Table des matières

Sepsis

Sepsis/ Septicémie

1. Systematic Reviews and Meta-Analysis

1.1. Generic Acupuncture

1.1.1. Xian 2023

Xian J, Wang L, Zhang C, Wang J, Zhu Y, Yu H, Zhang X, Tan Q. Efficacy and safety of acupuncture as a complementary therapy for sepsis: a systematic review and meta-analysis. Acupunct Med. 2023 Feb;41(1):3-15. https://doi.org/10.1177/09645284221086288

Background	Sepsis is a life-threatening organ dysfunction caused by dysregulation of the host response to infection. Acupuncture is used for treatment of inflammatory diseases; however, its effectiveness and safety as a complementary therapy for sepsis has not been fully explored.
Methods	Data were retrieved from eight databases. Randomized controlled trials (RCTs) that compared acupuncture plus conventional therapies versus conventional therapies alone were included. Pre-specified primary outcomes were mortality at 28 days and Acute Physiologic and Chronic Health Evaluation (APACHE) II scores.
Results	A total of **17 studies with 1099 participants** were included in this study. In terms of the primary outcomes, acupuncture plus routine therapy reduced mortality at 28 days (risk ratio (RR)): 0.69, 95% confidence interval (CI): 0.52 to 0.91, $p < 0.001$) and APACHE II scores (mean difference (MD): -2.84, 95% CI: -4.09 to -1.58, $p < 0.001$) at day 7 after treatment compared with routine therapy alone. In terms of secondary outcomes, acupuncture plus routine therapy reduced white blood cell counts and levels of procalcitonin (PCT), tumor necrosis factor (TNF)-α, interleukin (IL)-6 and lactic acid and intra-abdominal pressure (IAP), and improved CD3+, CD4+ and monocytes of human leukocyte antigen (HLA)-DR at day 7 after treatment compared with routine therapy alone. However, acupuncture plus routine therapy had no significant effects on levels of IL-10, C-reactive protein (CRP), CD8+ and CD4+/CD8+ ratios compared with routine therapy alone. Quality of evidence was low to very low for all parameters (GRADE).
Conclusion	The available evidence showed that combination of acupuncture and routine therapy may have benefit for sepsis compared with use of routine therapy only. Due to the low degree of certainty regarding its effects, further research is required.

1.1.2. Tang 2020 ☆

Tang Yidan. [Efficacy and safety of acupuncture on sepsis: a systematic review]. Chinese Journal of Evidence-Based Medicine. 2020. [212949].

Objectives	To systematic review the efficacy and safety of acupuncture on patients with sepsis.

Methods	The PubMed, EMbase, The Cochrane Library, CNKI, WanFang Data, VIP and CBM databases were searched. The retrieval time was from inception to October 1st, 2019. Randomized controlled trials（RCTs） on acupuncture on sepsis were screened. Two researchers independently screened articles, extracted and analyzed data, and evaluated risk of bias included in the study. Meta-analysis was performed by RevMan 5. 3 software.
Results	A total of **20 RCTs involving 1 337 patients** were included. Meta-analysis showed that there were significant differences between the acupuncture group with conventional treatment in 28-day mortality [RR=0. 69, 95%CI（0. 5, 0. 9）, P=0. 03], APACHEⅡ score at 3rd day [MD=-2. 4, 95%CI（-3. 68, -1. 12）, P=0. 0002] and 7thday [MD=-4. 37, 95%CI（-6. 32, -2. 21）, P<0. 0001], length of the ICU stay[MD=-1. 54, 95%CI（-2. 81, -0. 27）, P=0. 02], the effective rate for improved gastrointestinal function [RR=1. 5, 95%CI（1. 09, 2. 06）, P=0. 01], concentrations of PCT [MD=-2. 23, 95%CI（-3. 33, -1. 13）, P<0. 001] and TNF-α [MD=-14. 86, 95%CI（-23. 74, -5. 97）, P=0. 001] at the 7thday. However, there was no significant difference between two groups on the CD8+count at the 7thday [MD=1. 65, 95%CI（-0. 32, 3. 62）, P=0. 1].
Conclusions	Available evidence suggests that acupuncture may be a potential treatment method for sepsis patients. Due to limited quantity and quality of included studios, the above conclusions are required to be verified by more high-quality studies.

1.1.3. Wang 2018

Wang Li-Juan, Li Jian, Li Xiao-Juan. [Efficacy and Safety of Acupuncture Therapy for Sepsis: A Meta-Analysis]. Guiding Journal of Traditional Chinese Medicine and Pharmacy. 2018;23:86-90. [201754].

Objective	To systematically evaluate the clinical efficacy and safety of acupuncture therapy for sepsis.
Methods	The electronic searches in databases of CNKI, CBM, WanFang, PubMed and handsearches the essays on important academic conferences, from the establishment time of databases to June 2017, to collect randomized controlled trials(RCTs) on acupuncture therapy for sepsis. Quality evaluation and date extraction were implemented by two researchers independently for the literature which met the inclusion and exclusion criteria, by the “risk of bias” assessment tool of Cochrane. The RevMan 5.3 software was used to make Mate-analysis.
Results	**Twelve RCTs including 811 cases** of sepsis were included. According to the results of Meta-analysis, compared with the conventional treatment group(the control group), 28 day mortality [RR=0.48, 95%CI(0.25,0.92), P=0.03] in the combined acupuncture treatment group(the experimental group) were lower; The APACHE Ⅱ sore and the levels of PCT in the experimental group was lower than that in the control group; The improvement of gastrointestinal dysfunction in the clinical efficacy was higher; None of the studies reported any adverse reactions of acupuncture.
Conclusion	Current evidence showed that acupuncture therapy can reduce systemic inflammatory response, promote functional recovery of the body, improve the clinical symptoms and prognosis in patients with sepsis; what’s more, it is safe. But it needs to be supported by the results of RCTs of multicenter and large samples.

1.2. Special outcome

1.2.1. Septic gastrointestinal dysfunction

1.2.1.1. Xu 2026

Xu J, Li J, Deng D, Wu J, Zheng B, Li J. Efficacy and safety of acupuncture for septic gastrointestinal dysfunction: a systematic review and meta-analysis of randomized controlled trials. Front Med (Lausanne). 2026 Feb 26:13:1680999. https://doi.org/10.3389/fmed.2026.1680999

Background	Septic gastrointestinal dysfunction (S-GID) lacks effective therapeutic approaches. Acupuncture has been widely used to treat S-GID; however, its efficacy and safety lack high-quality evidence-based support, particularly from randomized controlled trials (RCTs).
Methods	A comprehensive search of PubMed, Embase, The Cochrane Library, and four other Chinese databases was conducted for all years up to September 2023 of acupuncture for S-GID. Additionally, research progress was reviewed in the Chinese Clinical Trials Registry and ClinicalTrials.gov. The analysis was conducted using RevMan5.3 and STAT13.1. Continuous data were evaluated by the mean difference (MD)/the standard mean difference (SMD) and 95% confidence intervals (CIs). Dichotomous data were used to calculate the relative risk (RR)/the odds ratio (OR) with 95% CI. The quality of the data was assessed using the Risk of Bias Tool 2 and the GRADEpro GDT tool.
Results	**Thirteen RCTs with 865 patients** were included for the analysis. Compared with the group of the standard treatment, the combination of acupuncture and the standard treatment for S-GID effectively reduced the intra-abdominal pressure (IAP; SMD = -0.71; 95% CI: -1.01, -0.41, $p < 0.001$), the acute gastrointestinal injury grade (AGI; MD = -0.44; 95% CI: -0.65 to -0.23; $p < 0.001$), the Acute Physiology and Chronic Health Evaluation-II score (APACHE II; MD = -1.99; 95% CI: -3.04, -0.95, $p < 0.001$), and abdominal perimeter (AP; MD = -2.24; 95% CI: -3.49 to -1.00; $p < 0.001$), and increased the frequency of borborygmus per minute (FOB; MD = 0.85; 95% CI: 0.52-1.18; $p < 0.001$). No significant difference was found between these two groups in both mortality at day 28 (RR = -0.74; 95% CI: 0.49-1.11; $p = 0.14$) and the incidence of adverse events (OR = 1.01; 95% CI: 0.22-4.58; $p = 0.99$).
Conclusion	This study indicated that, in S-GID patients, combining conventional treatment with acupuncture may reduce IAP, AP value, and AGI grade, increase FOB values, and lower the APACHE II score with good safety. However, the 28-day mortality data showed no significant difference, likely due to insufficient sample size. A multicenter, randomized, double-blind controlled study is required for further confirmation.

1.2.2. Zhang 2026

Zhang X, Sun H, Wen Y, Li G, Liu Q. Adjunctive acupuncture for sepsis-associated acute gastrointestinal injury: a systematic review, meta-analysis, and exploratory Bayesian network meta-analysis. Front Med (Lausanne). 2026;13:1806453. https://doi.org/10.3389/fmed.2026.1806453

Background	Acute gastrointestinal injury (AGI) is common in sepsis and is associated with multiple organ dysfunction and poor outcomes. Conventional supportive strategies often fail to restore gastrointestinal motility or adequately modulate systemic inflammation, underscoring the need for safe adjunctive interventions in critically ill patients.

Methods	We conducted a systematic review and meta-analysis with an exploratory Bayesian network meta-analysis in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Randomized controlled trials and observational cohort studies enrolling adult patients with sepsis-associated gastrointestinal dysfunction were included. Acupuncture (electroacupuncture or manual acupuncture) as an adjunct to standard Western medical care was compared with standard care alone. No restrictions were applied to outcomes during the search phase. Risk of bias was assessed using the revised Cochrane Risk of Bias tool, version 2 (RoB 2) for randomized trials and the Risk of Bias in Non-randomized Studies of Interventions, Version 2 (ROBINS-I V2) for the non-randomized study. Pooled effect estimates were calculated using fixed- or random-effects models, with heterogeneity, publication bias, and sensitivity analyses (leave-one-out) assessed. An exploratory Bayesian network meta-analysis was also performed to compare electroacupuncture and manual acupuncture.
Results	Twenty studies (**19 randomized controlled trials** and one retrospective cohort; n = 1,502) published between 2013 and 2025 were included. Adjunctive acupuncture was associated with improvements in gastrointestinal and physiological parameters, including reduced intra-abdominal pressure, lower Acute Physiology and Chronic Health Evaluation (APACHE) II scores, and increased bowel sounds. Procalcitonin was significantly reduced, while C-reactive protein and white blood cell count did not show statistically significant differences; heterogeneity was substantial for these inflammatory biomarkers. No statistically significant reduction in 28-day mortality was observed. The exploratory network meta-analysis did not detect convincing evidence of superiority between electroacupuncture and manual acupuncture. Reported adverse events were rare and mild.
Conclusion	Current evidence suggests that acupuncture, when used as an adjunct to standard care, may improve gastrointestinal function and inflammatory profiles in patients with sepsis-associated AGI, but does not confer a clear survival benefit. Given methodological limitations and substantial heterogeneity, well-designed multicenter trials with rigorous controls and clinically relevant endpoints are warranted.