

中国方案：太极拳健康干预的研究热点与内容分析

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摘要: 目的: 太极拳作为我国本土的民族传统运动项目, 凝聚着中华民族博大精深的文化内涵与哲学思想, 是中国武术的重要组成部分。近年来, 太极拳以显著的疾病预防和健康保护效益、良好的安全性、低廉的锻炼成本被国内外医学界广泛关注, 并在全球范围内获得了广泛的普及与发展, 而这一发展得益于科学研究对太极拳健康促进功能的挖掘。目前已有研究表明, 太极拳在增强肌肉力量、增强平衡和控制能力、减轻压力等方面的保健作用, 以及参与各种疾病的预防、治疗和康复, 包括骨关节炎、高血压、糖尿病、冠心病等多种慢性疾病的显著疗效。太极拳作为中国本土传统体育的杰出代表, 有必要对中国学者在太极拳临床干预领域的重要研究成果进行回顾, 并深入分析其选题和研究设计的特点。以期为太极拳健康干预的中国方案在科学化发展和标准化制定提供参考和借鉴。旨在更好地服务于“太极拳健康工程”和“健康中国”战略的实施。**方法:** 为了增强数据的可靠性和说服力, 本研究基于 Web of ScienceTM 核心合集和中国知网 (CNKI) 的北大中文核心期刊数据库, 检索为自建库以来的所有中国学者 (第一作者所属的第一机构单位为中国) 发表太极拳健康干预的临床实验研究文献 (检索及下载日期截止为 2023 年 6 月 30 日)。共检索到 595 篇文献, 根据纳入标准和排除标准进行全文评估, 最终纳入 258 篇文献。并对纳入文献的基本信息 (出版时间、作者、机构、期刊)、研究对象的健康促进或疾病、病症干预的类型; 研究设计信息, 包括样本量、受试者基本信息 (性别、年龄等)、随机化、盲法、对照干预; 太极拳运动的方案, 包括流派风格、治疗周期、治疗频率、治疗时长和运动强度; 结果指标、实验结果和结论等信息进行统计分析。**结果:** 从本研究中所纳入的文献数量看, 中国学者在太极拳健康干预方面的研究呈现出显著的增长趋势。这些研究主要发表在老年病、康复医学以及运动医学等核心期刊上, 突显出学术界对太极拳研究的持续关注以及对其临床应用潜力的广泛认可。对于研究的作者和机构分布统计, 我们发现香港地区的学者以及上海体育学院等机构在太极拳健康干预领域展现出了显著的科研活跃性和研究实力, 推动了该领域的发展和进步, 为太极拳健康干预的研究做出了重要贡献。从纳入研究的研究对象看, 太极拳在涉及精神、行为或神经发育障碍、循环系统疾病、肌肉骨骼系统或结缔组织疾病等相关研究引起了中国学者的广泛兴趣, 成为太极拳健康干预研究中备受关注的热点话题, 为太极拳健康干预研究

提供了广泛而有深度的研究方向。在实验设计方面，研究者们通常将太极拳作为实验组的唯一治疗干预方式，或者将太极拳与其他干预方式结合使用，以评估太极拳相对于其他治疗方式的优越性。这种实验设计使得我们能够更全面地了解太极拳在不同治疗背景下的效果。在选择干预方案时，杨氏太极拳通常被优先考虑，尤其是杨氏 24 式太极拳套路，因其简单易学而被广泛采用。目前太极拳干预措施复杂多样。每项研究在治疗频率、治疗时长、治疗周期的方案设计中过程中都有很大的差异。当前研究结果表明太极拳的干预频率多为 3-4 次/周，每次持续 31-60 分钟，干预周期一般不超过 12 周。在研究报告中，少数研究报告了干预的详细流程和具体的周期方案、参与者的培训是否合格、教练的资质情况。少数研究详细介绍了太极拳练习的具体方案和太极拳的分级。太极拳的运动研究中不可能让参与者和指导者失明，但为了减少偏见，结果评估者和分析人员都是失明的，但只有少数研究报告了实验盲法情况。少数研究对参与者进行了随访，包括锻炼提醒、监督和指导。参与者没有被要求记录他们的日常锻炼，包括类型、锻炼时间、频率等，这也可能是影响结果的一个混杂因素。此外，在随访期间没有监督，这可能放大了患者自主运动的影响。虽然太极拳的健康干预在现有研究中表现出了丰富的临床研究基础。然而，作为一种补充替代医学干预手段的运动处方，太极拳的健康益处虽然在临床干预研究中得到验证，但总体上，由于缺乏坚实的临床证据，如样本量不足、参与者异质性、结局指标的多样性等问题，以至于仍未形成一套标准的运动康复方案而纳入全球运动指南。因此，在进行此类临床试验时，研究人员必须充分意识到太极拳作为传统身心运动具有的独特性，需要详细报告干预特征。未来的临床试验还需努力减少潜在的偏倚来源，包括确保充分的随机分组程序、评估结果时的盲法、安全性方面的信息，以减少由于方法学问题引起的异质性。这将有助于加深我们对太极拳在健康干预中的疗效、安全性和机制的理解，并为其提供更多科学证据。**结论：**研究发现，近年来中国学者在太极拳健康干预的研究总体呈现增长趋势，且大多数研究报告了太极拳健康干预的积极结果。然而，由于当前研究类型、参与者、太极拳干预和结果的报告多种多样以及研究质量的参差不齐。因此，迫切需要更加严格的方案设计、过程评估和结果验证为太极拳健康干预制定一套中国方案标准，并进一步研究和全面评估其潜在益处。

关键词：太极拳；健康干预；临床研究；文献计量；可视化

Chinese Approach: Research Hotspots and Content Analysis of Taijiquan Health Interventions

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Abstract: Objective: Taijiquan, as a representative of China's indigenous traditional sports, embodies the profound cultural and philosophical heritage of the Chinese nation and is an integral part of Chinese martial arts. In recent years, Taijiquan has garnered significant attention in the medical field, both domestically and internationally, due to its notable benefits in disease prevention, health protection, excellent safety profile, and affordability for exercise. It has gained widespread popularity and development globally. This development owes much to scientific research exploring the health-promoting functions of Taijiquan. Current studies have indicated that Taijiquan offers substantial health benefits, including enhanced muscle strength, improved balance and control, stress reduction, as well as its involvement in the prevention, treatment, and rehabilitation of various diseases. These diseases encompass a wide range, such as osteoarthritis, hypertension, diabetes, coronary heart disease, and more, where Taijiquan has demonstrated significant therapeutic effects. As a distinguished representative of China's indigenous traditional sports, it is imperative to review the significant research achievements of Chinese scholars in the field of clinical intervention with Taijiquan. A thorough analysis of their research topics and study designs is essential. This effort aims to provide insights and references for the scientific development and standardization of Taijiquan health interventions in China. Ultimately, it is in line with the implementation of the "Taijiquan Health Project" and the "Healthy China" strategy to better serve the health and well-being of the population.

Methods: To enhance the reliability and persuasiveness of the data, this study conducted a comprehensive search using the Web of Science™ Core Collection database and the China National Knowledge Infrastructure (CNKI) for all clinical experimental research papers on Taijiquan health interventions published by Chinese scholars (with the first author affiliated with Chinese institutions) since the establishment of our database. The search and download were conducted up to June 30, 2023. A total of 595 papers were retrieved, and after full-text assessment based on inclusion and exclusion criteria, 258 papers were ultimately included. Basic information from the included papers was extracted, including publication date, authors, institutions, journals, the health promotion or disease conditions of the study subjects, types of interventions for medical conditions, research design information such as sample size, basic characteristics of participants (gender, age, etc.), randomization, blinding,

control interventions, Taijiquan exercise details (style, duration, frequency, intensity), outcome measures, experimental results, and conclusions. Statistical analysis was performed on these data. **Results:** The number of papers included in this study indicates a significant growth trend in the research conducted by Chinese scholars in the field of Taijiquan health interventions. These studies have been primarily published in core journals related to geriatrics, rehabilitation medicine, and sports medicine. This highlights the continuous academic interest in Taijiquan research and widespread recognition of its clinical application potential. In terms of author and institutional distribution, scholars from Hong Kong and institutions like the Shanghai University of Sport have shown significant research activity and strength in the field of Taijiquan health interventions, driving its development and progress and making important contributions to Taijiquan health intervention research. Regarding the subjects of the included studies, Taijiquan has garnered widespread interest among Chinese scholars in research related to mental, behavioral, or neurodevelopmental disorders, circulatory system diseases, musculoskeletal disorders, or connective tissue diseases. These topics have become prominent and highly regarded in Taijiquan health intervention research, providing extensive and in-depth research directions. In terms of experimental design, researchers often use Taijiquan as the sole therapeutic intervention in the experimental group or combine it with other intervention methods to evaluate its superiority compared to other treatment modalities. This experimental design allows us to comprehensively understand the effectiveness of Taijiquan in different therapeutic contexts. In selecting intervention protocols, Yang-style Taijiquan is usually given priority, especially the simplified and easy-to-learn Yang-style 24-form Taijiquan routine, which has been widely adopted. Currently, Taijiquan intervention measures exhibit a variety of complexities, with significant differences in the design of treatment frequency, duration, and intervention duration among each study. The current research results indicate that Taijiquan interventions are most commonly administered 3-4 times a week, with each session lasting 31-60 minutes, and the intervention period generally does not exceed 12 weeks. In research reports, only a minority provided detailed procedures and specific schedule plans for the interventions, information on whether participants received adequate training, and qualifications of the instructors. A few studies offered detailed descriptions of the specific Taijiquan exercise protocols and the grading system for Taijiquan. It is not feasible for participants and instructors to be blinded in Taijiquan exercise studies, but to reduce bias,

outcome assessors and analysts were blinded. However, only a minority of the studies reported the use of blinding procedures. Some studies conducted follow-ups with participants, which included exercise reminders, supervision, and guidance. Participants were not required to record their daily exercise, including the type, exercise duration, and frequency, which could potentially introduce confounding factors affecting the results. Additionally, there was no supervision during the follow-up period, which might have amplified the impact of participants' self-initiated exercise. Although Taijiquan interventions for health have shown a rich clinical research foundation in existing studies. However, as an exercise prescription that serves as a complementary alternative medical intervention, Taijiquan health benefits, despite being validated in clinical intervention research, have not yet formed a standardized exercise rehabilitation program for inclusion in global exercise guidelines due to an overall lack of robust clinical evidence, such as insufficient sample sizes, participant heterogeneity, and outcome measures. Therefore, in conducting such clinical trials, researchers must be acutely aware of the unique nature of Taijiquan as a traditional mind-body exercise and provide detailed descriptions of the intervention characteristics. Future clinical trials should also strive to minimize potential sources of bias, including ensuring adequate randomization procedures, blinding during outcome assessments, and reporting safety-related information, in order to reduce heterogeneity resulting from methodological issues. This will contribute to a deeper understanding of the efficacy, safety, and mechanisms of Taijiquan in health interventions and provide it with more scientific evidence.

Conclusion: The study reveals that in recent years, Chinese scholars have shown an overall increasing trend in research on Taijiquan health interventions, with the majority of studies reporting positive outcomes. However, due to the diverse range of research types, participants, Taijiquan interventions, and reported outcomes, along with disparities in research quality, there is an urgent need for more rigorous scheme designs, process evaluations, and result verifications to establish standardized Chinese guidelines for Taijiquan-based health interventions. Furthermore, further research and comprehensive assessments are imperative to explore the potential benefits of Taijiquan thoroughly.

Key words: Taijiquan; health intervention; clinical research; bibliometrics; visualization