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EDITORIAL

Acupuncture for Treating Osteoarthritis of the Knee and the Hip

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Acupuncture is a treatment modality of traditional Chinese medicine, which has a different conceptual and theoretical basis from that of biomedicine. In the diagnostic and treatment delivery process, traditional Chinese medicine takes into account lifestyle factors such as diet, exercise, and quality of rest and sleep, and takes a holistic approach to patients and their illness by addressing physical, mental, and spiritual attributes rather than focusing on a specific pathologic process, as emphasized in modern biomedicine. These characteristics of traditional Chinese medicine make it suitable for use in patients with chronic conditions (1,2).

Osteoarthritis (OA) of the knee and the hip requires continuous and complex management, and patients are unlikely to be cured. The important goal of therapy is therefore to relieve pain and maintain or improve physical and psychological function (3). Patients with OA of the knee or the hip therefore need not only medication but also cognitive and emotional care, in the hope of achieving some behavioral changes that are key to an effective coping strategy (4), and patients' central role as partners is a prerequisite for effective and efficient health care in this condition (5).

Acupuncture can satisfactorily meet these requirements. Traditional Chinese medicine views the body from a distinct perspective from that of modern biomedicine, placing an emphasis on maximizing the body's healing ability and tending to aim for long-term healing, and not necessarily cure (2). According to traditional Chinese medicine, musculoskeletal disorders result from the invasion of wind, cold, and dampness combined, which causes stagnated flow of *qi* and *blood*, and acupuncture works through recovering the normal flow of *qi* and *blood* to relieve pain and improve physical function. This interpretation of the condition can change the way patients think and feel about their illness and their treatment.

Furthermore, real-world acupuncture treatment reflects precisely what the role of patients as partners is: acupuncture treatment in daily practice features close patient–acupuncturist relationships involving enhanced interactions and communications between patients and acupuncturists; acupuncturists work with patients in a patient-centered manner and focus on both their symptoms and their mental health status (6). Thus, with the treatment, patients have a unique and distinct cognitive and emotional experience that can be expected to bring on some behavioral consequences which are key to better managing OA of the knee and the hip. In addition, compared with pharmacologic therapies, acupuncture is safe, with rare adverse effects, and therefore is suitable for long-term use.

Acupuncture has been widely used for chronic pain conditions such as musculoskeletal disorders, without sufficient rigorous evidence supporting its efficacy (7). In the last several years, some high-quality randomized controlled trials of the use of acupuncture in the treatment of OA of the knee and the hip have shown positive results regarding the use of this therapy (8–10). However, there have been no large trials comparing acupuncture with a non–acupuncture-treated group in the context of how acupuncture is actually used in daily medical practice.

In real-world primary care, few patients with OA seek acupuncture as the sole treatment, and due to the inconclusive information regarding its efficacy, acupuncture is very likely an undervalued treatment option as an element of a multidisciplinary integrative approach to treating this disorder. A study by Witt et al reported in

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this issue of *Arthritis & Rheumatism*, which focused on acupuncture in general practice, demonstrates the potential value of this therapy in addition to routine care for OA of the knee and the hip (11). As a pragmatic clinical trial comparing acupuncture in addition to routine care with routine care alone in patients with pain due to OA of the knee or hip, this study reflects as closely as possible the conditions of daily medical practice, and, as the authors point out, maximizes external validity and clinical relevance.

It has been argued that acupuncture extends beyond needle administration, with multiple nonspecific factors being integral to the treatment. Compared with randomized controlled trials, which have unavoidable methodologic defects in assessing the effectiveness of nonpharmacologic treatments (12), randomized pragmatic designs or randomized cluster designs that mirror the complexity of real-world practice are more appropriate and rigorous for evaluating the effectiveness of acupuncture (13). Witt and colleagues recruited participants from heterogeneous practice settings, allowing highly variable treatment regimens and a variety of acupuncture styles, and they investigated the effects of acupuncture on a broad range of health outcomes. The study is one of the largest pragmatic trials of acupuncture, including ~10% of the German population, 5% of physicians specializing in acupuncture, and a full 1% of all primary care physicians in Germany. These characteristics greatly enhance the power of this clinical trial.

Whether or not acupuncture has efficacy beyond placebo effects, placebo factors play a very important role in acupuncture treatment (14). The study by Witt et al addresses the question of whether acupuncture is an effective treatment for OA of the knee and hip, but does not address the question of whether acupuncture is a placebo. Real-world acupuncture treatment involves multiple enhanced placebo factors that determine and shape patients' beliefs and expectations regarding the treatment. Compared with previous studies, one of the strengths of the current study is that it attempts to investigate the influence of some characteristics of therapists and patients on the effectiveness of acupuncture treatment. Clinical experience shows that these characteristics, which reflect and affect patient beliefs and expectations, can considerably influence patient outcomes.

In any medical trial, patients' selection preference is an influential placebo factor that may affect outcomes, especially in a trial with subjective outcome measures (15), and this selection preference is closely related to the way in which patients are informed about the trial. In Witt and colleagues' study (11), four-fifths of the patients declined to be randomized and were allocated to a nonrandomized acupuncture group to control for possible selection bias; no significant differences in treatment outcomes between randomized and nonrandomized patients were identified. But what this selection preference means is unclear, given that the report does not provide details on how patients were informed about the study. For example, if the patients were informed that their consenting or declining to be randomized was unrelated to the treatment they would receive, the power of this selection bias would be greatly diminished. It is necessary that the patient informed consent process be explained explicitly in any published report of a study assessing the effectiveness of acupuncture.

Moreover, some other characteristics of patients that potentially determine their beliefs and expectations regarding the treatment are not described in Witt et al's report. For example, information on the proportion of patients who had previously had a successful or unsuccessful experience with acupuncture, the extent of the patients' knowledge about acupuncture, and the attitude of the patients toward the acupuncture treatment they were going to receive (positive, negative, or neutral) is not provided.

Witt and colleagues also tried to investigate effects of practitioner characteristics on treatment outcomes and found that the physician's acupuncture qualifications (hours of training, years of experience) had no significant influence on the efficacy of the treatment. In real-world acupuncture treatment, however, no other factor is more important than the acupuncturist's experience. Compared with acupuncturists who have little experience, those with more experience invariably have better communication skills that are essential to maintaining good relationships with patients and have an in-depth understanding of the theory of traditional Chinese medicine after having verified it through long-term practice, and their patients experience fewer adverse treatment effects (6). Although no acupuncture effect modifiers were identified in the study by Witt et al, their results should be interpreted with caution, as the authors state, "the indicators used in the present study might not adequately reflect the quality of treatment delivered by the physician."

Given that the biologic mechanism of acupuncture is still unclear, the study by Witt et al furthers our understanding of acupuncture and adds to the accumulated evidence supporting its efficacy. Such evidence warrants extensive use of acupuncture in various chronic pain conditions.

REFERENCES

1. Rees L, Weil A. Integrated medicine. BMJ 2001;322:119–20.
2. Mason S, Tovey P, Long AF. Evaluating complementary medicine: methodological challenges of randomized controlled trials. BMJ 2002;325:832–4.
3. American College of Rheumatology Subcommittee on Osteoarthritis Guidelines. Recommendations for the medical management of osteoarthritis of the hip and knee: 2000 update. Arthritis Rheum 2000;43:1905–15.
4. Newman S, Steed L, Mulligan K. Self-management interventions for chronic illness. Lancet 2004;364:1523–37.
5. Holman H, Lorig K. Patients as partners in managing chronic disease. BMJ 2000;320:526–7.
6. Liu T. Role of acupuncturists in acupuncture treatment. Evid Based Complement Alternat Med. In press. DOI: 10.1093/ecam/nel061.
7. Vickers A, Wilson P, Kleijnen J. Acupuncture. Qual Saf Health Care 2002;11:92–7.
8. Witt C, Brinkhaus B, Jena S, Linde K, Streng A, Wagenpfeil S, et al. Acupuncture in patients with osteoarthritis of the knee: a randomised trial. Lancet 2005;366:136–43.
9. Berman BM, Lao L, Langenberg P, Lee WL, Gilpin AMK, Hochberg MC. Effectiveness of acupuncture as adjunctive therapy in osteoarthritis of the knee: a randomized, controlled trial. Ann Intern Med 2004;141:901–10.
10. Vas J, Mendez C, Perea-Milla E, Vega E, Panadero MD, Leon JM, et al. Acupuncture as a complementary therapy to the pharmacological treatment of osteoarthritis of the knee: randomised controlled trial. BMJ 2004;329:1216–20.
11. Witt CM, Jena S, Brinkhaus B, Liecker B, Wegscheider K, Willich SN. Acupuncture in patients with osteoarthritis of the knee or hip: a randomized, controlled trial with an additional nonrandomized arm. Arthritis Rheum 2006;54:3485–93.
12. Boutron I, Tubach F, Giraudeau B, Ravaud P. Methodological differences in clinical trials evaluating nonpharmacological and pharmacological treatments of hip and knee osteoarthritis. JAMA 2003;290:1062–70.
13. Paterson C, Dieppe P. Characteristic and incidental (placebo) effects in complex interventions such as acupuncture. BMJ 2005;330:1202–5.
14. Kaptchuk TJ. The placebo effect in alternative medicine: can the performance of a healing ritual have clinical significance? Ann Intern Med 2002;136:817–25.
15. Enserink M. Can the placebo be the cure? Science 1999;284:238–40.