [6]. Epidemiological surveys indicate a KOA prevalence of 10.3% in women, higher than the 5.7% in men. In China, the prevalence is approximately 8.1%. In the "Chinese Expert Consensus on the Diagnosis, Treatment, and Intelligent Orthopedic Rehabilitation of Knee Osteoarthritis in the Elderly," Liu Jing pointed out that the incidence of KOA is increasing annually, significantly impacting various aspects of quality of life for the elderly [7]. KOA is influenced by multiple factors. Abnormal synthesis and degradation of the articular cartilage matrix can be observed, damaging the cartilage and gradually spreading to surrounding tissues. Inflammation of the joint synovium occurs, affecting the joint space and leading to symptoms such as narrowing. If KOA patients lack effective and timely treatment, the condition can progress persistently, with various signs continuously worsening, such as limited joint function and chronic pain, which can affect normal activities and life. In severe cases, it may lead to knee joint insufficiency. Clinical intervention for KOA aims to restore or enhance knee joint function, alleviate or eliminate knee pain, and improve patients' quality of life [8]. Western medicine primarily employs foundational therapy, pharmacological therapy, and reparative treatments, which, although fast-acting, often involve significant adverse

effects and higher economic costs. TCM primarily utilizes acupuncture, massage, internal and external herbal applications, among other methods, with relatively stable efficacy but longer treatment courses and suboptimal patient compliance. This study summarizes the understanding, diagnosis, and treatment of KOA in both TCM and Western medicine, intending to provide new ideas and methods for the clinical management of KOA.

2. Western Medical Understanding and Treatment of KOA

2.1 Pathogenesis of KOA

Western Diagnostic Criteria: Conform to the relevant diagnostic criteria of the "Expert Consensus on Stepped Treatment of Knee Osteoarthritis" [9]. Clinical presentations include recurrent knee pain within the last month, periarticular swelling, bone crepitus during activity, limited flexion and extension, and imaging findings revealing joint space narrowing, subchondral bone sclerosis, and osteophyte formation at the joint margins. The main pathological changes in KOA include articular cartilage degeneration, osteophyte formation, and non-bacterial synovitis. The pathogenesis is complex, involving a series of intricate changes such as altered biomechanical alignment, cartilage rupture, chondrocyte apoptosis, imbalance between synthesis and degradation of the extracellular matrix, and remodeling and sclerosis of the subchondral bone [10]. Studies have found that KOA is closely related to molecular mechanisms including inflammatory response, oxidative stress, cellular autophagy, and metabolic abnormalities. Secretions from various knee joint tissues contain multiple cytokines, chemokines, and growth factors. These factors activate signaling pathways within chondrocytes, such as MAPK (Mitogen-Activated Protein Kinase), AKT (Protein Kinase B),

and NF- κ B (Nuclear Factor Kappa-B), releasing various inflammatory mediators, accelerating chondrocyte dedifferentiation, and increasing chondrocyte fibrosis [11]. Reactive oxygen species (ROS) levels in chondrocytes increase with age. When ROS accumulate excessively, oxidative stress occurs, which can activate transcription factors like NF- κ B, releasing Interleukin-1 β (IL-1 β) and Tumor Necrosis Factor- α (TNF- α), inducing matrix metalloproteinases (MMPs), reducing extracellular matrix (ECM) synthesis, and exacerbating cartilage damage [12]. In the progression of KOA, activation of autophagy-related signaling pathways slows ECM degradation, playing a protective role for chondrocytes; conversely, once chondrocyte autophagy is inhibited, NF- κ B is activated, levels of inflammatory factors such as IL-1 β , IL-6, and TNF- α increase, aggravating cartilage damage [13]. Western medical treatments for KOA are diverse and can be categorized into foundational therapy, pharmacological therapy, reparative therapy, and reconstructive therapy.

2.2 Foundational Therapy

2.2.1 Self-Management

Overweight or obesity is the most significant risk factor for KOA. A growing number of observational studies indicate that obesity increases the incidence of KOA [14,15,16,17]. Research shows that being overweight or obese increases the risk of developing KOA by 2-5 times, and losing approximately 10% of body weight can reduce knee pain by more than 50% [18]. KOA patients should understand the seriousness of the disease, adopt a low-calorie diet, control weight, avoid prolonged activities like climbing mountains or using stairs frequently, and actively use canes or walkers during flare-ups to reduce joint stress.

2.2.2 Appropriate Exercise and Functional Training

Clinical practice guidelines for KOA exercise therapy state that exercise therapy should be a first-line treatment for KOA, regardless of age or disease severity [19]. Research has found that chondrocyte senescence is a high-risk factor for KOA. Exercise can delay chondrocyte senescence and protect articular cartilage by reducing telomere length shortening, repairing DNA damage, inhibiting inflammatory factors, promoting autophagy, and enhancing the body's antioxidant capacity [19]. Decreased muscle strength is one of the risk factors for KOA progression. Strength/resistance training for the knee extensors/quadriceps is recommended for KOA patients. Aquatic exercise can reduce joint load and injury. Aerobic training can alleviate pain and improve functional mobility. Strength training and mindfulness-based relaxation training can effectively improve joint function. Mindfulness-based relaxation training can also enhance quality of life [20,21]. Through systematic exercise intervention, pain can be effectively relieved, joint function improved, and disease progression delayed.

2.3 Pharmacological Therapy

Oral medications, including diclofenac sodium, Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), opioid analgesics, slow-acting drugs for osteoarthritis, and

chondroprotective agents, are commonly used drugs for treating KOA. While these drugs act quickly and have obvious efficacy, they can easily cause gastrointestinal symptoms, liver and kidney function damage, and addiction. Furthermore, topical NSAIDs, such as diclofenac sodium and loxoprofen sodium, deliver the drug directly to the tissues through the skin, resulting in rapid onset, high local drug concentration, and fewer systemic adverse effects. They are recommended for use in the early and middle stages of KOA [22]. Intra-articular injection of sodium hyaluronate (Hyaluronic Acid) for KOA patients can effectively reduce cartilage friction damage and also promote the secretion of endogenous hyaluronic acid, restoring it to normal levels, thereby stimulating articular cartilage repair [23]. Medical Chitosan's main component is carboxymethyl chitin, a compound purified from shrimp shells and further processed into polyvinyl glucosamine through carboxymethylation [24]. Chitosan is a high molecular polysaccharide with properties such as non-toxicity, bioactivity, good biocompatibility, and degradability [25]. It can serve as a carrier for various drugs and proteins to control their release, thereby improving symptoms and treating diseases [26]. The therapeutic mechanisms of medical chitosan include: 1) Possessing physicochemical properties similar to the glycosaminoglycans of articular cartilage, adhering to the articular cartilage surface to achieve cartilage repair and establish a protective barrier; 2) Its own sustained-release properties ensure effective local drug concentration for a long time, producing a lasting therapeutic effect; 3) Better viscoelasticity than other polysaccharides, providing lubrication, reducing friction, and buffering stress; 4) Inherent antibacterial properties, preventing infection [27].

2.4 Reparative Therapy

2.4.1 Arthroscopy

Arthroscopic debridement improves the intra-articular microenvironment through procedures like loose body removal and meniscal shaping, promoting self-repair of the knee joint. It is suitable for patients with mechanical locking or meniscal tears. Some literature also suggests that arthroscopic surgery can delay the process of joint replacement [28].

2.4.2 Stem Cells

Mesenchymal Stem Cells (MSCs) primarily exert tissue repair functions through the paracrine action of exosomes, regulating chondrocyte ECM homeostasis, promoting the biosynthesis of damaged chondrocytes, modulating inflammatory responses, improving the intra-articular environment, and delaying articular cartilage damage [29]. Some animal experiments have shown that intra-articular injection of MSCs in a KOA rat model is more effective than sodium hyaluronate injection [30].

2.4.3 Platelet-Rich Plasma (PRP)

Platelet-Rich Plasma (PRP) is plasma with a high concentration of platelets obtained by centrifuging whole blood. It is rich in growth factors and inflammatory modulators, which can inhibit levels of inflammatory factors

like TNF- α and IL-1 β , thereby effectively controlling pain and improving joint function. Simultaneously, it can secrete high concentrations of growth factors, promoting chondrocyte proliferation [31]. Chen Changsong et al [32] found that combining PRP treatment on the basis of the control group resulted in better improvement of clinical symptoms in the combination group compared to the control group.

2.4.4 Osteotomy

In the treatment of KOA, emphasis is placed on “correcting bones and softening tendons”. For KOA caused by altered knee biomechanics, osteotomy is advocated to correct poor lower limb alignment, balance joint stress to reduce cartilage pressure, and improve KOA symptoms [33].

2.4.5 Reconstructive Therapy

Joint replacement is the definitive treatment for KOA, applicable to patients who do not achieve good results with various treatments and have severe multi-compartment knee osteoarthritis with joint deformity. The study by Lin Jiaming demonstrated that knee arthroplasty can reduce long-term healthcare and societal care costs, yielding economic benefits for both patients and society [34]. Public education and improved awareness of knee diseases and surgical interventions can help mitigate misconceptions and alleviate fears, thereby enhancing patients’ confidence in and acceptance of surgical procedures. Furthermore, integrating Traditional Chinese Medicine modalities with professional rehabilitation protocols can facilitate accelerated patient recovery. However, replacement surgery is complex, carries high surgical risks, is expensive, and has unpredictable postoperative complications. Patients need to consider carefully and bear corresponding risks.

2.4.6 Ozone Therapy

Ozone injection therapy is an emerging treatment method in recent years. Ozone has strong oxidizing properties and can oxidize and decompose inflammatory mediators within the joint, reducing the inflammatory response. It can also promote the proliferation and repair of chondrocytes, improving joint function [35]. By perfusing ozone into the knee joint, local soft tissue oxygen content can be increased, promoting tissue aerobic metabolism, accelerating local microcirculation, enhancing the body’s antioxidant capacity, and stimulating the proliferation of chondrocytes and fibroblasts, promoting the synthesis of cartilage matrix thereby, aiding in the repair of damaged articular cartilage [36].

3. Traditional Chinese Medicine Therapies

KOA belongs to the category of “Bi Syndrome of the Knee” (Xi Bi) in TCM. The disease location is in the tendons and bones. Its nature is a deficiency in the root and excess in the manifestation, attributable to the Liver, Spleen, and Kidney organs. “Zhang’s Medical Pass · Knee Pain” states: “The knee is the mansion of tendons, knee pain invariably arises from Liver and Kidney deficiency; deficiency allows Wind, Cold, and Dampness Qi to assail it,” indicating that the occurrence of knee Bi is the result of the interaction of internal and external causes. The “Yellow Emperor’s Inner Canon” states:

“The Liver governs the tendons, the Kidneys govern the bones, the Spleen governs the muscles”. “Bones are the foundation, tendons bind the bones, membranes wrap the tendons, fat stabilizes the membranes, flesh protects the fat, muscles moisten the flesh” (Bones are the foundation, tendons bind the bones, membranes wrap the tendons, fat stabilizes the membranes, flesh protects the fat, muscles moisten the flesh); The above indicates that tendons, flesh, and bones together maintain normal joint activity, and the three influence and interact with each other [37]. “When Wind, Cold, and Dampness evils combine, they cause Bi syndrome” indicates that Wind, Cold, and Dampness pathogens are the external factors of this disease. The core pathogenesis of knee Bi is root weakness and manifestation blockage. Root weakness refers to deficiency and insufficiency of the Liver, Spleen, and Kidneys leading to disease. Manifestation blockage means that the “deficient body” is affected by external pathogens like Wind, Cold, and Dampness blocking the channels and collaterals, or over time, deficiency leads to stasis, and phlegm and stasis combine to obstruct the channels and vessels. TCM treatment for knee Bi primarily involves internal treatments, external treatments (including acupuncture, herbal fumigation and washing, manual therapy, application therapy, etc.), and functional exercises. TCM treatments are inexpensive, simple, effective, and have stable outcomes.

3.1 Chinese Herbal Medicine Internal Treatment

TCM believes that KOA is a disease caused by long-term strain. Its pathogenesis involves phlegm and stasis binding, Wind-Cold-Dampness, Wind-Dampness-Heat, and insufficiency of Liver and Kidney function, all blocking the channels and collaterals, ultimately leading to Qi and Blood deficiency and malnourishment of tendons and bones. According to the “Criteria for Diagnosis and Therapeutic Effect Evaluation of TCM Diseases”, KOA is differentiated into five patterns: Cold-Dampness Obstruction Pattern, Dampness-Heat Obstruction Pattern, Qi Stagnation and Blood Stasis Pattern, Qi and Blood Deficiency Pattern, and Liver-Kidney Deficiency Pattern. This pattern classification has been widely used in clinical practice [38]. These five methods provide solutions for KOA with different etiologies, reflecting the characteristics of TCM pattern differentiation and treatment. This involves oral administration of Chinese herbal decoctions, selecting corresponding classic formulas with modifications based on the patient’s pattern, such as Yiyi Ren Tang (Coicis Semen Decoction), Duhuo Jisheng Tang (Pubescent Angelica and Mistletoe Decoction), Simiao San (Four Marvels Powder), Shuanghe Tang (Double Unification Decoction), Da Qinjiao Tang (Large Gentiana Macrophylla Root Decoction), Taohong Siwu Tang (Peach Kernel and Carthamus Four Substances Decoction), Bazhen Tang (Eight Treasure Decoction), Shentong Zhuyu Tang (Body Pain Stasis-Expelling Decoction).

In the stepped treatment integrating TCM and Western medicine, flexible treatment can be applied according to different stages and symptoms, leveraging the greater advantages of integrated therapy. In the first stage, patients take Chinese herbal decoctions according to their own condition, such as Duhuo Jisheng Tang, Da Qinjiao Tang, Yiyi Ren Tang, Shentong Zhuyu Tang, etc., or they can

choose Western medical treatments, such as oral celecoxib capsules or acetaminophen. In the second stage, perioperative period combines the characteristic therapies of TCM and Western medicine. In the early postoperative period, patients can be given oral Taohong Siwu Tang with modifications to reduce limb swelling, combined with therapies like herbal packing, TCM directional drug penetration, and acupuncture. In the third stage, the perioperative period continues to combine characteristic TCM and Western medicine therapies. In the early postoperative period, patients are given Taohong Siwu Tang with modifications to reduce swelling, and oral rivaroxaban tablets to prevent deep vein thrombosis in the lower limbs. Simultaneously, combining therapies like herbal packing, TCM directional drug penetration, and acupuncture can help alleviate joint pain, accelerate postoperative recovery, restore joint range of motion as soon as possible, reduce the occurrence of postoperative complications, and improve patients' quality of life [39]. The mechanism by which Chinese herbs improve KOA symptoms may involve blocking the Wnt/ β -catenin signaling pathway, regulating the p38-MAPK signaling pathway, or inhibiting the inflammatory response [40].

3.2 TCM External Treatments

In recent years, TCM has shown unique advantages in the treatment of KOA, such as precise efficacy and minimal trauma, especially TCM external treatments. External treatments for KOA are characterized by significant efficacy and high safety, primarily including acupuncture, manual therapy (Tuina), herbal application therapy, and herbal fumigation and washing therapy, all of which can be used to inhibit the progression of KOA.

3.2.1 Acupuncture and Moxibustion

Pain is the main symptom of KOA patients, and pain relief is the primary treatment goal. Studies show that acupuncture can relieve joint pain and reduce the level of inflammatory factors in the joint cavity [41]. Furthermore, research has found that knee arthritis is a chronic inflammatory state involving extensive participation of immune cells. Acupuncture can regulate the differentiation of immune cells and the release of inflammatory cytokines, control the levels of related inflammatory factors, and reduce the inflammatory response [42]. Simultaneously, acupuncture can also improve blood circulation around the joint, alleviating symptoms. Acupuncture techniques can be divided into filiform needle acupuncture, electroacupuncture, fire needling, etc. Filiform needling is a traditional treatment method. Acupuncture treatment can inhibit the apoptosis of bone cells and reduce inflammation. In treating KOA, acupuncture can also achieve therapeutic effects by reducing the expression of Matrix Metalloproteinase-3 (MMP-3), Interleukin-1 β (IL-1 β), Tumor Necrosis Factor- α (TNF- α), and Transforming Growth Factor- β (TGF- β) [43]. Wang Pu randomly divided 120 KOA patients into two groups. The control group of 60 patients received Meloxicam tablets, while the observation group of 60 patients received additional acupuncture treatment based on the control group. Acupuncture points selected included Neixiyan (EX-LE4), Waixiyan (EX-LE5), Yanglingquan (GB34), Liangqiu (ST34), Zusanli (ST36), and Xuehai (SP10). The treatment duration for both groups was 2 months. Results

showed that after treatment, the pain, stiffness, and function scores in the observation group were significantly lower than those in the control group, with a statistically significant difference ($P < 0.05$), indicating that filiform needle treatment helps improve patient condition [44]. Electroacupuncture treatment for KOA has the advantages of fast onset and minor side effects. It can reduce the level of inflammatory factors in the joint fluid, playing an anti-inflammatory and analgesic role [45]. In a randomized trial, 60 KOA patients were randomly divided into two groups. The control group of 30 patients received oral celecoxib capsules, while the treatment group of 30 patients received electroacupuncture treatment. Selected points included Yanglingquan (GB34), Liangqiu (ST34), Zusanli (ST36), Neixiyan (EX-LE4), and Dubi (ST35, Note: Dubi is often synonymous with Waixiyan in context). Both groups were treated for 14 days. Results indicated that after treatment, the Visual Analogue Scale (VAS) pain score and the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) in the treatment group were significantly lower than those in the control group, with a statistically significant difference ($P < 0.05$), indicating that electroacupuncture treatment helps improve the disease condition [46]. Fire needling is also a traditional therapy, with significant effects in dispersing Cold and removing Dampness, warming and unblocking the channels and collaterals. Fire needling uses a heated needle tip to stimulate acupoints, which can dredge the tendons and channels, activate blood circulation and remove stasis, and promote blood circulation around the knee joint. One study randomly divided 120 KOA patients into two groups. The fire needling group of 60 patients received fire needling treatment at four points on the affected knee: Neixiyan (EX-LE4), Waixiyan (EX-LE5), Yanglingquan (GB34), and Heding (EX-LE2). The diclofenac sodium group of 60 patients received oral diclofenac sodium sustained-release tablets. The treatment cycle for both groups was 2 weeks. Results showed that after treatment, the WOMAC osteoarthritis index score and serum levels of Interleukin-1 (IL-1) and Interleukin-6 (IL-6) in the fire needling group were significantly lower than those in the diclofenac sodium group, with a statistically significant difference ($P < 0.05$), indicating that fire needling treatment helps improve the disease condition [47].

3.2.2 Herbal Fumigation and Washing

Herbal fumigation and washing therapy is a traditional TCM method where Chinese herbs act directly on the lesion site. Their active components can be absorbed through pores and sweat glands, thereby achieving effects such as activating blood circulation and removing stasis, dredging channels and collaterals, moving Qi, and relieving pain. Simultaneously, this therapy can also support the healthy Qi and consolidate the root, regulate the Zang-fu organs, and improve the patient's overall health condition from a holistic perspective. Commonly used fumigation formulas include Duhuo Jisheng Tang, Guizhi Tang (Cinnamon Twig Decoction), Simiao San which have the functions of warming the channels and dispersing Cold, activating blood circulation and removing stasis, and can effectively relieve joint pain and stiffness in KOA patients. Fumigation is an important external treatment for internal diseases in TCM. Herbal fumigation delivers medication externally, avoiding the side effects of oral drugs, such as gastrointestinal discomfort and the hepatic first-pass

effect, and does not harm the Spleen and Stomach. Compared to oral and injection administration, the fumigation and washing method is safer, non-invasive, and has fewer side effects [48].

3.2.3 Manual Therapy (Tuina)

Tuina is an important component of TCM external treatments. Through manual manipulation, it can dredge channels and collaterals, harmonize Qi and Blood, and relieve pain. The mechanisms of Tuina for treating KOA mainly include the following aspects: 1) Improving blood circulation: Massaging the knee joint and its surrounding soft tissues through Tuina can promote local blood and lymphatic circulation, thereby accelerating the metabolism of inflammatory factors. 2) Relieving muscle spasms: Tuina can relax the tense muscles around the knee joint, alleviating joint stiffness and pain. 3) Regulating the nervous system: By stimulating specific channels and acupoints, Tuina can regulate the function of the central nervous system, achieving an analgesic effect. The clinical research of Sun Songtao [49] showed that Tuina manipulation may protect articular cartilage by intervening in signaling pathways such as NF- κ B, reducing the expression of iNOS protein in cartilage, and simultaneously promoting the proliferation of chondrocytes. Research indicates that Tuina treatment can significantly improve knee joint function in KOA patients, especially in early and middle-stage KOA patients. Combining Tuina with drug therapy can significantly improve efficacy [50].

3.2.4 Application Therapy

Studies have shown that application therapy can inhibit NF- κ B activation, reduce MMPs secretion, and protect chondrocytes [51]. Wei Yibao [52] found that after treatment with “Yiceng” application, the contents of Collagen I, High Mobility Group Box 1 (HMGB1), and p-NF- κ B p65 in the synovial tissue of the Yiceng group rats, as well as the serum levels of Interleukin (IL)-1 β , IL-6, and Tumor Necrosis Factor- α (TNF- α), were significantly lower than those in the KOA group.

3.2.5 Functional Exercise

Exercise therapy can reduce pain, improve physical function, and enhance quality of life [53]. Yi jin Jing exercise can alleviate chronic pain in KOA, improve the coordinated activation ability of lower limb muscle groups, and enhance knee joint stability [54]. Li Yijun found that combined with Baduanjin exercise, it can alleviate clinical symptoms in KOA patients, reduce the expression of inflammatory factors, enhance muscle strength, and improve quality of life [55].

4. Conclusion

In summary, KOA is a serious and inevitable public health problem. Due to its high prevalence and disability rate, it has imposed a heavy burden on patients, their families, and society. Although the early clinical manifestations are insignificant, the damage is irreversible. Lack of sufficient attention in the early stages may lead to unbearable consequences later. Treatment methods in TCM and Western medicine are diverse, each with advantages and disadvantages.

The author believes that synergistic treatment combining TCM and Western medicine is a correct and effective approach. “Treat the manifestation in acute cases; treat the root in chronic cases”. For initial pain, topical NSAIDs can be selected for anti-inflammatory and analgesic effects to build patient confidence in treatment. Subsequently, acupuncture can be used for its anti-inflammatory and analgesic effects to stabilize the efficacy, and Chinese herbal medicine can be used to nourish the Liver, Spleen, and Kidneys, strengthen tendons and bones, and consolidate the fundamental constitution. Simultaneously, actively educate patients to learn how to protect the knee joint in daily life, such as avoiding wind and cold, avoiding activities that are highly damaging to the knees like frequent stair climbing, mountain climbing, and squatting, controlling body weight, and actively and appropriately exercising the muscles around the knee to enhance knee joint stability. Only by addressing both internal and external factors, treating both the root and the manifestation, and cooperating between doctors and patients, can good treatment results be achieved. With the advent of an aging society in China, KOA will be a significant direction for disease development in the future. Its high incidence and disability rates should attract attention from the whole society. Health education is the first step in disease treatment, raising people’s vigilance against this disease ideologically. TCM and Western medicine treatments should be inclusive and integrated, guided by solving the practical problems of patients. “Early detection, early treatment” and “preventing disease before it occurs and preventing its progression when it does” will always be the key steps in the treatment of chronic diseases.

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