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LETTER TO EDITOR

Potential applications of green prescription of Chinese medicine in rheumatoid arthritis

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Dear Editor,

Rheumatoid arthritis (RA) is an autoimmune disease characterized by persistent synovial inflammation, joint destruction, and systemic complications that severely affect patients' quality of life. Epidemiological study has suggested that there are approximately 17.6 million RA patients worldwide,[1] and the total economic cost attributed to the disease is estimated to be between US$2,408 and US$83,845/year,[2] placing a heavy economic burden on patients, families, and society. Disease-modifying antirheumatic drugs and glucocorticoids are both common drugs used to treat RA, but long-term use can cause a variety of adverse reactions.[3,4] The efficacy of complementary non-pharmacological strategies has gained increasing recognition in contemporary RA management paradigms. The American College of Rheumatology now explicitly recognizes structured exercise and nutritional adjustments as foundational treatment elements in its revised clinical guidelines.[5] The proposed intervention aligns with green prescription paradigms, an innovative healthcare strategy initiated in New Zealand's medical reforms during the late 20th century.[6] Clinical validation has confirmed the therapeutic value of evidence-informed programs in modulating inflammatory processes, optimizing metabolic regulation, and promoting psychological well-being among chronic disease populations.[7] The Chinese Medicine Green Prescription (GPCM) framework operationalizes this concept through systematic integration of historically rooted movement therapies with modern dietary protocols and biomedical interventions. Featuring traditional medical principles harmonized with contemporary rehabilitation methodologies, this combined therapeutic model demonstrates clinically validated outcomes as an adaptable and economically viable approach to RA management.

Some studies have demonstrated the therapeutic potential of traditional Chinese exercise therapy regimens in RA management, exhibiting multidimensional therapeutic impacts beyond articular functional enhancement and quality of life improvement to psychological state modulation. Traditional Chinese exercises including Taijiquan, Baduanjin, and Yijin Jing enhance local circulation by coordinating movement-breathing patterns. Clinical trials suggest that these practices may improve joint function, mental health, and immune regulation in RA patients. A controlled clinical investigation revealed that structured Yijin Jing practice significantly augmented manual dexterity, grip capacity, and joint mobility while concurrently elevating life quality metrics and mitigating anxiety-depression scores, without engendering adverse effects on joint inflammation in RA patients.[8] In addition, Du *et al.* found that Tai Chi exercise combined with hand exercise is an effective treatment for RA that can improve joint pain, disease activity, quality of life, depression, and anxiety.[9] The study would be extended to further optimize the intervention program of traditional Chinese exercise and conduct larger pre-clinical and clinical trials to clarify its pharmacological mechanism and

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long-term benefits in the treatment of RA. Separately, the implementation of traditional Chinese diet therapy can help prevent and treat the disease, promoting recovery through the rational selection and combination of foods that have great potential in the treatment of RA. With the core concept of "medicine-food homology," traditional Chinese diet therapy emphasizes the combination of the medicinal and nutritional value of food. Historically, a variety of traditional Chinese medicine (TCM) that can treat RA, such as coix seed, papaya, and soya bean yellow roll, had been recorded by a physician in the Tang Dynasty called Sun Simiao.[10] These records provide a theoretical basis for the treatment of RA using traditional Chinese diet therapy. At present, a large number of studies have shown that many TCM monomers or components have the effect of treating RA, and many randomized controlled trials (RCTs) have shown that the patented medicine extracts of TCM have a significant effect on the treatment of RA.[11,12] The research on TCM monomers and components provides an important reference for TCM dietary therapy but cannot be used as direct evidence for the treatment of RA by traditional Chinese diet therapy since TCM dietary therapy is not conceptually equivalent to traditional Chinese diet therapy. At present, clinical research on the treatment of RA by traditional Chinese diet therapy is still lacking, so it is urgent to conduct systematic research on the treatment of RA by traditional Chinese diet therapy to clarify its mechanism of action and clinical efficacy in the treatment of RA, and to provide a scientific basis for clinical application.

Due to its desired traits in terms of safety, cost, and sustainability, GPCM has broad application prospects in the treatment of RA, especially in public health events, highlighting the value of complementary and alternative therapies. In the future, the mechanism of action will be thoroughly analyzed using multi-omics techniques (*e.g.*, metabolomics, microbiomics) and systems biology modeling to provide a solid theoretical basis for GPCM. At the same time, large-scale clinical trials are warranted to optimize the design of RCTs, and a standardized TCM diagnosis and efficacy evaluation system is needed to further verify the role of GPCM in the standardized treatment of RA. In addition, to promote the precision and intelligent application of GPCM, combining artificial intelligence, big data, and intelligent assisted diagnosis and treatment technology should be considered. In conclusion, GPCM as an important part of the adjuvant therapy of RA is worthy of further exploration and research.

Conflict of interest

The authors declare they have no competing interests.

Author contributions

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