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REVIEW

Efficacy of Different Acupuncture Therapies for Chronic Prostatitis/Chronic Pelvic Pain Syndrome: A Network Meta-Analysis

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Video abstract

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Background: Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) presents substantial therapeutic challenges, as existing drug therapies demonstrate limited efficacy and often cause adverse effects. These limitations highlight the need to explore non-pharmacological alternatives.

Purpose: This network meta-analysis aimed to evaluate the comparative efficacy of eight acupuncture therapies versus usual treatment (UT) for chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS).

Results: From 67 RCTs (5961 patients), all acupuncture modalities outperformed conventional drugs in clinical efficacy ($P<0.05$), with long-needle acupuncture ranking highest (SUCRA 88.7%). Specific outcomes revealed: 1) symptom scores: thumb-tack needle (SUCRA 90.9%) and long-needle acupuncture (72.2%) showed the greatest NIH-CPSI reduction; 2) Pain: long-needle acupuncture (76.3%) and acupoint catgut embedding (69.3%) ranked top; 3) Urination: long-needle acupuncture (82.9%) and conventional acupuncture (47.9%) surpassed UT; 4) Quality of life: thumb-tack needle (72.3%), electroacupuncture (65.6%) and long-needle acupuncture (64.1%) were optimal. Long-needle acupuncture consistently demonstrated superior efficacy across both subjective symptoms and objective measures.

Conclusion: Acupuncture therapies, especially long-needle acupuncture, are more effective than UT for CP/CPPS, providing comprehensive symptom relief, pain reduction, and functional improvement, with long-needle acupuncture emerging as the most robust intervention.

Keywords: acupuncture, chronic prostatitis/chronic pelvic pain, network meta-analysis

Background

Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) is mainly manifested as long-term, recurrent pain or discomfort in the pelvic floor area and varying degrees of lower urinary tract symptoms, such as frequent urination, dysuria, incomplete emptying of the bladder, or painful ejaculation, etc. It is a common genitourinary disorder[1] that seriously affects patients' physical and mental health, causing psychological symptoms such as dizziness, fatigue, memory loss, and even depression and anxiety.[2,3] CP/CPPS affects 2–10% of adult men globally, with an incidence reaching 8.2% among specific populations. This significant disease burden contributes to substantial healthcare costs and reduced quality of life (QOL) among affected individuals.[4–6] Critically, research demonstrates that a significant proportion of patients (11.5%) are susceptible to anxiety disorders, with studies indicating that these patients exhibit a nearly two-fold elevated risk compared to the general population.[7,8] This phenomenon is attributed to several molecular mechanisms. Neuroinflammatory pathways involve elevated tumor necrosis factor-α (TNF-α) derived from prostate tissue mast cells, which activates TRPV1+ nociceptors, subsequently inducing central sensitization.[9,10] Oxidative stress responses are characterized by elevated levels of 8-hydroxydeoxyguanosine (8-OHdG) in seminal fluid, which can lead

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to mitochondrial dysfunction within pelvic nerves.[11–13] Additionally, hypothalamic-pituitary-adrenal (HPA) axis and amygdala dysregulation is characterized by increased corticotropin-releasing factor (CRF) levels in the hypothalamic paraventricular nucleus (PVN). This, in turn, leads to reduced GABAergic inhibition in the basolateral amygdala, resulting in anxiety-like behaviors.[14–16]

Because the etiology and pathogenesis of CP/CPPS are still unclear, the course of disease is long, and the symptoms are recurrent, effective treatment of CP/CPPS is still challenging, and there is no ideal treatment method.[17,18] At present, the main treatment method is to alleviate patients' clinical symptoms and improve their QOL.[19,20] Clinically, relevant drug treatments such as antibiotics, a-receptor blockers, non-steroidal anti-inflammatory drugs, antidepressants and anti-anxiety drugs, 5-α-reductase inhibitors, M-receptor blockers, β3-receptor agonists, and analgesics, etc. are usually administered empirically.[17,21] However, studies demonstrated that due to the natural defense system of the blood-prostate barrier, the passage rate of drugs is low, and the drug concentration at the lesion is far from sufficient, resulting in unsatisfactory efficacy.[22] In addition, these drugs usually have side effects, such as orthostatic hypotension, gastrointestinal reactions, etc., which make patients unable to tolerate drug treatment and affect the efficacy.[18]

According to its main clinical symptoms, CP/CPPS belongs to the categories of "stranguria", "turbid semen disease", and "low back pain" in traditional Chinese medicine (TCM). Most of the cases are caused by factors such as downward flow of damp-heat, poor emotion, Qi stagnation and blood stasis, kidney deficiency and liver Qi stagnation, causing damp invasion of the bladder and resulting in water and fluid metabolism disorders.[23] The regulation of Qi and blood and the balance of intestines are the theoretical basis of TCM for acupuncture treatment of CP/CPPS. Experimental data confirm that acupuncture therapy exhibits multi-target regulatory mechanisms. It significantly downregulates TNF-α expression and interleukin-1β (IL-1β) mRNA levels in prostatic tissue.[24,25] Furthermore, acupuncture markedly enhances antioxidant capacity, as evidenced by increased superoxide dismutase (SOD) activity and decreased malondialdehyde (MDA) levels.[26] It also effectively modulates hypothalamic-pituitary -adrenal axis function, reducing cortisol levels while increasing serum γ-aminobutyric acid (GABA) levels.[27,28] Acupuncture can improve the symptoms of patients with CP/CPPS by regulating the immune system,[29] improve clinical efficacy, and have fewer adverse events (AEs).[30] These findings suggest that acupuncture could be a potential complementary therapy for CP/CPPS. Despite the evidence supporting its efficacy, acupuncture remains underutilized relative to conventional therapies for CP/CPPS in clinical practice. Key barriers to its implementation include inconsistent clinical protocols, as well as standardization gaps in treatment scheduling (frequency and duration), needle techniques (depth and stimulation), and acupoint selection. These factors limit reproducibility across practitioners.[31–33] Methodological limitations in research also pose challenges, with many studies relying on non-standardized outcome measures and unvalidated diagnostic criteria. This undermines the reliability of evidence and hinders comparative analysis. For example, the lack of head-to-head trials is a concern.[34] Additionally, mechanistic ambiguities remain, as the biological basis of acupuncture's effects is still incompletely characterized within contemporary biomedical frameworks, impeding mechanistic justification for its clinical use.[34,35] These limitations directly manifest as critical deficiencies in clinical acupuncture research: the absence of standards for diagnosis and treatment, syndrome differentiation and treatment, and efficacy evaluation.[36] Thus, the current study aimed to resolve the above disputes via a network meta-analysis (NMA) and provide more precise treatment options for CP/CPPS.

Methods and Materials

This NMA strictly followed the PRISMA reporting guidelines to ensure transparency and reproducibility of its process and had been successfully registered on the PROSPERO platform with a registration number of CRD42024565661.

Literature Retrieval

The Cochrane, PubMed, Embase, China National Knowledge Infrastructure (CNKI), Wanfang Data, and VIP Network databases were retrieved for randomized controlled trials (RCTs) on the efficacy of different acupuncture therapies in

treating CP/CPPS up to April 24, 2024. A combination of subject terms plus free terms (CP/CPPS and acupuncture) was employed for the retrieval. The detailed strategy is described in the Supplementary Methods and Material.

Eligibility Criteria

Inclusion criteria: Adults who met the diagnostic criteria for CP/CPPS[37] were included. The intervention group received various acupuncture therapies, including long-needle acupuncture, warm needle acupuncture, thumb-tack needle acupuncture, elongated-needle acupuncture, fire-needle therapy, conventional acupuncture, acupoint catgut embedding, and electroacupuncture. The control groups received conventional drug treatment, sham acupuncture, other physical therapies (such as neuromuscular electrical stimulation, Chang Qiang acupoint application, lower abdominal nerve block, radiofrequency therapy, and ultrashort wave therapy), or no treatment at all. In this NMA, these different types of control interventions were used as usual treatment (UT) for analysis and comparison. The primary outcome was clinical efficacy, secondary outcomes were chronic prostatitis symptom index scores (NIH-CPSI symptom score), pain, urination symptoms, and QOL, and the study type was an RCT.

Exclusion criteria: Duplicate literature, animal studies, case reports, conference abstracts, reviews, articles with unavailable full texts, studies combining other organic diseases.

Data Extraction

The two authors conducted a rigorous review of articles according to the predefined eligibility criteria. Any disagreements were resolved via discussion or third-party consultation. Information extracted consisted of the following: first author, publication year, country, sample size, gender, age, intervention, and outcome indicators.

Quality Evaluation

The risk of bias (ROB) was evaluated via the latest recommendations of the Cochrane Bias Assessment Manual ROB Assessment Tool 2.0 (ROB 2.0),[38] which encompassed five main parts: randomization bias, bias due to deviation from intervention, bias due to missing outcome data, bias due to outcome measurement, and bias due to selective reporting of outcomes. The quality of literature was categorized as “low ROB”, “some concerns” and “high ROB”. The study results were reviewed by two investigators, and any disagreements were resolved via discussion or third-party consultation.

Data Analysis

By utilizing R4.4.1 software (R Foundation for Statistical Computing), a Bayesian NMA was conducted on multiple groups of trials via a priori fuzzy random effect model. The Markov chain Monte Carlo (MCMC) method[39] was adopted to obtain the best pooled estimates and probabilities for each treatment regimen. Trajectory charts and Brooks-Gelman-Rubin plots were applied to evaluate the model convergence, and continuity results were expressed as posterior mean difference (MD) and its 95% confidence interval (CI). The surface under the cumulative ranking curve (SUCRA) was computed to estimate the probability of the best intervention. A pass-through macro command was loaded in STATA 15.0 to draw network diagrams and funnel plots. In a network diagram, each circle represented a drug and the edges represented existing comparisons. The size of a circle was proportional to the number of patients included. Cumulative probability plots were plotted via the ggplot2 package.

Results

Data Screening Process and results

A preliminary retrieval yielded 1011 articles, 260 duplicates were removed first, 678 articles were excluded by reading titles and abstracts, and 6 articles were removed by reading full texts. Finally, 67[40–106]articles were incorporated in this NMA (Figure 1).

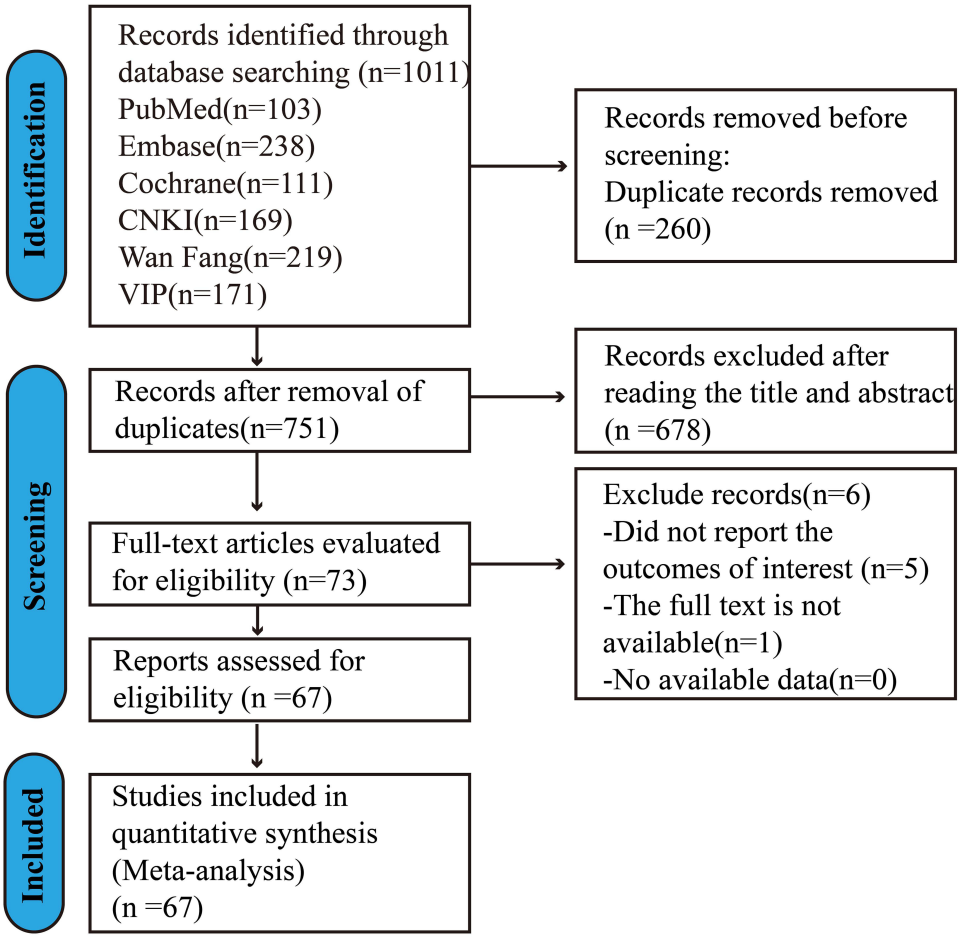

Figure 1 Literature retrieval process.

Basic Characteristics of Literature and ROB Assessment

The 67 articles included 5938 patients with CP/CPPS. Acupuncture therapies encompassed long-needle acupuncture, warm needle, thumb-tack needle, elongated-needle acupuncture, fire-needle therapy, conventional acupuncture, acupoint catgut embedding, and electroacupuncture. The specific characteristics are illustrated in Table 1.[40–106] The blinding method employed was clearly accounted for in these studies, and the high risk was mainly due to the deviation from the intended interventions. The ROB assessment for the included studies is presented in Figures 2 [40–106] and 3.

Results of NMA

Clinical Efficacy

Fifty-six articles[40–50,53–57,59,60,63–100] mentioned the clinical efficacy, as illustrated in Figure 4A. Compared to UT, long-needle acupuncture [MD=5.9, 95% CI (2.8, 13.0)], thumb-tack needle [MD=3.8, 95% CI (1.8, 8.6)], elongated-needle acupuncture [MD=3.1, 95% CI (1.6, 5.9)], conventional acupuncture [MD=2.8, 95% CI (2.3, 3.5)], electro-acupuncture [MD=2.6, 95% CI (1.5, 4.6)], acupoint catgut embedding [MD=2.6, 95% CI (1.4, 4.9)], and warm needle [MD=4.5, 95% CI (2.4, 8.8)] improved the clinical efficacy for CP/CPPS patients, and no significant difference was found between the efficacy of fire-needle therapy and conventional drug treatment for CP/CPPS patients [MD=2.7, 95% CI (0.78, 11.0)] (Figure 4B). However, there was no significant difference in the efficacy for CP/CPPS patients among long-needle acupuncture, warm needle, thumb-tack needle, elongated-needle acupuncture, conventional acupuncture, acupoint catgut embedding, electroacupuncture (Table S1). The long-needle acupuncture

Table 1 Characteristics of Literature

Study	Year	Sample size	Gender:M/F (male/female)	Mean age(years)	Intervention	Outcome
Zhao.Y.D.[94]	2012	Acupuncture:50 UT:50	M:100 F:0		Acupuncture: conventional acupuncture UT: conventional drug therapy	Clinical efficiency
Zhao.X.X.[92]	2017	Acupuncture:80 UT:80	F:160 M:0	UT:34.89 acupuncture:35.47	Acupuncture: conventional acupuncture therapy UT: conventional drug therapy	Clinical efficiency Soreness
Zhang.X.J.[89]	2009	Acupuncture:54 UT:50	M:94 F:0	Acupuncture:47 UT:45	Acupuncture: Awn needle UT: conventional drug therapy	Clinical efficiency
Zhang.J.P.[84]	2013	Acupuncture:25 UT:25	M:50 F:0	Acupuncture:45.8 UT:47.5	Acupuncture: Awn needle UT: conventional drug therapy	Clinical efficiency
Yang.Z.G.[78]	2002	Awn needle:49 Conventional acupuncture:30 UT:30	M:109 F:0	Awn needle:40.45 UT:39.95	Acupuncture: awn needle UT: conventional drug therapy	Clinical efficiency
Xu.X.M.[76]	2013	Acupuncture:30 UT:30	M:60 F:0	Acupuncture:35 UT:35	Acupuncture: conventional acupuncture UT: conventional drug therapy	Clinical efficiency NIH-CPSI
Xia.S.Y.[75]	2020	Acupuncture:33 UT:34	M:64 F:0	Acupuncture:43.24 UT:43	Acupuncture: conventional acupuncture UT: conventional drug therapy	Clinical efficiency NIH-CPSI
Wu.L.H.[74]	1999	Acupuncture:110 UT:100	M:210 F:0		Acupuncture: long needle acupuncture UT: conventional drug therapy	Clinical efficiency
Wang.Q.C.[73]	2012	Catgut-embedding therapy:115 UT:103	F:218 M:0	Catgut-embedding therapy:33 UT:30	Acupuncture: catgut-embedding UT: conventional drug therapy	Clinical efficiency
Wang.L.[102]	2021	UT:30 acupuncture:30	M:60 F:0	UT:37.16 acupuncture:36.84	UT: no treatment acupuncture: conventional acupuncture	Soreness Urinary symptoms Quality of life NIH-CPSI
Wang.L.J.[71]	2016	Acupuncture:45 UT:45	M:90 F:0	Acupuncture:36.4 UT:37.1	Acupuncture: conventional acupuncture UT: Conventional drug therapy	Clinical efficiency NIH-CPSI
Wan.Y.S.[69]	2019	Acupuncture:32 UT:32	M:64 F:0	Acupuncture:28.13 UT:28.05	Acupuncture: Thumb-tack needle UT: Conventional drug therapy	Clinical efficiency Soreness Urinary symptoms Quality of life NIH-CPSI
Mu.L.[68]	2017	Electroacupuncture:50 UT:53	M:103 F:0	Electroacupuncture:34.51 UT:35.23	elEctroacupuncture UT: conventional drug therapy	Urinary symptoms Quality of life NIH-CPSI Soreness Clinical efficiency
Pu.Y.P.[66]	2006	Acupuncture:24 UT:12	M:36 F:0	Acupuncture:35 UT:37	Acupuncture: conventional acupuncture UT: conventional drug therapy	Clinical efficiency
Ou.Y.F.[65]	2020	Electroacupuncture:57 UT:55	M:112 F:0	Electroacupuncture:32 UT:30	Acupuncture: electroacupuncture UT: conventional drug therapy	Clinical efficiency Soreness Urinary symptoms Quality of life NIH-CPSI
Ma.Y.H.[61]	2021	Acupuncture:43 UT:43	M:86	Acupuncture:45 UT:47	Acupuncture: conventional acupuncture UT: conventional drug therapy	Soreness Urinary symptoms Quality of life NIH-CPSI
Zhui.C.L.[59]	2008	Acupuncture:30 UT:30	M:60 F:0		Acupuncture: conventional acupuncture therapy UT: conventional drug therapy	Clinical efficiency
Luo.X.M.[58]	2018	UT:28 acupuncture:28	F:56 M:0	UT:32.34 acupuncture:31.88	UT: neuromuscular electrical stimulator acupuncture: conventional acupuncture	Soreness

(*Continued*)

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Table 1 (Continued).

Study	Year	Sample size	Gender:M/F (male/female)	Mean age(years)	Intervention	Outcome
Li.S.L.[54]	2015	UT: 40 acupuncture group: 40	M:80 F:0		UT: conventional drug therapy acupuncture: conventional acupuncture	Soreness Urinary symptoms Quality of life NIH-CPSI Clinical efficiency
Li.Q.[52]	2015	acupuncture:44 UT:44	M:88 F:0		UT: conventional drug therapy acupuncture: conventional acupuncture	NIH-CPSI
Li.G.Q.[72]	2012	Acupuncture:35 UT:35	M:70 F:0	Acupuncture:35 UT:37	Acupuncture: conventional acupuncture UT: conventional drug therapy	Clinical efficiency
Li.C.[70]	2006	Acupuncture:51 UT:39	M:90 F:0	UT:33 acupuncture:35	UT: conventional drug therapy acupuncture: conventional acupuncture	Clinical efficiency
He.T.Y.[49]	2004	Acupuncture:60 UT:30	M:90 F:0		Acupuncture: conventional acupuncture UT: conventional drug therapy	Clinical efficiency
Geng.Q.[48]	2016	Acupuncture:28 UT:28	M:56 F:0	Acupuncture:29.13 UT:28.84	Acupuncture: conventional acupuncture UT: conventional drug therapy	Clinical efficiency Soreness Urinary symptoms Quality of life NIH-CPSI
Chen.G.[55]	2016	Acupuncture:29 UT:29	M:58 F:0	Acupuncture:33 UT:34	Acupuncture: conventional acupuncture UT: conventional drug therapy	Clinical efficiency NIH-CPSI Soreness
Chen.S.H.[41]	2009	UT: 40 Acupuncture group: 40	M:120 F:0		UT: chang qiang acupoint application acupuncture: conventional acupuncture	Quality of life NIH-CPSI Clinical efficiency
M.M.Amin.[62]	2015	UT: 62 acupuncture:55	F:117 M:0	UT: 33.82 acupuncture:34.42	UT: lower stomach from nerve block acupuncture: electroacupuncture	
Zhang.A.J.[99]	2022	Conventional acupuncture: 32 UT: 29	M:95 F:0	Acupuncture:34 UT:35	Acupuncture: conventional acupuncture UT: conventional drug therapy	Clinical efficiency Quality of life NIH-CPSI Soreness
Chen.Y.L.[98]	2011	Acupuncture:30 UT:30	M:60 F:0	Acupuncture:26 UT:26	Acupuncture: conventional acupuncture therapy Drug: conventional drug therapy	Clinical efficiency Soreness Urinary symptoms Quality of life NIH-CPSI
Chen.Z.X.[44]	2009	Acupuncture: 41 UT: 42	M:83 F:0	Acupuncture: 34.16 UT:33.19	Acupuncture: conventional acupuncture therapy UT: conventional drug therapy	NIH-CPSI Clinical efficiency
Chen.S.H.[42]	2008	UT:50 acupuncture:50	M:100 F:0	UT:38.03 acupuncture:38.43	Acupuncture: conventional acupuncture UT: radio frequency	Clinical efficiency NIH-CPSI
Chen.X.[43]	2016	Warm needle Acupuncture:84 UT:84	M:168 F:0	Acupuncture:27.62 UT:25.53	Acupuncture: warm needle acupuncture+ conventional drug therapy UT: conventional drug therapy	Clinical efficiency
Chen.Z.L.[45]	2011	Electroacupuncture:49 UT:48	M:97 F:0		Acupuncture: electroacupuncture + conventional drug therapy UT: conventional drug therapy	Clinical efficiency Soreness Urinary symptoms Quality of life NIH-CPSI
Cui.L.M.[46]	2008	Acupuncture:86 UT:86	M:172 F:0		Acupuncture: conventional acupuncture therapy UT: conventional drug therapy	Clinical efficiency
Gao.S.[47]	2015	Acupuncture:50 UT:50	M:100 F:0	Acupuncture:63 UT:66	Acupuncture: warm needle acupuncture UT: conventional drug therapy	Clinical efficiency

(*Continued*)

Table 1 (Continued).

Study	Year	Sample size	Gender:M/F (male/female)	Mean age(years)	Intervention	Outcome
Hong.J.Y.[50]	2008	Acupuncture:44 UT:43	M:87 F:0	Acupuncture:29.8 UT:29.9	Acupuncture: conventional acupuncture therapy UT: conventional drug therapy	Clinical efficiency
S.W.H.Lee.[106]	2011	Acupuncture:44 UT:45	M:89 F:0	Acupuncture:42.8 UT:40.9	Acupuncture: conventional acupuncture therapy UT: sham acupuncture	Soreness
Li.B.[51]	2023	Acupuncture:20 UT:21	M:42 F:0	Acupuncture:39.8 UT:36.4	Acupuncture: conventional acupuncture therapy UT: sham acupuncture	Soreness Urinary symptoms Quality of life NIH-CPSI
Li.S.C.[53]	2011	Acupuncture:60 UT:40	M:100 F:0		Acupuncture: conventional acupuncture UT: conventional drug therapy	Clinical efficiency
Liang.Q.F.[56]	2021	Acupuncture:31 UT:30	M:61 F:0	Acupuncture:42 UT:42	Acupuncture: electroacupuncture + conventional drug therapy UT: conventional drug therapy	Clinical efficiency NIH-CPSI
Lv.F.J.[57]	2011	Acupuncture:57 UT:53	M:110 F:0		Acupuncture: electroacupuncture + conventional drug therapy UT: conventional drug therapy	Clinical efficiency
Ma.G.Z.[60]	2016	Acupuncture:40 UT:38	M:78 F:0	Acupuncture:42 UT:40	Acupuncture: warm needle Acupuncture UT: conventional drug therapy	Clinical efficiency NIH-CPSI
Ma.Y.[64]	2014	Catgut embedding:37 UT:29	M:66 F:0	Acupuncture:31 UT:33	Acupuncture: catgut embedding UT: conventional drug therapy	Clinical efficiency Soreness NIH-CPSI
Ma.Y.[63]	2015	Catgut embedding:80 UT:80	M:160 F:0	Acupuncture:35 UT:33	Acupuncture: catgut embedding UT: conventional drug therapy	Clinical efficiency Soreness NIH-CPSI
S.Sahin.[104]	2015	Acupuncture:50 UT:50	M:100 F:0	Acupuncture:32.1 UT:32.8	Acupuncture: conventional acupuncture therapy UT: sham acupuncture	Soreness Urinary symptoms Quality of life NIH-CPSI
Shao.Y.Z.[67]	2024	Acupuncture:43 UT:44	M:87 F:0	Acupuncture:34 UT:33	Acupuncture: conventional acupuncture therapy UT: conventional drug therapy	Clinical efficiency
Shen.Q.[40]	2013	Acupuncture:31 UT:30	M:61 F:0	Acupuncture:28 UT:27	Acupuncture: conventional acupuncture therapy UT: conventional drug therapy	Clinical efficiency
Zhu.Y.X.[96]	2019	Acupuncture:30 UT:30	M:60 F:0	Acupuncture:42.6 UT:43	Acupuncture: conventional acupuncture therapy + conventional drug therapy UT: conventional drug therapy	Clinical efficiency
Zhou.Y.J.[95]	2017	Acupuncture:43 UT:43	M:0 F:86	Acupuncture:33.6 UT:33.47	Acupuncture: conventional acupuncture therapy UT: ultrashort wave therapy apparatus	Clinical efficiency
Wang.H.Y.[101]	2024	Acupuncture:35 UT:35	M:70 F:0	Acupuncture:36.5 UT:36.8	Acupuncture: conventional acupuncture therapy UT: sham acupuncture	Soreness NIH-CPSI
Wang.L.J.[103]	2021	Acupuncture:33 UT:33	M:66 F:0	Acupuncture:39 UT:41	Acupuncture: conventional acupuncture therapy +conventional drug therapy UT: conventional drug therapy	NIH-CPSI
Zhou.M.J.[100]	2017	Long-needle acupuncture:39 UT:38	M:77 F:0	Long-needle acupuncture:31.4 UT:31.7	Acupuncture: long-needle acupuncture UT: conventional acupuncture therapy	Clinical efficiency Soreness Urinary symptoms Quality of life NIH-CPSI
Xie.Z.R.[97]	2021	Acupuncture:24 UT:27	M:51 F:0	Acupuncture:35.17 UT:35.48	Acupuncture: conventional acupuncture therapy UT: sham acupuncture	Clinical efficiency NIH-CPSI

(*Continued*)

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Table 1 (Continued).

Study	Year	Sample size	Gender:M/F (male/female)	Mean age(years)	Intervention	Outcome
Xue.Y.P.[77]	2006	Acupuncture:40 UT:42	M:82 F:0	Acupuncture:40.2 UT:39.69	Acupuncture: warming needle + conventional drug therapy UT: conventional drug therapy	Clinical efficiency
Ye.Z.[79]	2023	Acupuncture:37 UT:37	M:0 F:74	Acupuncture:34.15 UT:34.21	Acupuncture: warm needle + conventional drug therapy UT: conventional drug therapy	Clinical efficiency
Yu.J.Y.[80]	2019	Acupuncture:30 UT:30	M:60 F:0	Acupuncture:54 UT:55	Acupuncture: long_needle_acupuncture+ conventional drug therapy UT: conventional drug therapy	Clinical efficiency Soreness Urinary symptoms Quality of life NIH-CPSI
Yuan.S.S.[81]	2018	acupuncture:30 UT:30	M:0 F:60	acupuncture:34.83 UT:33.37	acupuncture: conventional acupuncture +conventional drug therapy UT: conventional drug therapy	Clinical efficiency Soreness
Zhang.E.Q.[82]	2018	acupuncture:60 UT:57	M:117 F:0	acupuncture:60 UT:57	acupuncture: conventional acupuncture therapy UT: sham acupuncture	Clinical efficiency NIH-CPSI
Zhang.J.[85]	2010	electro-acupuncture :24 UT:24	M:48 F:0	acupuncture:34.7 UT:32.6	acupuncture: electroacupuncture UT: conventional drug therapy	Clinical efficiency Soreness Urinary symptoms Quality of life NIH-CPSI
Zhang.J.B.[83]	2013	Acupuncture:50 UT:50	M:100 F:0	Acupuncture:37.6 UT:38.3	Acupuncture: conventional acupuncture therapy+ conventional drug therapy UT: conventional drug therapy	Clinical efficiency
Zhang.L.[87]	2016	Acupuncture:50 UT:50	M:0 F:100	Acupuncture:50 UT:50	Acupuncture: fire_acupuncture +conventional drug therapy UT: conventional drug therapy	Clinical efficiency
Zhang.L.J.[86]	2009	Acupuncture:110 UT:30	M:140 F:0		Acupuncture: conventional acupuncture + conventional drug therapy UT: conventional drug therapy	Clinical efficiency
Zhang.X.J.[88]	2021	Pressing acupuncture:25 UT:25	M:50 F:0		Acupuncture: pressing acupuncture therapy+ auricular pressure beans UT: auricular pressure beans	Clinical efficiency Soreness Urinary symptoms Quality of life NIH-CPSI
Zhang.X.Y.[105]	2017	Acupuncture:45 UT:45	M:90 F:0		Acupuncture: conventional acupuncture + conventional drug therapy UT: conventional drug therapy	Soreness Urinary symptoms Quality of life
Zhang.Y.K.[90]	2006	Acupuncture:80 UT:30	M:110 F:0	Acupuncture:37 UT:36	Acupuncture: conventional acupuncture +conventional drug therapy UT: conventional drug therapy	Clinical efficiency
Zhao.L.P.[91]	2024	Acupuncture:60 UT:60	M:0 F:120	Acupuncture:38.58 UT:39.01	Acupuncture: pressing acupuncture therapy+ conventional drug therapy UT: conventional drug therapy	Clinical efficiency Soreness
Zhao.Y.D.[93]	2013	Acupuncture:30 UT:30	M:60 F:0	Acupuncture:30 UT:30	Acupuncture: conventional acupuncture therapy UT: conventional drug therapy	Clinical efficiency

exhibited the largest SUCRA (88.7%), followed by warm needle (77%), thumb-tack needle (65.8%), elongated-needle acupuncture (51.1%), fire-needle therapy (44.5%), conventional acupuncture (44%), acupoint catgut embedding (39.5%), electroacupuncture (38.7%), and UT (0.8%) (Figure 4C and Table 2).

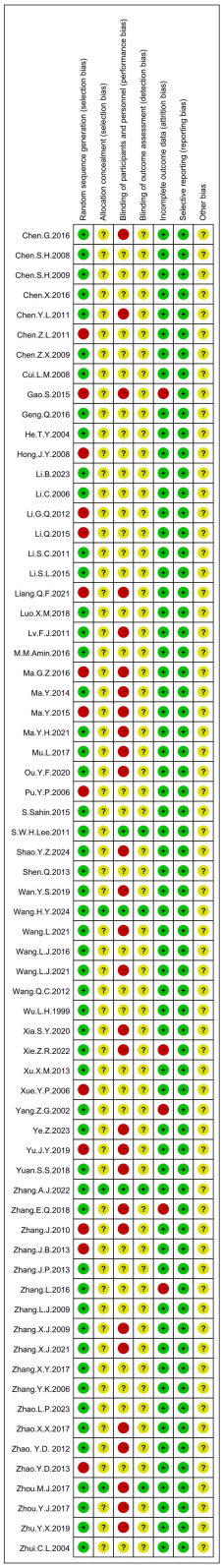

Figure 2 Risk of bias summary (green circle with a plus mark: indicates a low risk of bias, red circle with a minus mark: indicates a high risk of bias, yellow circle with a question mark: indicates an unclear risk of bias.).

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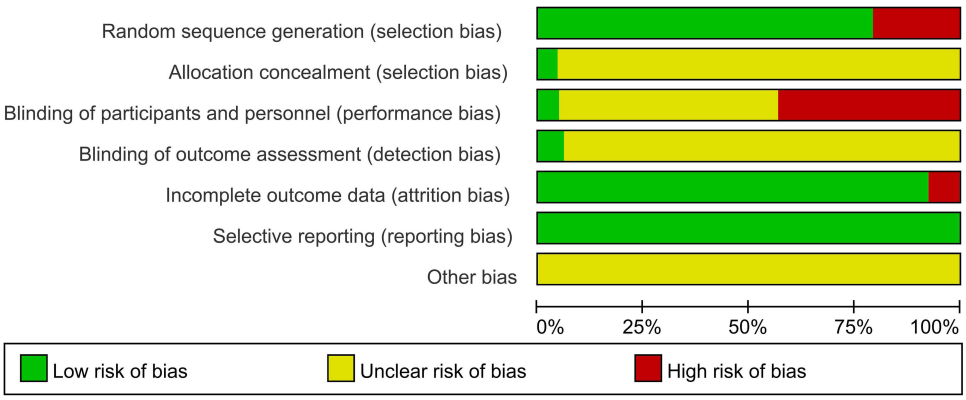

Figure 3 Risk of bias graph.

NIH-CPSI Symptom Score

Thirty-two articles[41,42,44,45,48,51,52,54–56,60,61,63–65,68,69,71,75,76,80,82,85,88,97–104] referred to NIH-CPSI symptom scores, as illustrated in Figure 5A. Compared to UT, conventional acupuncture [MD=−3.6, 95% CI (−5, −2.2)], electroacupuncture [MD=−3.5, 95% CI (−6.8, −0.26)], long-needle acupuncture [MD=−6.1, 95% CI (−10, −1.6)], and thumb-tack needle [MD=−8.9, 95% CI (−15, −2.7)] improved patients' NIH-CPSI symptom scores more effectively (Figure 5B). However, there was no significant difference among long-needle acupuncture, thumb-tack needle, conventional acupuncture, and electroacupuncture in improving the NIH-CPSI symptom score in CP/CPPS patients (Table S2). The thumb-tack needle exhibited the largest SUCRA (90.9%), followed by long-needle acupuncture (72.2%), electroacupuncture (41.6%), conventional acupuncture (41.5%), and UT (1%) (Figure 5C and Table 2).

Pain

Twenty-six articles[45,48,51,54,55,58,61,63–65,68,69,80,81,85,88,91,92,98–102,104–106] referred to pain, as illustrated in Figure 6A. Compared to UT, conventional acupuncture [MD=−1.3, 95% CI (−2, −0.58)], electroacupuncture [MD=−1.7, 95% CI (−3.1, −0.25)], long-needle acupuncture [MD=−2.4, 95% CI (−4.4, −0.49)], thumb-tack needle [MD=−2.0, 95% CI (−3.9, −0.085)], and acupoint catgut embedding [MD=−2.2, 95% CI (−4.4, −0.49)] improved patients' pain scores more effectively (Figure 6B). However, there was no significant difference among long-needle acupuncture, thumb-tack needle, conventional acupuncture, electroacupuncture, and acupoint catgut embedding in improving the pain score in CP/CPPS patients (Table S3). The long-needle acupuncture exhibited the largest SUCRA (76.3%), followed by acupoint catgut embedding (69.3%), thumb-tack needle (63.4%), electroacupuncture (52.9%), conventional acupuncture (37%), and UT (1.1%) (Figure 6C and Table 2).

Urination Symptoms

Sixteen articles[45,48,51,54,61,65,68,69,80,85,88,98,100,102,104,105] mentioned urination symptoms, as depicted in Figure 7A. Compared to UT, conventional acupuncture [MD=−1.0, 95% CI (−1.8, −0.19)] and long-needle acupuncture [MD=−2.1, 95% CI (−3.8, −0.29) improved patients' urination discomfort more effectively (Figure 7B). However, there was no significant difference between long-needle acupuncture and conventional acupuncture in improving the urination discomfort in CP/CPPS patients (Table S4). The long-needle acupuncture exhibited the largest SUCRA (82.9%), followed by conventional acupuncture (47.9%), and UT (4%) (Figure 7C and Table 2).

QOL

Eighteen articles[41,45,48,51,54,61,65,68,69,80,85,88,98–100,102,104,105] mentioned QOL, as illustrated in Figure 8A. The network diagram demonstrated a closed loop, so a local inconsistency test was adopted. The results (Figure S1) indicated that there were no differences in direct comparisons, indirect comparisons, and network comparisons between long-needle acupuncture and conventional acupuncture, conventional drug treatment and conventional acupuncture, UT and long-

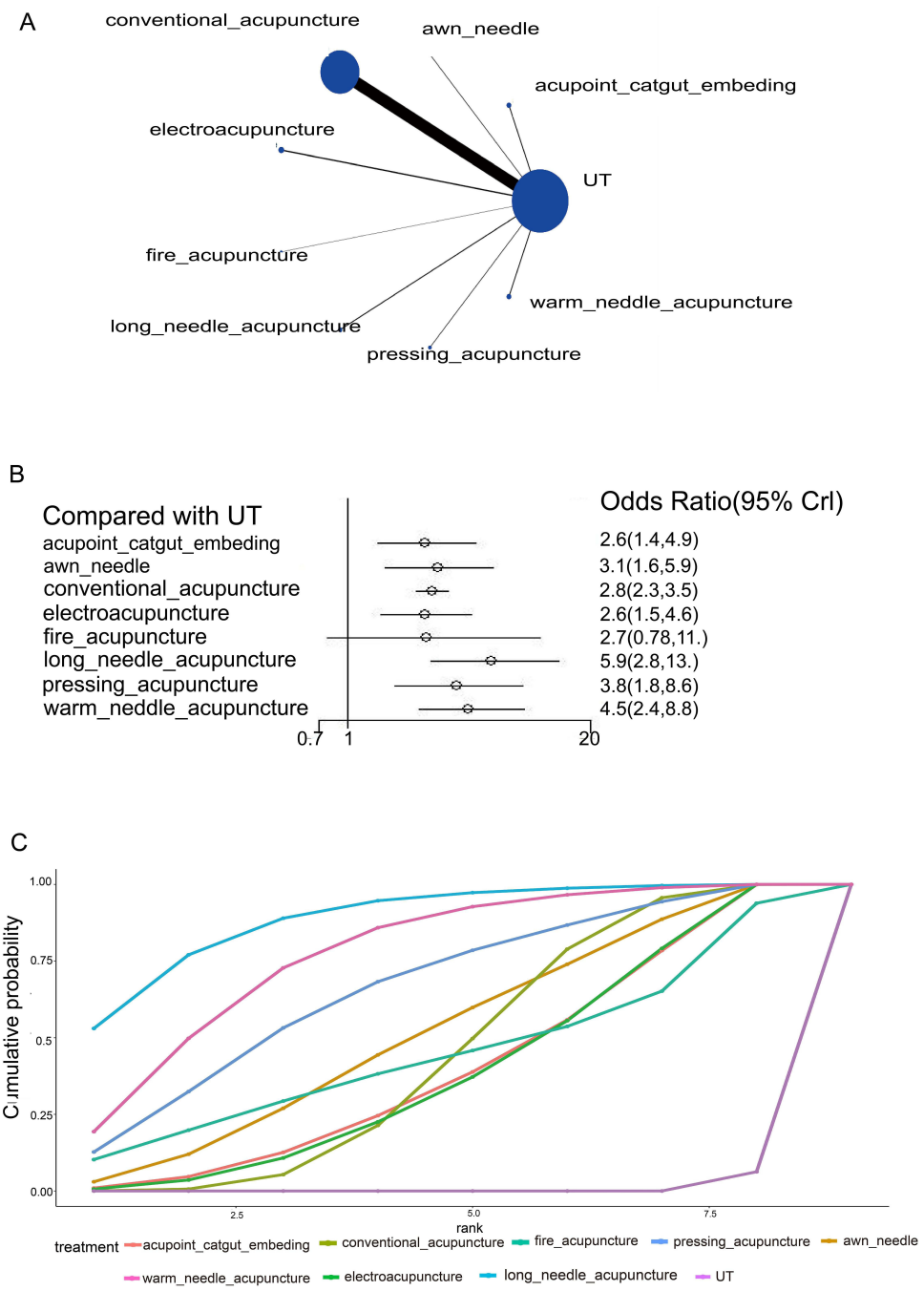

Figure 4 Meta-analysis of clinical efficacy ((**A**) Network diagram, (**B**) Forest plot, (**C**) Area under the cumulative probability curve).

needle acupuncture. Compared to UT, conventional acupuncture [MD=−0.89, 95% CI (−1.9, 0.14)], electroacupuncture [MD=−1.6, 95% CI (−3.3, 0.092)], long-needle acupuncture [MD=−1.6, 95% CI (−4.0, 0.76), and thumb-tack needle [MD=−2.1, 95% CI (−5.5, 1.2)] exhibited no significant differences in improving QOL (Figure 8B). In addition, there was no significant difference among long-needle acupuncture, conventional acupuncture, electroacupuncture, and thumb-tack needle in improving QOL in CP/CPPS patients (Table S5). The thumb-tack needle demonstrated the largest SUCRA (72.3%), followed by electroacupuncture (65.6%), long-needle acupuncture (64.1%), conventional acupuncture (41.7%), and UT (6.29%) (Figure 8C and Table 2).

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Table 2 SUCRA Comprehensive Ranking

Treatment	Clinical Efficiency (%)	Soreness (%)	NIH-CPSI (%)	Urinary Symptoms (%)	Quality of Life (%)
Acupoint_catgut_embedding	39.5	69.3	52.8		
Awn_needle	51.1				
Conventional_acupuncture	44.0	37.0	41.5	47.9	41.7
Electroacupuncture	38.7	52.9	41.6	48.0	65.6
Fire_acupuncture	44.5				
Long_needle_acupuncture	88.7	76.3	72.2	82.9	64.1
Pressing_acupuncture	65.8	63.4	90.9	67.1	72.3
UT	0.8	1.1	1.0	4.0	6.29
Warm_needle_acupuncture	77.0				

PB Evaluation

Funnel plots were employed to evaluate PB of clinical efficacy, NIH-CPSI symptom score, pain, urination symptoms, and QOL. The results suggested that there was a high possibility of PB in clinical efficacy, NIH-CPSI symptom score, pain, urination symptoms, and QOL (Figures S2–6).

Discussion

The current NMA was the first of its kind to evaluate the effect of different acupuncture therapies on the clinical efficacy, NIH-CPSI symptom score, pain, urination symptoms, and QOL in CP/CPPS patients. This is the novelty of the study.

This NMA compared 8 different acupuncture therapies based on 67 RCTs. The results revealed that in terms of overall efficacy, long-needle acupuncture, warm needle, and thumb-tack needle were the best three treatments compared to UT. With regard to the improvement of NIH-CPSI symptom scores, thumb-tack needle, long-needle acupuncture, and acupoint catgut embedding were the best three treatments compared to UT. With regard to pain improvement, thumb-tack needle, long-needle acupuncture, and acupoint catgut embedding were the best three treatments compared to UT. With regard to the improvement of urinary symptoms, long-needle acupuncture and conventional acupuncture were better than UT. With regard to the improvement of QOL, thumb-tack needle, electroacupuncture, and long-needle acupuncture exhibited better efficacy.

Although thumb-tack needle was effective in improving NIH-CPSI symptom scores, relieving pain, and enhancing QOL, it showed poor overall clinical efficacy. This limitation is attributable to the shallow stimulation depth (≤5 mm), which fails to engage the core pathophysiological mechanisms, resulting in suboptimal therapeutic outcomes.[43,101,107] As Wang et al demonstrated, the use of sham acupuncture with shallow needling (2–3 mm) resulted in only a modest improvement in symptoms and QOL when compared to deep needling (50–60 mm).[101] In contrast, long-needle acupuncture (75–90 mm depth) directly targets the prostatic plexus ganglia,[100] delivering dual therapeutic benefits: it not only significantly improves patients' subjective symptom scores but also yields objective clinical improvements. Zhou et al demonstrated that long-needle acupuncture significantly improved urination, pain, and discomfort, as well as QOL.[100]

This NMA establishes long-needle acupuncture as the most efficacious modality for multidimensional CP/CPPS management. Its effectiveness aligns with current international guidelines, including the World Health Organization's recommendation for acupuncture in chronic pelvic pain syndromes (ICD-11 ME94.2) with Evidence Level II, which specifically endorses deep needling (≥75 mm depth) at sacral/pudendal plexus points.

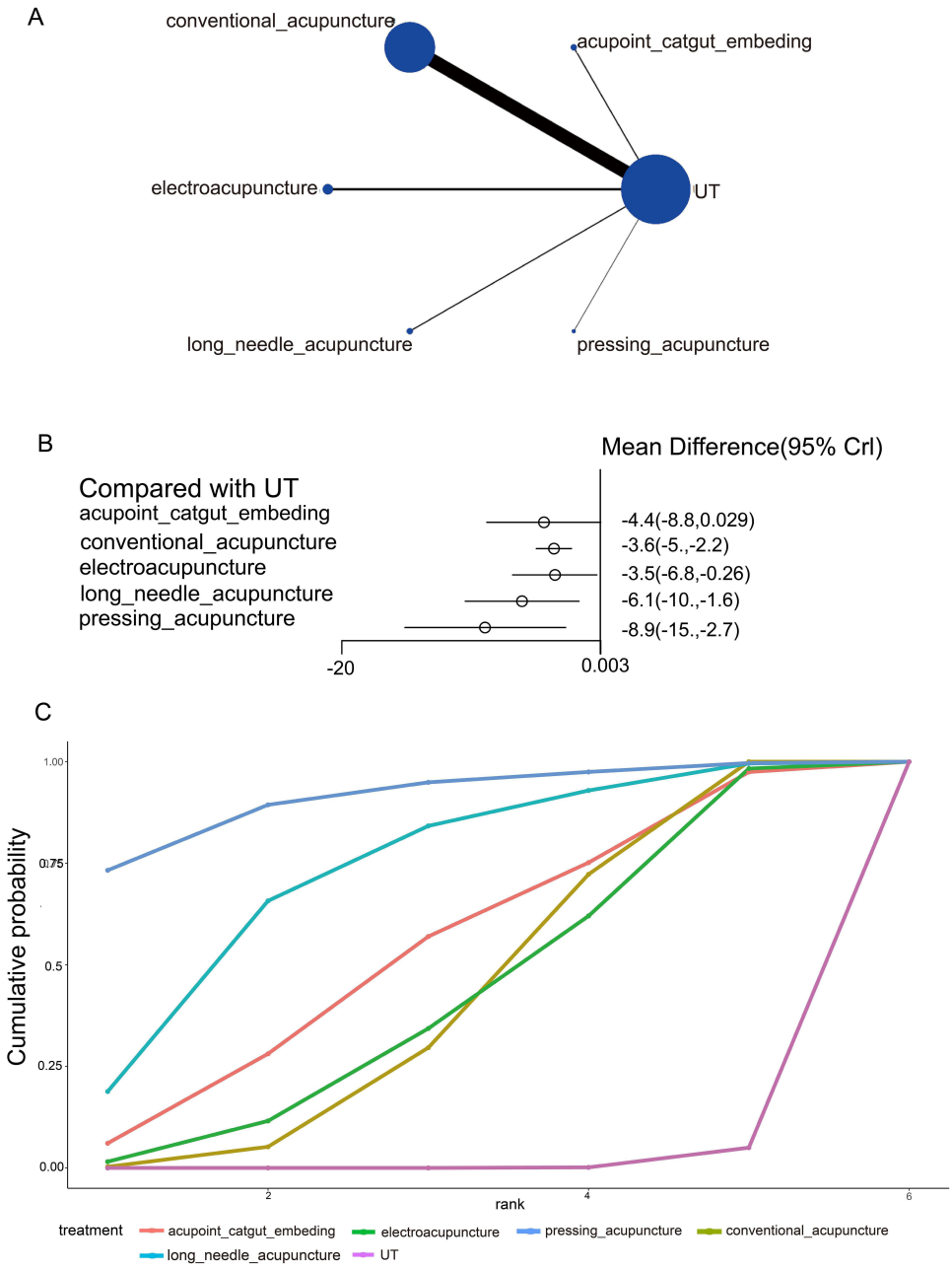

Figure 5 Meta-analysis of NIH-CPSI symptom scores ((**A**) Network diagram, (**B**) Forest plot, (**C**) Area under the cumulative probability curve).

The European Association of Urology's 2025 Guidelines also provide a Grade B recommendation for "deep pelvic needling" (depth ≥70 mm) in treatment-refractory cases, particularly targeting prostatic autonomic ganglia.[108,109] The consistency between our findings and these authoritative recommendations underscores the clinical applicability of long-needle acupuncture in CP/CPPS treatment protocols. Accumulating evidence demonstrates that the pathogenesis of CP/CPPS is intricately linked to immune dysregulation, primarily characterized by imbalances in pro-inflammatory cytokine profiles, particularly TNF-α and IL-8. TNF-α, a potent pro-inflammatory mediator secreted by activated mononuclear macrophages, exerts multiple biological effects including inflammation induction, pyrogenicity, and nociceptor sensitization. Elevated TNF-α levels in prostatic tissue activate TRPV1+ nociceptors, subsequently inducing central sensitization and contributing to chronic pelvic pain.[9] IL-8, which can be upregulated by

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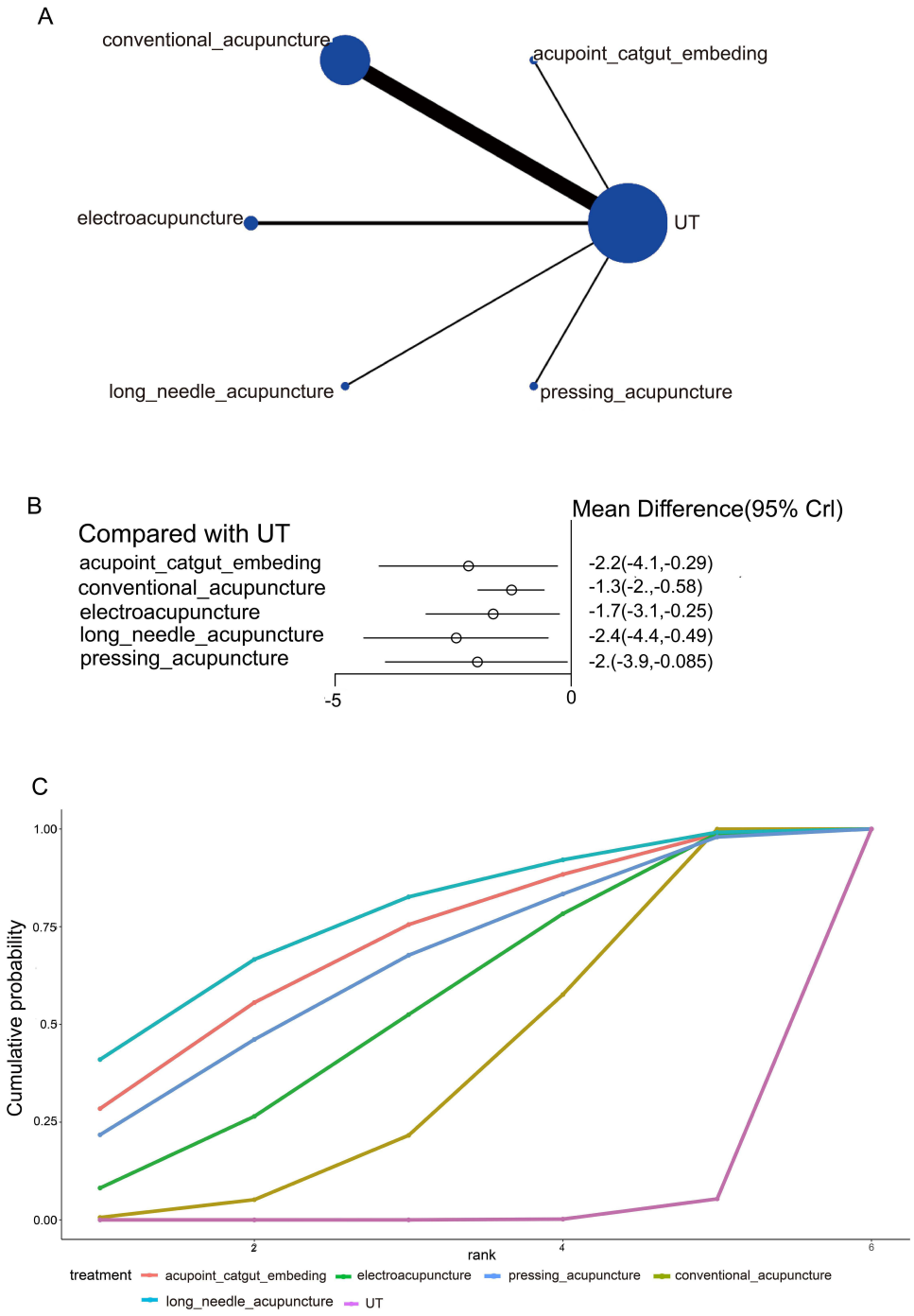

Figure 6 Meta-analysis of pain ((**A**) Network diagram, (**B**) Forest plot, (**C**) Area under the cumulative probability curve).

TNF-α, functions as a chemotactic factor that orchestrates the directional migration of neutrophils and T lymphocytes to the prostate, thereby perpetuating local inflammatory responses and tissue damage.[110–112] Mechanistic studies have revealed that long-needle acupuncture therapy significantly downregulates the expression of TNF-α and IL-8 in prostatic fluid, effectively attenuating the neuroinflammatory cascade.[113] This therapeutic effect is consistent with the multi-target regulatory mechanisms of acupuncture previously described. Studies have

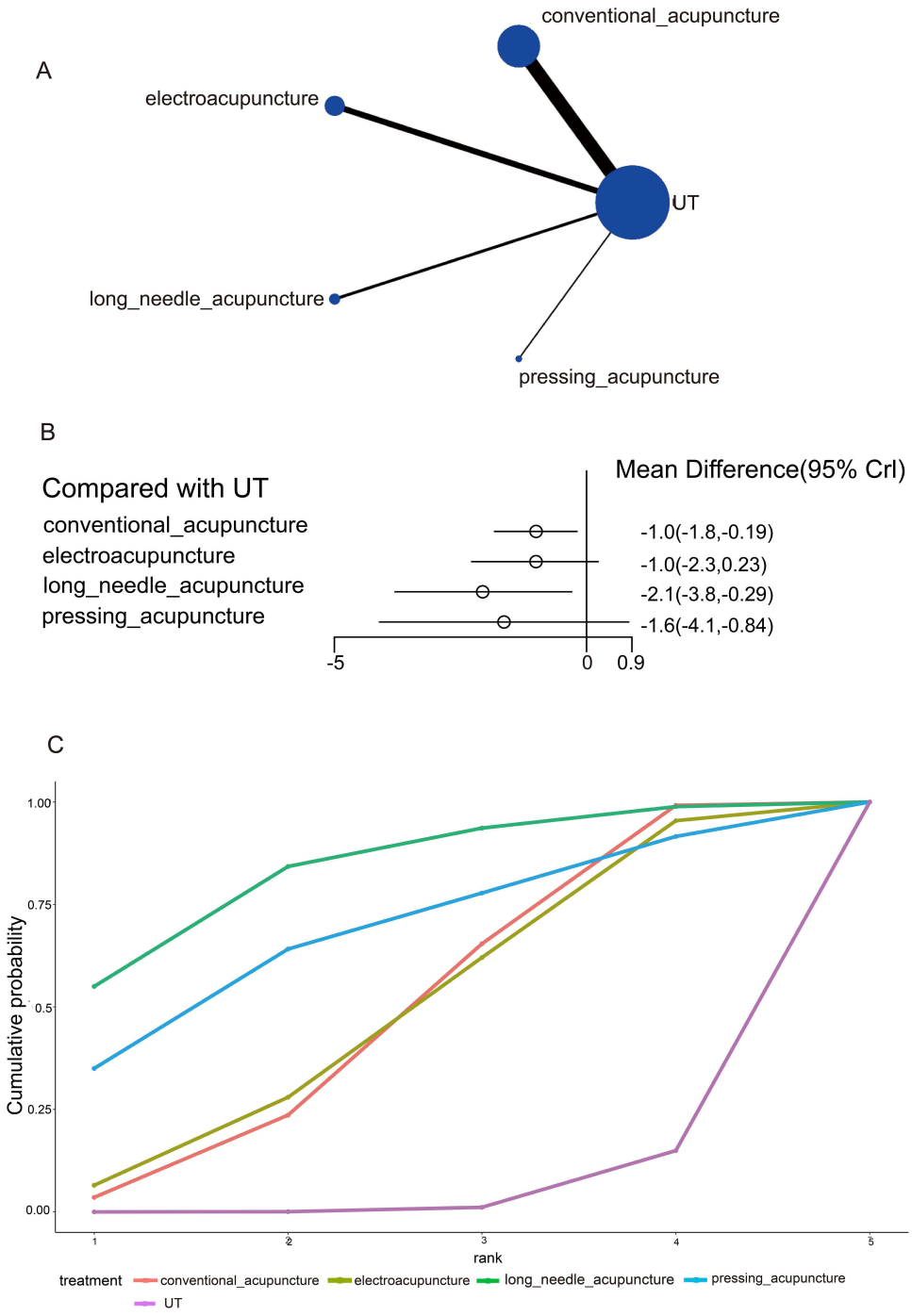

Figure 7 Meta-analysis of urination symptoms (A: Network diagram, (**B**) Forest plot, (**C**) Area under the cumulative probability curve).

also indicated that deep long-needle acupuncture can cause local parasympathetic nerves to excite and dilate blood vessels, thereby improving blood circulation in the prostate and promoting inflammatory absorption.[114]

Although this study confirmed that long-needle acupuncture had a more significant effect in treating CP/CPPS, the following limitations were of note. Firstly, the included studies did not analyze the clinical efficacy, NIH-CPSI symptom score, pain, urination symptoms, and QOL as their primary outcome indicators; secondly, the statistical outcome indicators of many studies were inconsistent in time, resulting in great heterogeneity. Thirdly, there was a large heterogeneity in treatment methods among the populations of included studies.

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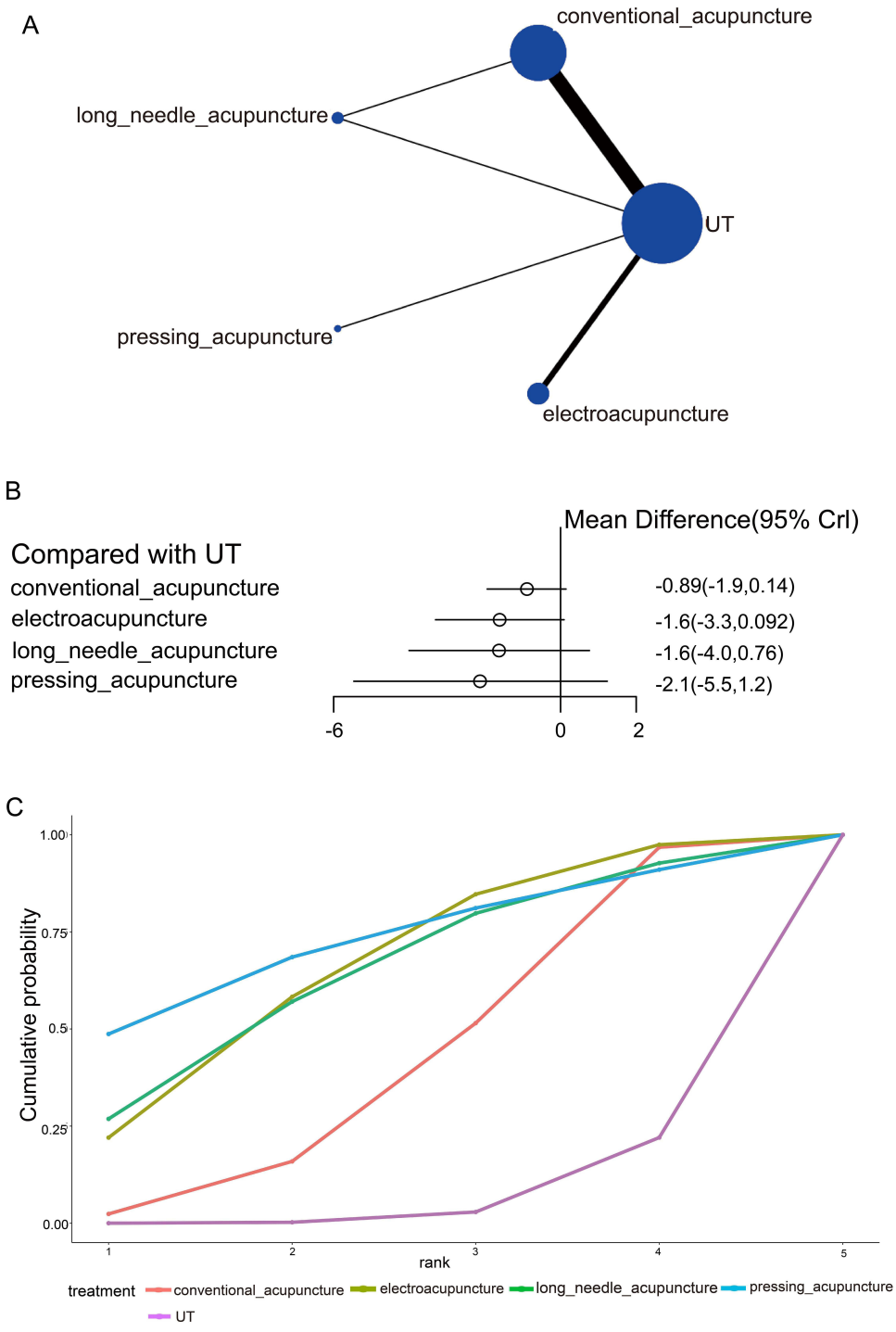

Figure 8 Meta-analysis of quality of life (A: Network diagram, (**B**) Forest plot, (**C**) Area under the cumulative probability curve).

Conclusions

Most acupuncture therapies achieved better clinical efficacy in the treatment of CP/CPPS compared to UT. Among them, long-needle acupuncture not only relieved subjective symptoms, but also exhibited better efficacy when evaluated under objective conditions. Limited by the quality and contents of studies, this NMA still had some limitations. Although the differences between different categories were examined, it was found that the difference among those high-ranking interventions in the league table was not significant. Thus, more studies are required to support the findings.

Abbreviations

CP, Chronic prostatitis; CI, Confidence interval; CNKI, China National Knowledge Infrastructure; CPPS, Chronic pelvic pain syndrome; MCMC, Markov chain Monte Carlo; MD, Mean difference; NIH-CPSI, National Institutes of Health Chronic Prostatitis Symptom Index; NMA, Network meta-analysis; QOL, Quality of life; RCTs, Randomized controlled trials; ROB, Risk of bias; SUCRA, Surface under the cumulative ranking curve; TCM, Traditional Chinese medicine; UT, Usual treatment.

Data Sharing Statement

The data that supports the findings of this study are available in the supplementary material of this article.

Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors have no conflict of interest to declare.

References

1. Bergman J, Zeitlin SI. Prostatitis and chronic prostatitis/chronic pelvic pain syndrome. *Expert Rev Neurother*. 2007;7(3):301–307. doi:10.1586/14737175.7.3.301
2. Polackwich AS, Shoskes DA. Chronic prostatitis/chronic pelvic pain syndrome: a review of evaluation and therapy. *Prostate Cancer Prostatic Dis*. 2016;19(2):132–138. doi:10.1038/pcan.2016.8
3. Healy R, Thorne C, Manjunath A. Chronic prostatitis/chronic pelvic pain syndrome treatment guidelines. *Chin J Male Sci*. 2022;28(06):544–559. doi:10.13263/j.cnki.nja.2022.06.012
4. Clemens JQ, Meenan RT, O'Keeffe Rosetti MC, Kimes T, Calhoun EA. Prevalence of and risk factors for prostatitis: population based assessment using physician assigned diagnoses. *J Urol*. 2007;178(4 Pt 1):1333–1337. doi:10.1016/j.juro.2007.05.140
5. Krieger JN, Lee SW, Jeon J, Cheah PY, Liong ML, Riley DE. Epidemiology of prostatitis. *Int J Antimicrob Agents*. 2008;31(Suppl 1):S85–90. doi:10.1016/j.ijantimicag.2007.08.028
6. Nickel JC, Downey J, Hunter D, Clark J. Prevalence of prostatitis-like symptoms in a population based study using the national institutes of health chronic prostatitis symptom index. *J Urol*. 2001;165(3):842–845. doi:10.1016/S0022-5347(05)66541-X
7. Chung SD, Lin HC. Association between chronic prostatitis/chronic pelvic pain syndrome and anxiety disorder: a population-based study. *PLoS One*. 2013;8(5):e64630. doi:10.1371/journal.pone.0064630
8. Kwon JK, Chang IH. Pain, catastrophizing, and depression in chronic prostatitis/chronic pelvic pain syndrome. *Int Neurourol J*. 2013;17(2):48–58. doi:10.5213/inj.2013.17.2.48
9. Jiang Z, Luo W, Long Z, Chen J. The role of TRPV1 in chronic prostatitis: a review. *Front Pharmacol*. 2024;15:1459683. doi:10.3389/fphar.2024.1459683
10. Jiang Z, Li A, Luo W, et al. Targeting TRPV1 channels in desensitized neural afferent pathways may help mitigate pain and lower urinary tract symptoms caused by prostatitis. *Front Pharmacol*. 2025;16:1541684. doi:10.3389/fphar.2025.1541684
11. Pasqualotto FF, Sharma RK, Potts JM, Nelson DR, Thomas AJ, Agarwal A. Seminal oxidative stress in patients with chronic prostatitis. *Urology*. 2000;55(6):881–885. doi:10.1016/s0090-4295(99)00613-5
12. Ihsan AU, Khan FU, Khongorzul P, et al. Role of oxidative stress in pathology of chronic prostatitis/chronic pelvic pain syndrome and male infertility and antioxidants function in ameliorating oxidative stress. *Biomed Pharmacother*. 2018;106:714–723. doi:10.1016/j.biopha.2018.06.139
13. Kaltsas A, Giannakas T, Stavropoulos M, Kratiras Z, Chrisofos M. Oxidative stress in benign prostatic hyperplasia: mechanisms, clinical relevance and therapeutic perspectives. *Diseases*. 2025;13(2):53. doi:10.3390/diseases13020053
14. Flandreau EI, Ressler KJ, Owens MJ, Nemeroff CB. Chronic overexpression of corticotropin-releasing factor from the central amygdala produces HPA axis hyperactivity and behavioral anxiety associated with gene-expression changes in the hippocampus and paraventricular nucleus of the hypothalamus. *Psychoneuroendocrinology*. 2012;37(1):27–38. doi:10.1016/j.psyneuen.2011.04.014
15. Anderson RU, Orenberg EK, Chan CA, Morey A, Flores V. Psychometric profiles and hypothalamic-pituitary-adrenal axis function in men with chronic prostatitis/chronic pelvic pain syndrome. *J Urol*. 2008;179(3):956–960. doi:10.1016/j.juro.2007.10.084

16. Bai J, Gu L, Chen Y, et al. Evaluation of psychological stress, cortisol awakening response, and heart rate variability in patients with chronic prostatitis/chronic pelvic pain syndrome complicated by lower urinary tract symptoms and erectile dysfunction. *Front Psychol*. 2022;13:903250. doi:10.3389/fpsyg.2022.903250
17. Franco JVA, Turk T, Jung JH, et al. Pharmacological interventions for treating chronic prostatitis/chronic pelvic pain syndrome: a Cochrane systematic review. *BJU Int*. 2020;125:490–6.
18. Nickel JC. Chronic prostatitis/chronic pelvic pain syndrome: it is time to change our management and research strategy. *BJU Int*. 2020;125 (4):479–480. doi:10.1111/bju.15036
19. Clemens JQ, Mullins C, Ackerman AL, et al. Urologic chronic pelvic pain syndrome: insights from the MAPP Research Network. *Nat Rev Urol*. 2019;16(3):187–200. doi:10.1038/s41585-018-0135-5
20. Fall M, Baranowski AP, Elneil S, et al. EAU guidelines on chronic pelvic pain. 0302–2838.
21. Magistro G, Wagenlehner FM, Grabe M, Weidner W, Stief CG, Nickel JC. Contemporary management of chronic prostatitis/chronic pelvic pain syndrome. 0302–2838.
22. Lei W, Mingwei Z, Xuejun S. Advances in physical therapy for chronic prostatitis/chronic pelvic pain syndrome. *Chin J Sci*. 2023;29 (12):1032–1037. doi:10.13263/j.cnki.nja.2023.12.012
23. Ben S, Wenxiu P, Lijun C, et al. National Master Zhou Zhongying's experience in treating gonorrhea from the identification of disease mechanism. *Shizhen Chin Med Practit Specializes Chin Med*. 2024;35(07):1723–1724.
24. Zhang C, Li D. Effects of electroacupuncture on alleviating prostatodynia and inflammation in rats with chronic nonbacterial prostatitis. *J Pain Res*. 2021;14:2757–2765. doi:10.2147/jpr.S321119
25. Wang H, Zhang J, Ma D, Zhao Z. The role of acupuncture and its related mechanism in treating chronic prostatitis/chronic pelvic pain syndrome. *Int J Gen Med*. 2023;16:4039–4050. doi:10.2147/ijgm.S417066
26. Zhao Y, Zhou B, Zhang G, et al. The effect of acupuncture on oxidative stress: a systematic review and meta-analysis of animal models. *PLoS One*. 2022;17(9):e0271098. doi:10.1371/journal.pone.0271098
27. Sun B, Cao X, Xin M, Guan R. Treatment of depression with acupuncture based on pathophysiological mechanism. *Int J Gen Med*. 2024;17:347–357. doi:10.2147/ijgm.S448031
28. Eller-Smith OC, Nicol AL, Christianson JA. Potential mechanisms underlying centralized pain and emerging therapeutic interventions. *Front Cell Neurosci*. 2018;12:35. doi:10.3389/fncel.2018.00035
29. Li Z, Hu J, Li X, Chen Y. Mechanism progress of acupuncture and moxibustion for chronic prostatitis. *World J Acupunct*. 2021;31(4):309–313. doi:10.1016/j.wjam.2021.08.004
30. Franco JV, Turk T, Jung JH, et al. Non-pharmacological interventions for treating chronic prostatitis/chronic pelvic pain syndrome. *Bju Int*. 2019;124:197–208.
31. White A, Cummings M, Barlas P, et al. Defining an adequate dose of acupuncture using a neurophysiological approach--a narrative review of the literature. *Acupunct Med*. 2008;26(2):111–120. doi:10.1136/aim.26.2.111
32. Carlsson C. Acupuncture mechanisms for clinically relevant long-term effects--reconsideration and a hypothesis. *Acupunct Med*. 2002;20 (2–3):82–99. doi:10.1136/aim.20.2-3.82
33. MacPherson H, Altman DG, Hammerschlag R, et al. Revised STandards for Reporting Interventions in Clinical Trials of Acupuncture (STRICTA): extending the CONSORT statement. *PLoS Med*. 2010;7(6):e1000261. doi:10.1371/journal.pmed.1000261
34. Honjo H, Kamoi K, Naya Y, et al. Effects of acupuncture for chronic pelvic pain syndrome with intrapelvic venous congestion: preliminary results. *Int J Urol*. 2004;11(8):607–612. doi:10.1111/j.1442-2042.2004.00868.x
35. Blanchet KD. Acupuncture: gaining acceptance in urology: proves effective for a number of chronic conditions. *BJU Int*. 2012;109(2):ii–iv. doi:10.1111/j.1464-410X.2011.10828.x
36. Qifan F, Man X. Clinical research progress of acupuncture in the treatment of chronic pelvic pain. *Chin Med Herald*. 2020;17(22):38–41.
37. Rees J, Abrahams M, Doble A, Cooper A. Diagnosis and treatment of chronic bacterial prostatitis and chronic prostatitis/chronic pelvic pain syndrome: a consensus guideline. *BJU Int*. 2015;116(4):509–525. doi:10.1111/bju.13101
38. Higgins JPT, Page MJ. Revised Cochrane risk of bias tool for randomized trials (RoB 2.0). Available from: https://www.riskofbias.info/welcome/rob-2-0-tool/archive-rob-2-0-2016. Accessed July 14, 2025.
39. Jansen JP, Crawford B, Bergman G, Stam W. Bayesian meta-analysis of multiple treatment comparisons: an introduction to mixed treatment comparisons. *Value Health*. 2008;11(5):956–964. doi:10.1111/j.1524-4733.2008.00347.x
40. Shen Q, Lu J. Efficacy observation of acupuncture in the treatment of chronic non-bacterial prostatitis. *Shanghai J Acupunct Moxibustion*. 2013;32(07):569–570.
41. Chen SH, Chen Y, Yao WL, Shen DD. Therapeutic effect of Changqiang point application on chronic prostatitis. *Liaoning J Tradit Chin Med*. 2009;36(2):229–231.
42. Chen SH, Yao WL. Clinical observation of 51 cases of non-inflammatory chronic pelvic pain syndrome treated with heat-sensitive moxibustion combined with radiofrequency. *New Chin Med*. 2008;40(9):76–77. doi:10.3969/j.issn.0256-7415.2008.09.043
43. Chen X. Observation on the efficacy of acupuncture in the treatment of chronic non-bacterial prostatitis. *Elect J Clin Med Liter*. 2016;3 (22):4381,4384.
44. Chen ZX. Observation on the therapeutic effect of warm-needle moxibustion in treating chronic non-bacterial prostatitis. *Chin Acupunct Moxibustion*. 2009;29(4):275–278.
45. Chen ZL, Wang GW, Yang RY. Electroacupuncture combined with Chinese medicine for chronic non-bacterial prostatitis. *J Clin Acup Moxibust*. 2011;27(8):35–36. doi:10.3969/j.issn.1005-0779.2011.08.020
46. Cui LM, Cao YH. Clinical observation of combined acupuncture and Chinese medicine in treating chronic prostatitis. *China Medical Frontiers*. 2008;3(2):92. doi:10.3969/j.issn.1673-5552.2008.02.056
47. Gao S, Cai GF. Efficacy observation of acupuncture in the treatment of chronic non-bacterial prostatitis. *Shanghai J Acupunct Moxibustion*. 2015;9:861–863. doi:10.13460/j.issn.1005-0957.2015.09.0861
48. Geng Q, Zhao Y, Ouyang B. Observation on the efficacy of acupuncture point selection in treating type IIIB prostatitis. *Lishizhen Med Materia Medica Res*. 2016;27(8):1916–1917. doi:10.3969/j.issn.1008-0805.2016.08.044

49. He TY, Zhao YD, Luo CL. Clinical observation on treating chronic prostatitis by needling "Sanyin" points. *Chin Acupunct Moxibustion*. 2004;24(10):697–698.
50. Hong JY, Zhang YY. Observation on the efficacy of abdominal cluster needling in treating chronic non-bacterial prostatitis. *Chin Acupunct Moxibustion*. 2008;28(1):24–26.
51. Li B, Wang DD, Qiao XD, et al. Acupuncture for chronic prostatitis/chronic pelvic pain syndrome: a randomized controlled trial. *Chin Acupunct Moxibustion*. 2023;43(6):654–658. doi:10.13703/j.0255-2930.20221113-k0006
52. Li Q, Wang LL. Circular acupuncture for chronic prostatitis. *Xinjiang J Tradit Chin Med*. 2015;33(4):36–38.
53. Li SC, Zhao L. Analysis of the efficacy of acupuncture and moxibustion in treating chronic prostatitis. *Sichuan J Tradit Chin Med*. 2011;29 (11):112–113.
54. Li SL, Tang L, Ye HX. Clinical study of Qingzhuo Qudu pills combined with acupuncture in treating chronic non-bacterial prostatitis. *J Guangzhou Univ Trad Chin Med*. 2015;32(6):1035–1039,1046. doi:10.13359/j.cnki.gzxbtcm.2015.06.01555
55. Li TL, Chen AX, Ou A, et al. Acupuncture combined with western medicine for chronic prostatitis/chronic pelvic pain syndrome: a randomized controlled study. *Chin Acupunct Moxibustion*. 2016;36(12):1281–1285.
56. Liang QF, Liu BP, Chen XH, et al. Efficacy observation of acupuncture and medicine in treating damp-heat and blood stasis type chronic prostatitis. *Chin Acupunct Moxibustion*. 2021;41(2):149–152. doi:10.13703/j.0255-2930.20200219-0004
57. Lü FJ, Ma XH, Zhao LG. Clinical observation of acupuncture and medicine in treating chronic prostatitis with depression. *J Clin Acup Moxibust*. 2011;27(5):29–30. doi:10.3969/j.issn.1005-0779.2011.05.016
58. Luo XM. Clinical effect and quality of life of Meridian-simulated bioelectrical stimulation intervention on female chronic pelvic pain. *Chin J Woman Child Health Care*. 2018;33(4):809–811. doi:10.7620/zgfybj.j.issn.1001-4411.2018.04.28
59. Luo CL, Zhao YD, Wang QL, He TY. Efficacy analysis of multifunctional prostatitis therapeutic instrument in treating chronic prostatitis. *Gansu J Tradit Chin Med*. 2008;21(3):45–46.
60. Ma GZ, Chen L, Feng XX, Zhang Y. Efficacy observation of warm-needle moxibustion in treating kidney-yang deficiency type chronic prostatitis. *Shanghai J Acupunct Moxibustion*. 2016;35(7):820–822. doi:10.13460/j.issn.1005-0957.2016.07.0820
61. Ma YH, Shan ZJ, Guo L, Zhang N. Effect of beryllium needle on pelvic pain in type III prostatitis. *Shanghai J Acupunct Moxibustion*. 2021;40 (12):1412–1417. doi:10.13460/j.issn.1005-0957.2021.12.1412
62. Amin MM, Ait-Allah AS, Ali A-S, Salem RA, Ahmed SR, Alsammani MA. Inferior hypogastric plexus blockade versus acupuncture for the management of idiopathic chronic pelvic pain: a randomized clinical trial. *Biomed J*. 2015;38(4):317–322. doi:10.4103/2319-4170.151034
63. Ma Y, Li XY, Li FQ, Yu WJ, Wang ZL. Clinical study of catgut embedding at acupoints for male chronic pelvic pain syndrome. *Chin Acupunct Moxibustion*. 2015;35(6):561–566. doi:10.13703/j.0255-2930.2015.06.010
64. Ma Y, Wang ZL, Sun ZX, Men B, Shen BQ. Clinical study of catgut embedding at acupoints for damp-heat and blood stasis type chronic pelvic pain syndrome. Proceedings of the 9th National Conference on Integrated Chinese and Western Medicine Andrology. Guangzhou:2014.
65. Ou YF, Xie ZG, Chen SY, Xu P, Guo GF, Wang SC. Efficacy observation of electroacupuncture in treating type IIIA prostatitis. *Shanghai J Acupunct Moxibustion*. 2020;39(11):1380–1384. doi:10.13460/j.issn.1005-0957.2020.13.1055
66. Pu YP, Mi YB, Li X. Clinical research on acupuncture treatment of chronic prostatitis. *Health Vocat Edu*. 2006;24:138.
67. Shao YZ, Sun ZX, Li PC, Zhao FG, Cui JX, Zhang D. Efficacy observation of long needle therapy on patients with damp-heat and blood stasis syndrome of type IIIB prostatitis. *Acupuncture Res*. 2024;49(03):296–301. doi:10.13702/j.1000-0607.20230032
68. Sui L, Zhang XX. Clinical efficacy of electroacupuncture at Baliao points in treating chronic pelvic pain syndrome. *J Zhejiang Chin Med Univ*. 2017;41(8):707–710. doi:10.16466/j.issn1005-5509.2017.08.018
69. Wan YS, Jin GY, Ouyang HG, Deng LS, Lu TK. Efficacy observation of press needle and indwelling needle in treating type IIIB chronic prostatitis. *Chin Med Moder Bullet*. 2019;18(06):57–59,56. doi:10.14046/j.cnki.zyytb2002.2019.06.01770
70. Wang HZ, Li A. Clinical study of acupuncture in treating chronic non-bacterial prostatitis. *Beijing J Tradit Chinese Med*. 2006;25(11):683–684.
71. Wang LJ, Li GQ, Wang YX, Cao YH, Zhang EJ, Zhu XH. Clinical controlled study of "regulating yin and yang" acupuncture in treating chronic non-bacterial prostatitis. *Chinese J Clin Res*. 2016;8(34):51–53.
72. Wang LJ, Li A, Jin A, et al. Clinical efficacy of yin-yang point combination in treating chronic non-bacterial prostatitis. *J Clin Acup Moxibust*. 2012;28(12):1–3.
73. Wang QC, Chen YM, Jia MJ, Zhai HL. Efficacy observation of catgut embedding at acupoints for different syndromes of chronic pelvic inflammatory disease. *Chin Acupunct Moxibustion*. 2012;32(12):1081–1083. doi:10.13703/j.0255-2930.2012.12.010
74. Wu LH, Liu A. Para-acupuncture at Zhongji and Zhibian points for chronic prostatitis. *Med Nanjing Milit Reg*. 1999;04:31–32.
75. Xia SY, Wang SL, Fang ST, Sun YZ, Zhao M. Clinical study of mind-regulating acupuncture in treating chronic prostatitis/chronic pelvic pain syndrome. *J Clin Acup Moxibust*. 2020;36(03):11–15.
76. Xu XM, Xu YL. 31 cases of chronic non-bacterial prostatitis treated with matrix acupuncture combined with needling Sanyinjiao. *Western J Tradit Chin Med*. 2013;26(12):57–59.
77. Xue YP, Zhang SB, Gao T, Wang WZ. Observation on the therapeutic effect of warm-needle moxibustion in treating chronic prostatitis. *Chin Acupunct Moxibustion*. 2006;05:335–336.
78. Yang ZG, Li P, Zhu K, Song HM, Ji LX, Shi XM. Clinical research on long needle therapy for chronic prostatitis. *Chin Med Moder Bullet*. 2002;01:4–5.
79. Ye Z. Clinical observation of warm-needle moxibustion on myofascial trigger points in treating female chronic pelvic pain. *Chin Mod Dist Edu Chin Med*. 2023;21(04):123–125.
80. Yu JY, Feng XX, Liu WQ. Randomized controlled study of deep needling at Baliao points combined with western medicine for chronic non-bacterial prostatitis. *Shanghai J Acupunct Moxibustion*. 2019;38(12):1365–1369. doi:10.13460/j.issn.1005-0957.2019.12.1365
81. Yuan SS, Tan ZJ, Yang RD, et al. 30 cases of damp-heat and blood stasis type chronic pelvic inflammatory disease treated with Lai's "Tongyuan acupuncture". *Henan Tradit Chin Med*. 2018;38(12):1921–1924. doi:10.16367/j.issn.1003-5028.2018.12.0511
82. Zhang EQ, Dai N, Chen Q, Cheng Y. Clinical observation of acupuncture in treating chronic prostatitis/chronic pelvic floor pain syndrome. *J Anhui Univ Chin Med*. 2018;37(05):36–39.
83. Zhang JB, Huang C, Li YQ, Ma DG, Guo JG. 50 cases of chronic prostatitis treated with acupuncture at lumbosacral Huatuo Jiaji points. *Henan Tradit Chin Med*. 2013;33(10):1773–1774. doi:10.16367/j.issn.1003-5028.2013.10.073

84. Zhang JP, Liu J, Zhao ZL. Observation on the efficacy of acupuncture in treating 25 cases of chronic prostatitis. *Western J Tradit Chin Med*. 2013;26(03):111–112.
85. Zhang J, Liu CD, Ding Y, Tang QB. Efficacy observation of electroacupuncture in treating chronic prostatitis and its effect on urethral sphincter electromyography. *Chin Acupunct Moxibustion*. 2010;30(01):13–17. doi:10.13703/j.0255-2930.2010.01.011
86. Zhang LJ, Xie C. Clinical observation of electroacupuncture combined with medicine in treating chronic prostatitis. *Guangming J Chin Med*. 2009;24(6):backcover3. doi:10.3969/j.issn.1003-8914.2009.06.067
87. Zhang L, Lu KX. 46 cases of chronic pelvic inflammatory pain treated with Yinjia pills combined with fire needle. *Chin Mod Dist Edu Chin Med*. 2016;14(17):72–73. doi:10.3969/j.issn.1672-2779.2016.17.031
88. Zhang XJ, Dai LQ, Chen JH, Dai J. Efficacy observation of press needle therapy combined with auricular point pressing in treating chronic prostatitis/chronic pelvic pain syndrome. *Nat J Androl*. 2021;27(4):347–350. doi:10.13263/j.cnki.nja.2021.04.011
89. Zhang XJ. Observation on the efficacy of long needle penetration in treating chronic prostatitis. *Shanghai J Acupunct Moxibustion*. 2009;28 (10):589–590.
90. Zhang YK, Zhang MX, Wu Q, Wang SY. Clinical Observations on the Treatment of 80 Chronic Prostatitis Patients with Combined Acupuncture and Medicine. *J Acupunct Tuina Sci*. 2006;4(01):47–49. doi:10.1007/BF02852358
91. Zhao LP, Han XT, Lao KX, Gao SH. Clinical retrospective study on the role of press needles in the treatment of chronic pelvic pain syndrome. *Chin J Trad Chin Med*. 2024;42(01):74–77. doi:10.13193/j.issn.1673-7717.2024.01.015
92. Zhao XX, Chen R, Qin YQ, Cheng MJ, Lin DJ, Cao YG. Evaluation of the clinical effect of biofeedback combined with electrical stimulation in the treatment of chronic inflammatory pelvic pain. *Chinese and Foreign Med Res*. 2017;15(17):1–4. doi:10.14033/j.cnki.cfmr.2017.17.001
93. Zhao YD, Han DY. Clinical observation of warming and dredging acupuncture with targeted penetration in treating chronic prostatitis. *Chin Acupunct Moxibustion*. 2013;33(10):897–899. doi:10.13703/j.0255-2930.2013.10.010
94. Zhao YD, Han DY, Xu Y, He TY. Efficacy observation of 50 cases of chronic prostatitis treated with acupuncture at Huangfu Mi's Meridian points. *J Gansu Coll Tradit Chin Med*. 2012;29(03):59–60.
95. Zhou YJ, Yao DM. Effect of acupuncture combined with physiotherapy and Chinese medicine retention enema in treating chronic pelvic inflammatory disease. *Chin Mod Dist Edu Chin Med*. 2017;15(11):128–129.
96. Zhu YX, Xu NG. Clinical observation of acupuncture at Sanhuang points in treating kidney-yang deficiency type chronic non-bacterial prostatitis. *Acupuncture Res*. 2019;44(06):443–445,458. doi:10.13702/j.1000-0607.180693
97. Xie Z, Deng Z, Xiao D, et al. Acupuncture for chronic prostatitis: a randomized controlled trial. *World J Acupunct*. 2021.
98. Yunlong C, Chengrong W, Yanyan L. Treatment of prostatalgia by acupuncture: a randomized controlled trial. *J Acupunct Tuina Sci*. 2011;9(4). doi:10.1007/s11726-011-0520-6
99. Zhang A, He Y, Chen F, et al. Acupuncture treatment of non-inflammatory chronic Prostatitis with "Tiao Shen Jie Yu" method: a randomized controlled study. *Acupuncture Electro*. 2022;47(2):265–278. doi:10.3727/036012921X16304136917609
100. Zhou M, Yang M, Chen L, et al. The effectiveness of long-needle acupuncture at acupoints BL30 and BL35 for CP/CPPS: a randomized controlled pilot study. *BMC Complement Altern Med*. 2017;17(1):263. doi:10.1186/s12906-017-1768-2
101. Wang HY, Ji Y, Zhang S, et al. Effect of acupuncture on quality of life in patients with chronic prostatitis/chronic pelvic pain syndrome: a randomized controlled trial. *Chin Acupunct Moxibustion*. 2024;44(04):411–417. doi:10.13703/j.0255-2930.20230626-k0003
102. Wang L, Zhong T. Efficacy study of acupuncture combined with Sabal palmetto soft capsules in treating chronic prostatitis/chronic pelvic pain syndrome. *Shaanxi J Tradit Chin Med*. 2021;42(12):1786–1788.
103. Wang LJ, Chen YZ, Wang W, Zhou XH, Chen XL. Efficacy observation of umbilical acupuncture combined with Chinese medicine enema in treating qi stagnation and blood stasis type IIIB chronic prostatitis. *Shanghai J Acupunct Moxibustion*. 2021;40(06):733–738. doi:10.13460/j.issn.1005-0957.2021.06.0733
104. Sahin S, Bicer M, Eren GA, et al. Acupuncture relieves symptoms in chronic prostatitis/chronic pelvic pain syndrome: a randomized, sham-controlled trial. *Prostate Cancer Prostatic Dis*. 2015;18(3):249–254. doi:10.1038/pcan.2015.13
105. Zhang XY, Luo SB, Zhang JY, Meng ZC. Analysis of short- and long-term efficacy of collateral needling at Qugu point in adjuvant treatment of type III prostatitis. *Nat J Androl*. 2017;23(5):464–467. doi:10.13263/j.cnki.nja.2017.05.015
106. Lee SW, Liong ML, Yuen KH, Leong WS, Khan NK, Krieger JN. Validation of a sham acupuncture procedure in a randomised, controlled clinical trial of chronic pelvic pain treatment. *Acupunct Med*. 2011;29(1):40–46. doi:10.1136/aim.2010.003137
107. Lee SW, Liong ML, Yuen KH, et al. Acupuncture versus sham acupuncture for chronic prostatitis/chronic pelvic pain. *Am J Med*. 2008;121 (1):79.e1–7. doi:10.1016/j.amjmed.2007.07.033
108. World Health Organization. Regional Office for the Western P. *WHO Standard Acupuncture Point Locations in the Western Pacific Region*. WHO Regional Office for the Western Pacific; 2021.
109. European Association of Urology. European association of urology guidelines office. EAU guidelines on urological infections; 2025. Available from: https://d56bochluxqnz.cloudfront.net/documents/full-guideline/EAU-Guidelines-on-Urological-infections-2025.pdf. Accessed June 9, 2025.
110. Yingzhong C, Xiaoyong G, Wei Z, Chaohui X, Yongqiang L. Study on the intervention mechanism of Prostatizing Pill on rats with chronic non-bacterial prostatitis. *J Anhui Univ Tradit Chin Med*. 2018;37(3):4.
111. Yaodong Z, Xifeng W, Jianwen W, Duoying H, Zhongting Z. Effects of warm-through acupuncture on TNF-α, IL-1β in rats with chronic nonbacterial prostatitis. *Chin J Trad Chin Med*. 2016;34(1):3.
112. Wong L, Done JD, Schaeffer AJ, Thumbikat P. Experimental autoimmune prostatitis induces microglial activation in the spinal cord. *Prostate*. 2015;75(1):50–59. doi:10.1002/pros.22891
113. Jingyu Y, Xinxin F, Wenqi L. A randomized controlled study on the treatment of chronic non-bacterial prostatitis with deep puncture of the Bajiao acupoint as the main point in combination with western medicines. *Shanghai Acupunct Moxibustion*. 2019;12.
114. Lihong W, Youbo L. Treatment of chronic prostatitis with evening acupuncture at Zhongji and Chibian points. *Nanjing Force Med*. 1999; (04):31–32.