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Clinical effectiveness of traditional Chinese medicine physical therapy for moderate-to-severe cancer pain alleviation

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ADMINISTRATIVE INFORMATION

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Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 22 August 2025 and was last updated on 22 August 2025.

INTRODUCTION

Review question / Objective To systematically evaluate the effectiveness, safety, and clinical significance of traditional Chinese medicine (TCM) physical therapy (e.g., acupuncture and acupoint embedding) for moderate-to-severe cancer pain and related adverse reactions.

Condition being studied Cancer pain, also called tumor-associated pain, is defined by the International Association for the Study of Pain as unpleasant sensory and emotional experiences associated with actual or potential tissue damage or associated with such damage [4]. In particular, because of cancer, pathological tissues can invade nerves or compress tissues and organs; this represents the most common complication in most patients with advanced-stage cancer, with >80% of them having pain that hinders normal physiological function and considerably worsens the quality of life (QOL) [5]. Cancer pain treatment is mainly based on the World Health Organization's three-step pain relief principle; however, in some patients with intractable, drug-resistant cancer pain, the therapeutic effect can be unsatisfactory [6]. In addition, long-term analgesic use can lead to severe gastrointestinal adverse reactions. In this regard, nondrug modalities, such as traditional Chinese medicine (TCM) physical therapy, may be used to alleviate pain in cancer patients [7]. Moreover, cancer organizations, including the American Society of Clinical Oncology and the National Comprehensive Cancer Network [8, 9], recommend the use of nondrug interventions, such as acupuncture and acupoints, to reduce cancer pain.

METHODS

Participant or population Study subjects were patients diagnosed as having cancer, accompanied by moderate-to-severe cancer pain.

Intervention The intervention group was administered either acupuncture, auricular point

acupressure, or acupoint catgut therapy alone or combined with the control interventions.

Comparator Western medicine treatment.

Study designs to be included RCT.

Eligibility criteria (1) Study type was RCT. (2) Study subjects were patients diagnosed as having cancer, accompanied by moderate-to-severe cancer pain. (3) The intervention group was administered either acupuncture, auricular point acupressure, or acupoint catgut therapy alone or combined with the control interventions. (4) The efficacy evaluation indicators included posttreatment numerical rating scale (NRS) scores, QOL scores, Karnofsky Performance Status Scale (KPS) scores, total effectiveness rate, and at least one of the secondary outcome indicators (namely posttreatment improvements in oral analgesic use, nausea, vomiting, and constipation).

Information sources China National Knowledge Infrastructure, VIP, Medline, PubMed, Science Direct, Google Scholar, Web of Science, Embase CBM, and WanFang databases.

Main outcome(s) Posttreatment numerical rating scale (NRS) scores, QOL scores, Karnofsky Performance Status Scale (KPS) scores, total effectiveness rate, and at least one of the secondary outcome indicators (namely posttreatment improvements in oral analgesic use, nausea, vomiting, and constipation) [16-18]; the total effectiveness rate was calculated as the sum of CR (i.e., complete pain relief; 91%–100%), AR (i.e., significant pain relief; 61%–90%), and PR (i.e., partial pain relief; 31%–60%). In contrast, we excluded articles that did not use an RCT design, did not apply a TCM physical therapy modality to the intervention group, were duplicates of other RCTs, or used a nonscientific experimental design.

Quality assessment / Risk of bias analysis All literature retrieved from the databases was imported into EndNote. Two researchers independently screened the articles and assessed their quality. The software program was then used to exclude articles based on duplication. The researchers then read the titles and abstracts of the remaining articles, assessed them against the exclusion criteria, and excluded ineligible articles. Finally, they read the full texts of the remaining articles and excluded ineligible studies. The results of both researchers were compared, and any disputes were resolved through discussion.

Strategy of data synthesis RevMan 5.4 was used to analyze data from the included literature. The chi-square test was used to evaluate the heterogeneity among studies (P = 0.05); when the P value was > 0.05, a fixed effects model was used to analyze heterogeneity, whereas a random effects model was used when the P value was ≤ 0.05. After normalization, the continuous variables are presented as weighted mean differences (WMDs). Moreover, the binary and continuous variables are represented by 95% confidence intervals (CI). The corresponding P-values were obtained using the Z test of the combined statistics; P ≤ 0.05 was considered to indicate statistical significance.

Subgroup analysis Acupuncture treatment, acupuncture therapy, auricular point pressure bean, auricular point acupressure, acupoint catgut embedding, and embedding.

Sensitivity analysis In all RCTs, the patients were randomized to receive interventions. Moreover, the RCTs included complete outcome index reports without any indications ofdropouts.

Country(ies) involved 1.Clinical Medical Research Center, The First Affiliated Hospital of Guizhou University of Traditional Chinese Medicine, Guiyang, Guizhou Province, China.2 Academy of Medical Engineering and Translational Medicine, Tianjin University, Tianjin.

Keywords Physical therapy, Acupuncture, Acupoint catgut embedding, Auricular point acupressure, Cancer pain.

Contributions of each author

Author 1 - Jinyang Cheng - 1.conceived of and designed the study；2.wrote the report.
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Author 2 - Feiqing Wang - 1.conceived of and designed the study；2.wrote the report.
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Author 8 - Yang Liu - conceived of and designed the study.
Author 9 - Dongxin Tang - critically revised the report.
Author 10 - Yanju Li - conceived of and designed the study.