Table des matières

Chronic Obstructive Pulmonary Disease

Broncho-Pneumopathie Chronique Obstructive

1. Systematic Reviews and Meta-Analysis

1.1. Generic Acupuncture

1.1.1. Li G 2025 (acute exacerbation)

Li G, Liu J, Yang G, Li J, He Y, Fei X, Wei L, Zhao D. Efficacy of acupuncture as adjunctive therapy for patients with acute exacerbation of chronic obstructive pulmonary disease: a systematic review and meta-analysis. Front Med (Lausanne). 2025 May 12;12:1513888.
https://doi.org/10.3389/fmed.2025.1513888

Background	Chronic obstructive pulmonary disease (COPD) is a highly prevalent and potentially fatal respiratory condition. Acute exacerbations can accelerate lung function decline and increase mortality. Acupuncture has been increasingly used as an adjunctive treatment for respiratory diseases, but its effectiveness in acute exacerbations of COPD (AECOPD) remains controversial. Existing evaluations on this topic are limited in scope and depth. This study aimed to provide a more comprehensive review to evaluate the effectiveness of acupuncture as an adjuvant treatment for acute exacerbations of chronic obstructive pulmonary disease.
Methods	We included randomized controlled trials (RCTs) comparing acupuncture combined with conventional Western medicine to conventional Western medicine alone in patients with acute exacerbations of COPD (AECOPD). Our literature search covered ten databases, including PubMed and Web of Science ect., up until March 2025. The primary outcome was the effective rate, while secondary outcomes included lung function (FEV1%, FEV1/FVC%, FEV1), arterial blood gas analysis (PaO2, PaCO2, SaO2), the 6-min walk test (6MWT), COPD Assessment Test (CAT), modified Medical Research Council (mMRC) scale, and success rate of weaning. Data were extracted from eligible studies, and statistical analysis was performed using RevMan 5.3 and Stata 16.0. Risk of bias and evidence quality were assessed using Cochrane tools and GRADE methodology.

Results	The study included **31 randomized controlled trials (RCTs) with 2,299 participants**. The studies were primarily conducted in hospital inpatient departments, and the typical treatment duration ranged from 1 to 2 weeks. Compared with conventional Western medicine alone, acupuncture combined with conventional Western medicine showed greater effectiveness (RR = 1.23, 95%CI 1.17 ~ 1.29, p < 0.001). Acupuncture significantly improved lung function (FEV1%: MD = 5.67, 95%CI 2.97 ~ 8.37, p < 0.001; FEV1/FVC: MD = 4.44, 95%CI 1.86 ~ 7.03, p < 0.001; FEV1: MD = 0.37, 95%CI 0.26 ~ 0.47, p < 0.001), reduced hypoxia (PaO2: MD = 3.60, 95%CI 2.23 ~ 4.98, p < 0.001; PaCO2: MD = -3.30, 95%CI -5.80 ~ -0.80, p < 0.05; SaO2: MD = 4.23, 95%CI 3.02 ~ 5.43, p < 0.001), and improved exercise tolerance (6MWT: MD = 40.34, 95%CI 30.50 ~ 50.17, p < 0.001), quality of life (CAT: MD = -2.68, 95%CI -3.39 ~ -1.96, p < 0.001), and dyspnea (mMRC: MD = -0.33, 95%CI -0.47 ~ -0.20, p < 0.001). However, the weaning success rate did not show a statistically significant difference between the two groups (RR = 1.18, 95%CI 0.95 ~ 1.48, p = 0.14). Mild side effects were reported in some studies. We rated the quality of evidence as very low to medium.
Conclusion	This systematic review and meta-analysis demonstrate that acupuncture, as an adjunctive treatment for acute exacerbations of chronic obstructive pulmonary disease, improves clinical efficacy and key outcomes. Our findings are consistent with previous studies that demonstrated improvements in the COPD Assessment Test (CAT) and arterial blood gas parameters (PaO2 and PaCO2). Unlike previous meta-analyses, the present study showed that adjunctive acupuncture significantly improved patient lung function FEV1% outcomes and significantly improved patient 6-min walk distance and modified Medical Research Council (mMRC) score; however, there was no significant difference in the success rate of weaning between the two groups. Although the review highlights clinical benefits, the heterogeneity of the included studies and the overall quality of the evidence suggest that more high-quality randomized controlled trials are needed to validate these findings and optimize treatment strategies. These studies should also prioritize standardizing acupuncture regimens, extending treatment duration, and conducting long-term follow-up assessments.

1.1.2. Li 2025

Li M, Zheng S, Lederer AK, Huber R. Efficacy of Acupuncture-Based Treatment in Chronic Obstructive Pulmonary Disease - a systematic review and meta-analysis. Complement Ther Med. 2025 Jul 23;103211. https://doi.org/10.1016/j.ctim.2025.103211

Background	The COPD population will steadily increase due to continuous exposure to COPD risk factors and the aging demographics. Acupuncture, as a common modality in complementary medicine, has been widely applied in the treatment of COPD in recent years. However, systematic reviews of the efficacy of acupuncture-based traditional Chinese external treatment in COPD are relatively scarce and when considering the quality of randomized controlled trials evidence remains insufficient.
Objective	To provide an updated systematic review and meta-analysis of the effectiveness of acupuncture-based treatment for COPD using the latest data and a rigorous evaluation system.
Methods	Randomized controlled trials evaluating any form of acupuncture in COPD in a stable phase or acute exacerbation phase (AECOPD) were selected from Medline, Cochrane Library, Web of Science, Embase, CNKI, the Wanfang database, VIP, and SinoMed, encompassing a publication period from January 1st, 2000, to May 1st, 2025. The completeness of each study was evaluated according to the Consolidated Standards of Reporting Trials (CONSORT) and Standards for Reporting Interventions in Clinical Trials of Acupuncture guidelines (STRICTA). A meta-analysis was conducted using Cochrane RevMan.

Results	A total of 1294 articles were retrieved from the selected database and 25 articles meeting the criteria were included. According to CONSORT, 8 studies rated as high quality, 16 studies as moderate quality, and 1 study as low quality. Due to the heterogeneity of outcome parameters and the limited number of AECOPD studies, meta-analysis could only be performed for COPD in the stable phase. In the meta-analysis, acupuncture-based treatments were significantly superior to controls in COPD in the primary outcome 6-minute walk distance (MWD: $p<0.01$) and the secondary outcomes Borg Scale ($p<0.05$), forced expiratory volume in 1 second (FEV1: $p<0.01$) and forced vital capacity (FVC: $p<0.05$); no significant differences were found in the St. George's Respiratory Questionnaire (SGRQ) and the COPD Assessment Test (CAT).
Conclusion	Acupuncture-based treatments significantly enhance the 6MWD, Borg Scale, FEV1 and FVC in COPD patients. The predominance of moderate quality studies indicates the ongoing need for improvement to ensure the credibility of data.

1.1.3. Roh 2025

Roh JA, Leem J, Lee BJ, Kim KI, Jung HJ. Comparative efficacy of traditional non-pharmacological add-on treatments in patients with stable chronic obstructive pulmonary disease: a systematic review and network meta-analysis. Front Public Health. 2025 Feb 21;13:1410342.
https://doi.org/10.3389/fpubh.2025.1410342

Background	Chronic obstructive pulmonary disease (COPD) is a major global public health concern. In this study, we examined the comparative efficacy of non-pharmacological interventions within East Asian traditional medicine (EATM-NPI) for enhancing pulmonary function and exercise capacity in patients with stable COPD.
Methods	A thorough search of electronic databases conducted until May 22, 2022, identified studies employing EATM-NPI in such patients. The evaluation focused on the impact adjunctive therapies on pulmonary function (forced expiratory volume in 1 s [FEV1]) and exercise capacity (6-min walking distance [6MWD]). The qualitative assessment encompassed 142 studies, with 133 studies included in one of three network meta-analyses. Participants, aged 49-76 years, ranged from 9 to 139 per group, predominantly from China (87.7% of studies). Overall study quality was generally low, and reported adverse events were mild.
Results	Notably, **moxibustion** and **qigong** adjunctive therapies demonstrated significant improvements in FEV1 (L) and FEV1 (%). Additionally, chuna, **acupuncture**, **qigong** and **moxibustion** adjunctive therapies were associated with significant improvements in 6MWD.
Conclusion	EATM-NPI adjunctive therapy, when combined with standard pharmacological treatment, exhibited effects on pulmonary function and exercise capacity in patients with COPD.

1.1.4. Luo 2024

Luo Q, Sun M, Xu G, Tian H, Yang C, Huang L, Li X, Wang Z, Lu G, Yang Z, Ji L, Liang F. Exploration of quantitative-effectiveness association between acupuncture temporal parameters and stable chronic obstructive pulmonary disease: A systematic review and dose-response meta-analysis of randomized controlled trials. Complement Ther Med. 2024 Jun;82:103048.
https://doi.org/10.1016/j.ctim.2024.103048

Introduction	Chronic Obstructive Pulmonary Disease (COPD) is a globally common chronic respiratory disease with a high morbidity and mortality rate. Acupuncture has been proven effective for COPD. A dose-response meta-analysis was conducted to assess the correlation between the acupuncture temporal parameters(session, frequency, and duration) and its effectiveness in patients with stable COPD.
Methods	Acupuncture randomized controlled trials on COPD were searched in eight databases from their inception to June 2023. The “doses” were defined as the acupuncture session, frequency, and duration. The outcomes mainly included Forced Expiratory Volume in one-second rate (FEV1%) and Six-minute Walking Distance (6MWD). The assessment of bias risk and literature quality were conducted independently using the Cochrane risk of bias tool and the Standards for reporting interventions in clinical trials of acupuncture. The dose-response relationship was modeled using robust error element regression, and meta-analysis was operated by R 4.3.1 and Stata 15.0. The protocol was registered in PROSPERO with the registration number CRD42023401406.
Result	Out of 1669 records, **17 RCTs with 1165 participants** were finally included in the meta-analysis. There was notable heterogeneity among the studies, but sensitivity analysis demonstrated good robustness. The findings revealed a significant improvement in the following outcomes for stable COPD patients in the acupuncture group: FEV1% (MD=3.50, 95%CI: 2.05-4.95), 6MWD (MD=47.39, 95%CI: 29.29-65.50), St. George's respiratory questionnaire (SGRQ; MD=-8.25, 95%CI: -11.38 to -5.12); COPD assessment test (CAT; MD=-2.91, 95%CI: -3.99 to -1.83). The relationship between the acupuncture session, duration, and FEV1%, 6MWD followed a “Λ” curve pattern, while the relationship between acupuncture frequency and FEV1%, 6MWD exhibited logarithmic growth. Firstly, After 12 acupuncture sessions, FEV1% and 6MWD increased by 7.06% (95%CI: 4.56-9.55) and 36.28 m (95%CI: 20.37-52.20), respectively. The peak improvement in FEV1% and 6MWD was observed after 18 acupuncture sessions (MD=7.89, 95% CI: 5.33-10.45) and 45 sessions (MD=125.43, 95% CI: 72.80-178.07) each. Additionally, weekly acupuncture resulted in a 4.14% improvement in FEV1% (95% CI: 2.55-5.72) and a 42.49 m increase in 6MWD (95%CI: 17.16-67.81). Notably, the maximum effects on FEV1% and 6MWD improvement were achieved with different acupuncture frequencies, specifically three times a week (MD=6.00, 95% CI: 5.34-6.66) and once a day(MD=112.41, 95% CI: 77.27-147.56), respectively. Furthermore, after a 28-day duration of acupuncture treatment, FEV1% increased by 4.74% (95% CI: 3.73-5.75) and 6MWD increased by 47.34 m (95%CI: 22.01-72.67). During 60 days of acupuncture treatment, the FEV1% and 6MWD improvement reached their highest levels at 8.76% (95% CI: 7.05-10.47) and 88.06 m (95% CI: 45.96-130.16), respectively.
Conclusion	Acupuncture was effective in improving FEV1%, 6MWD, SGRQ, and CAT in patients with stable COPD. There was a dose-response relationship between the time parameters of acupuncture (session, frequency, and duration) and the efficacy of COPD treatment (FEV1% and 6MWD). The minimal clinically important difference could be achieved after 12 acupuncture sessions. Acupuncture with a medium-frequency (2-3 times per week) over 60 days may result in the greatest improvement in FEV1%, while higher-frequency acupuncture (5-7 times per week) for 2 months may lead to the maximum improvements in 6MWD. It indicated that the optimal acupuncture duration for different indicators remains consistent, while the optimal frequencies may differ. To confirm these results, it is necessary to conduct multicenter, large-scale randomized controlled trials.

1.1.5. Fan 2023

Fan S, Zhang Z, Wang Q. Efficacy of acupuncture therapy for stable chronic obstructive pulmonary disease: A systematic review and meta-analysis. Medicine (Baltimore). 2023 Apr 14;102(15):e33537. https://doi.org/10.1097/MD.0000000000033537

Background	Acupuncture therapy (AT) is a widely used, alternative medicine in China. AT is an effective treatment for many diseases, but its efficacy in stable chronic obstructive pulmonary disease (COPD) remains controversial. Therefore, we performed the present meta-analysis to evaluate the efficacy of AT in stable COPD patients.
Methods	Randomized controlled trials (RCTs) for AT efficacy in stable COPD patients were searched in literature databases from the inception to December 31, 2021. Pooled effect sizes of outcome measurements with respect to lung function (forced vital capacity [FVC], forced expiratory volume in 1 second [FEV1], FEV1 in predicted value [FEV1%], FEV1/FVC), quality of life (St. George respiratory questionnaire [SGRQ]), exercise capacity (6-minute walking distance [6MWD]) and effective rate were estimated by calculating weighted mean difference (WMD) or odds ratio (OR) with corresponding 95% confidence interval (95% CI), respectively, by a random-effect model.
Results	A total of **28 RCTs with 2130 COPD patients** were included. AT group had significant improvement in FVC (WMD = 0.29 L, 95% CI: 0.22-0.36, P < .001), FEV1 (WMD = 0.33 L, 95% CI: 0.23-0.43, P < .001), FEV1% (WMD = 3.30%, 95% CI: 3.30-4.64, P < .001), FEV1/FVC (WMD = 5.45%, 95% CI: 4.41-6.49, P < .001), 6MWD (WMD = 45.48 m, 95% CI: 28.21-62.16, P < .001), SGRQ (WMD = -7.79, 95% CI: -12.34 to -3.24, P < .001), and a higher effective rate (OR = 3.71, 95% CI: 2.50-5.52, P < .001) compared to the control group. Subgroup analysis stratified by comparison model (AT combined with other treatments vs other treatments, AT alone vs sham AT) and treatment duration (≥8 weeks, <8 weeks) also showed more improvement in AT arm than control arm without significant between-subgroup difference. Adverse events were reported in a few studies and only mild reactions were observed.
Conclusion	AT is effective in improving lung function, quality of life and exercise capacity, and can be used as an adjunctive treatment in patients with stable COPD.

1.1.6. Chan 2021

Chan KH, Tsoi YYS, McCall M. The Effectiveness of Traditional Chinese Medicine (TCM) as an Adjunct Treatment on Stable COPD Patients: A Systematic Review and Meta-Analysis. Evid Based Complement Alternat Med. 2021. [219480]. doi

Background	Traditional Chinese medicine (TCM), including Chinese herbal medicine (CHM) and acupuncture, exhibits beneficial effects on stable chronic obstructive pulmonary disease (COPD) such as improving lung function and reducing exacerbation. Previous research studies have examined either CHM or acupuncture alone, which are not the usual practice in TCM clinic setting. We conduct a systematic review for evaluating the clinical effectiveness and safety of TCM by combining CHM and acupuncture.
Methods	Databases are searched from inception to November 2019. Randomized controlled trials examining either acupuncture or CHM on stable COPD are included. Primary outcomes include lung functions, exacerbations, and COPD assessment test. Secondary outcomes include quality of life, TCM syndrome score and effective rate, and 6-minute walk distance. Two independent reviewers extract data and assess the quality of evidence and generate meta-analysis and risk of bias by STATA. This protocol follows the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) guidelines.
Results	100 randomized controlled trials (8291 participants) were included to compare add-on Chinese medicine treatment with conventional treatment (CT). Combining CHM with CT improves FEV1 (MD: 0.18, 95% CI: 0.08, 0.28), exacerbation rate (MD: −0.29, 95% CI: −0.61, 0.03), COPD assessment test (MD: −2.16, 95% CI: −3.44, -0.88), TCM syndrome score (MD: −3.96, 95% CI: −5.41, −2.51) and effective rate (RR: 0.89, 95% CI: 0.80, 0.93), and 6-minute walk test (MD: 37.81, 95% CI: 20.90, 54.73). No serious adverse events were reported. Risk of bias: low to unclear.

Conclusions	This review identifies sufficient moderate-to-low-quality evidence to suggest TCM as an adjunct treatment for stable COPD patients. Though heterogeneity was low among studies, the results were limited and the quality of evidence was low or very low based on small sample sizes and risk of bias. Future studies with larger sample sizes are warranted. The trial is registered with CRD42019161324.
Acupuncture	Pas d'analyse en sous-groupe spécifique à l'acupuncture

1.1.7. Tsai 2021

Tsai CL, Lan CC, Wu CW, Wu YC, Kuo CY, Tzeng IS, Hsu PS, Lee CT, Hsieh PC. Acupuncture Point Stimulation Treatments Combined With Conventional Treatment in Chronic Obstructive Pulmonary Disease: A Systematic Review and Network Meta-Analysis. Front Med (Lausanne). 2021. [219490]. doi

Background	Chronic obstructive pulmonary disease (COPD), which is a disease characterized by dyspnea, cough, and respiratory symptoms, leading to impaired health-related quality of life (HRQL) and exercise capacity, is highly prevalent worldwide. Some studies demonstrated that acupuncture point stimulation treatments (APSTs) are effective and safe in treating patients with COPD. The aim of this systematic review and network meta-analysis is to analyze the effects on HRQL and FEV1% predicted of diverse APSTs in treating patients with COPD.
Materials and Methods	We searched seven electronic databases. Randomized controlled trials (RCTs) with stable COPD patients comparing APSTs and conventional treatment (Tx) were included. The primary outcome was HRQL measured by COPD Assessment Test or St. George's Respiratory Questionnaire. The secondary outcome was FEV1% predicted. We performed random effect network meta-analysis using a consistency model.
Results	This network meta-analysis analyzed 21 RCTs with 1,577 stable COPD participants. In comparison with Tx, acupressure massage (AM) + Tx [-5.11; 95% confidence interval (CI), -6.65 to -3.57] was the most effective intervention in improving HRQL, followed by moxibustion (Mx) + Tx (-2.86; 95% CI, -3.86 to -1.86). Moreover, in comparison with Tx, Mx + Tx (7.79; 95% CI, 2.16 to 13.42) was the most effective intervention in improving FEV1% predicted, followed by acupuncture (A) + Tx (5.79; 95% CI, 2.90 to 8.68).
Conclusions	Combined interventions (APSTs + Tx) are more effective than single intervention in improving both HRQL and FEV1% predicted. AM, Mx, and A can be considered effective non-pharmacological complementary interventions in treating patients with COPD under Tx.

1.1.8. Fernández-Jané 2020

Fernández-Jané C, Vilaró J, Fei Y, Wang C, Liu J, Huang N, Xia R, Tian X, Hu R, Wen L, Yu M, Gómara-Toldrà N, Solà-Madurell M, Sitjà-Rabert M. Acupuncture techniques for COPD: a systematic review. BMC Complement Med Ther. 2020;20(1):138. [208916]. doi

Background	This is the second part of a large spectrum systematic review which aims to identify and assess the evidence for the efficacy of non-pharmacological acupuncture techniques in the treatment of chronic obstructive pulmonary disease (COPD). The results of all techniques except for filiform needle are described in this publication.
Methods	Eleven different databases were screened for randomised controlled trials up to June 2019. Authors in pairs extracted the data and assessed the risk of bias independently. RevMan 5.3 software was used for the meta-analysis.

Results	**Thirty-three trials** met the inclusion criteria, which involved the follow techniques: AcuTENS (7 trials), moxibustion (11 trials), acupressure (7 trials), ear acupuncture (6 trials), acupressure and ear acupuncture combined (1 trial) and cupping (1 trial). Due to the great heterogeneity, only 7 meta-analysis could be performed (AcuTENS vs sham on quality of life and exercise capacity, acupressure vs no acupressure on quality of life and anxiety and ear acupuncture vs sham on FEV1 and FEV1/FVC) with only acupressure showing statistical differences for quality of life (SMD: -0.63 95%CI: - 0.88, - 0.39 I2 = 0%) and anxiety (HAM-A scale MD:-4.83 95%CI: - 5.71, - 3.94 I2 = 0%).
Conclusions	Overall, strong evidence in favour of any technique was not found. Acupressure could be beneficial for dyspnoea, quality of life and anxiety, but this is based on low quality trials. Further large well-designed randomised control trials are needed to elucidate the possible role of acupuncture techniques in the treatment of COPD.

1.1.9. Wang 2020

Wang Yide. [Systematic Evaluation of Acupuncture and Moxibustion on Pulmonary Rehabilitation in Patients with Stable Chronic Obstructive Pulmonary Disease]. Modernization of TCM and Materia Medica-World Science and Technology. 2020. [212944].

Objective	To systematically analyze the efficacy of acupuncture and moxibustion as an important means of pulmonary rehabilitation in patients with stable chronic obstructive pulmonary disease.
Methods	Wanfang, PubMed, Chinese biomedical literature database online database, Chinese full text database, the Cochrane, China science and technology periodical database were used to retrieve clinical randomized controlled study on efficacy of acupuncture used in chronic obstructive pulmonary disease plateau pulmonary rehabilitation from database establishment to present, and then performed risk assessment and quality evaluation. Then RevMan5. 3 software was used for meta-analysis research indicators.
Results	The results of the meta-analysis showed that a total of **9 papers of RCTs** on the effects of acupuncture and moxibustion on pulmonary rehabilitation in patients with stable chronic obstructive pulmonary disease were included in **681 patient**s. In terms of lung function, acupuncture combined with conventional treatment is significantly better than western medicine combined with conventional treatment or western medicine combined with placebo acupuncture: improved lung function FVC% [MD = 5. 90, 95%CI (3. 07, 8. 73), P < 0. 0001], improved FEV1 index [MD = 0. 32, 95%CI (0. 08, 0. 55), P = 0. 008]; improved FEV1/FVC [MD = 10. 16, 95%CI (4. 34, 15. 99), P =0. 0006]. Lung function indicators FEV1% were also significantly improved [MD = 5. 93, 95%CI (5. 73, 6. 14), P <0. 0001]. The above indicators of lung function were statistically significant. In addition, the observation group with 6-minute walk distance and blood gas analysis were better than the control group. No adverse reactions or other safety reports were found.
Conclusion	Acupuncture can significantly improve the pulmonary ventilation function, blood gas analysis, 6-minute walk distance and other indexes in pulmonary rehabilitation of patients with stable COPD, and its safety is better.

1.1.10. Fernández-Jané 2019

Fernández-Jané C, Vilaró J, Fei Y, Wang C, Liu J, Huang N, Xia R, Tian X, Hu R, Yu M, Gómara-Toldrà N, Solà-Madurell M, Sitjà-Rabert M. Filiform needle acupuncture for copd: A systematic review and meta-analysis. Complement Ther Med. 2019. [203283].

Background	This is the first part of a larger spectrum systematic review which aims to identify and evaluates the effectiveness of all different non-pharmacological acupuncture techniques used for COPD. In this first publication, we describe the results of filiform needle acupuncture
Methods	Randomised controlled trials up to May 2019 were searched in 11 databases. Data extraction and risk of bias assessment was conducted in pairs independently. RevMan 5.3 was used for the meta-analysis.
Results	28 trials using filiform needle alone or in combination of other techniques were included. Compared with no acupuncture, no difference was seen for dyspnoea, but statistical benefits were found on quality of life (Std. MD: -0.62, 95%CI: -0.90, -0.34), exercise capacity (stable subgroup) (6MWT MD: 33.05 m, 95%CI: 19.11, 46.99) and lung function (FEV1% MD: 1.58, 95%CI: 0.51, 2.66). Compared with sham, statistical benefits were found on dyspnoea (Std. MD: -1.07, 95%CI: -1.58, -0.56), quality of life (Std. MD: -0.81, 95%CI: -1.12, -0.49), exercise capacity (6MWT MD: 76.68 m, 95% CI: 39.93, 113.43) and lung function (FEV1% MD: 5.40, 95%CI: 2.90, 7.91; FEV1/FVC MD: 6.64, 95%CI: 3.44, 9.83).
Conclusions	Results show that filiform needle acupuncture might be beneficial for COPD, but due to the low quality of the studies this should be confirmed by future well-designed trials.

1.1.11. Hsieh 2019 ☆☆

Hsieh PC, Yang MC , Wu YK , Chen HY , Tzeng IS , Hsu PS , Lee CT , Chen CL , Lan CC. Acupuncture therapy improves health-related quality of life in patients with chronic obstructive pulmonary disease: A systematic review and meta-analysis. Complement Ther Clin Pract. 2019;35:208-218. [197162].

Background	Chronic obstructive pulmonary disease (COPD) is highly prevalent around the world and has a large impact on its patients, leading to a poor health-related quality of life (HRQL) and exercise capacity. Even under optimal medications, there are still many patients with poor HRQL. Body acupuncture therapy (BAT) is a non-invasive and a popular therapy. Therefore, we aimed to comprehensively analyze the effects of BAT in COPD.
Materials and methods	Eight electronic databases were searched. We included randomized controlled trials (RCTs) that evaluated the effect of BAT, medication (M), and pulmonary rehabilitation (PR). The primary outcome was HRQL evaluated by St. George's respiratory questionnaire (SGRQ) or COPD assessment test (CAT).
Results	Of the 922 articles, **12 studies** were included with attesting a total of **798 participants**. The result obtained indicated a significant improvement that favored the BAT + M group over the M group in CAT scores (MD: -4.77; 95% CI: -6.53 to -3.01; $p < 0.00001$).
Conclusions	BAT is an effective adjunctive non-pharmacological treatment to improve HRQL in patients under medical treatment for COPD. We suggested that BAT should be considered as one of the methods of management in patients with COPD.

1.1.12. Wang 2018 ☆

Wang J, Yu X, Xie Y. Acupuncture Therapy for Functional Effects and Quality of Life in COPD Patients: A Systematic Review and Meta-Analysis. Biomed Res Int. 2018. [168638].

Objective	This study aimed to evaluate the efficacy and safety of acupuncture therapy (AT) for improving functional effects and quality of life in COPD patients.

Methods	PubMed, Embase, Cochrane Library, Web of Science, Chinese Biomedical Literature Database (CBM), China National Knowledge Infrastructure (CNKI), Chongqing VIP (CQVIP), and Wanfang Data were searched. The randomized controlled trials (RCTs) evaluating the effect of AT on COPD patients were included. Primary outcome measures included six-minute walk distance (6MWD) and St. George's Respiratory Questionnaire (SGRQ). Study selection, data extraction, and risk of bias assessment were independently conducted, respectively. Statistical analysis was conducted by RevMan software (version 5.3) and Stata software (version 12.0).
Results	**Nineteen studies (1298 participants)** were included. 6MWD improved more (MD: 47.84; 95% CI: 23.33 to 72.35; Z = 3.83, P = 0.0001) and effective rate was higher (OR: 2.26; 95% CI: 1.43 to 3.58; Z = 3.48, P = 0.0005) in the experimental group compared to the control group. Symptom domain scores (MD: -24.86; 95% CI: -32.17 to -17.55; Z = 6.66, P < 0.00001), activity domain scores (MD: -16.52; 95% CI: -22.57 to -10.47; Z = 5.36, P < 0.00001) and impact domain scores (MD: -13.07; 95% CI: -17.23 to -8.9seto mty2; Z = 6.16, P < 0.00001) of SGRQ in the experimental group improved more compared to the control group. There was no significant improvement in SGRQ total scores between two groups. The improvement of FEV1 was not significant between two groups, yet subgroup analysis showed that patients treated with AT adjunctive to other treatments improved more in FEV1 (MD: 0.41; 95% CI: 0.28 to 0.54; Z = 6.01, P < 0.00001) compared to those treated with other treatments alone.
Conclusion	**AT may be effective in improving functional effects and quality of life in COPD patients. Besides, AT may also improve pulmonary function of patients with COPD**. However, further high-quality RCTs are needed to confirm the efficacy and safety of AT for COPD patients.

1.1.13. Xue 2016 ☆

Xue Changli C, Lu Chuanjian. Chronic Obstructive Pulmonary Disease: Clinical Evidence for Acupuncture and Related Therapies, in Chronic Obstructive Pulmonary Disease. Evidence-based Clinical Chinese Medicine. Singapore: World Scientific. 2016:119-154. [199983].

Objective	Since the beginning of Chinese civilisation, acupuncture therapies have been used to treat respiratory diseases, including COPD. Many clinical studies have been conducted in China and abroad. This chapter provides an assessment of the current evidence from clinical trials.
Methods	Extensive searches of nine electronic databases identified almost 1,900 citations of acupuncture therapies for COPD. These were reviewed against rigorous inclusion criteria, resulting in the exclusion of over 1,500 citations. A total of 79 clinical studies of acupuncture therapies for stable COPD or acute exacerbation of COPD were selected for further analysis and are presented in this chapter. Controlled trials were subject to systematic review and a series of meta-analyses of results to evaluate the efficacy and safety of acupuncture therapies for COPD.
Results	There is insufficient evidence for some acupuncture therapies such as acupressure, moxibustion and electroacupuncture. However, point application therapy and acupuncture point injection therapy when combined with pharmacotherapy improved certain measures of lung function and health-related quality of life.

1.1.14. Coyle 2014 ☆☆

Coyle ME, Shergis JL, Huang ET, Guo X, Di YM, Zhang A, Xue CC. Acupuncture therapies for chronic obstructive pulmonary disease: a systematic review of randomized, controlled trials. Altern Ther Health Med. 2014. 20(6):10-23. [178352].

Context	Chronic obstructive pulmonary disease (COPD) is a leading cause of morbidity and mortality and is projected to be the third leading cause of death by 2030. Acupuncture, a traditional Chinese therapy, has been used for more than 2000 years to treat respiratory conditions and may treat COPD effectively. In previous literature reviews, researchers have noted significant heterogeneity among the included studies, and none of the reviewers found convincing evidence to recommend routine use of acupuncture therapies for COPD.
Objective	This literature review examined the efficacy and safety of acupuncture therapies for patients with COPD in improving lung function, increasing exercise capacity, creating positive subjective changes in symptoms, and enhancing health-related quality of life (QoL).
Design	The research team searched the following electronic databases from inception to April 2013: PubMed, the Cochrane Central Register of Controlled Trials (CENTRAL), the Cumulative Index to Nursing and Allied Health Literature (CINAHL), the Allied and Complementary Medicine Database (AMED), Embase (Elsevier), the China National Knowledge Infrastructure (CNKI), Chongqing VIP Information Company (CQVIP), the Chinese Biomedical Literature Database (CBM), and Wanfang Data. The review included randomized, controlled trials (RCTs) that examined the benefits of acupuncture or other related therapies for treatment of COPD. Data were extracted into a predefined form; risk of bias was assessed according to the Cochrane Risk of Bias tool; and statistical analyses were made.
Results	In total, **16 studies were included in the review**. The research team found that the acupuncture therapies used in these studies improved health-related QoL. The team's conclusions, comparing results from the interventions with placebo, were based on data from 3 questionnaires that the studies used: (1) the St George's Respiratory Questionnaire (SGRQ), with a mean difference (MD) of -8.33 units (95% CI, -13.13 to -3.53); (2) dyspnea on the Medical Research Council's (MRC's) dyspnea scale, with an MD of -0.34 units (95% CI, -0.38 to -0.30); and (3) the Dyspnea Visual Analogue Scale (DVAS), with an MD of -8.85 mm (95% CI, -11.81 to -5.89). Compared with placebo, acupuncture therapies also increased the distance walked in 6 min (6MWT), with an MD of -28.14 (95% CI, 23.92 to 32.36) compared with placebo. No benefit was seen on measures of lung function when acupuncture therapies were compared with either placebo or drug therapy.
Conclusion	**Acupuncture therapies may result in clinically important improvements in QoL and dyspnea**. Future high-quality RCTs should be undertaken to provide conclusive evidence concerning the benefits of acupuncture therapies in the treatment of COPD.

1.2. Specific outcome

1.2.1. Acute Exacerbation

1.2.1.1. Yang 2024

Yang C, Tian H, Xu G, Luo Q, Sun M, Liang F. Efficacy of Acupuncture in Acute Exacerbation of Chronic Obstructive Pulmonary Disease: A Systematic Review and Meta-Analysis. Int J Chron Obstruct Pulmon Dis. 2024 Mar 11;19:707-720. https://doi.org/10.2147/COPD.S450257

Purpose	The effect of acupuncture as adjunctive therapy for acute exacerbation of chronic obstructive pulmonary disease (AECOPD) was controversial. Thus, we aimed to evaluate the effects of acupuncture for treating AECOPD.

Methods	Eight databases were searched from database inception to July 30, 2023. All RCTs compared acupuncture plus conventional western medicine with conventional western medicine alone were included. Outcomes were quality of life, lung function, blood oxygen condition, exercise capacity, daily symptoms, duration of hospitalization, and adverse events. The statistical analyses were conducted using Stata 17.0, and methodological quality was measured by the Cochrane bias risk assessment tool. The Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach was used to assess the quality of evidence.
Results	**Twelve studies including 915 patients** were included. Compared with conventional western medicine alone, acupuncture combined with conventional western therapy significantly improved quality of life (CAT: MD: -3.25; 95% CI: -3.73 to -2.78, P<0.001) and arterial blood gas (PaCO2: MD: -1.85; 95% CI: -2.74 to -0.95, P<0.001; PaO2: MD: 5.15; 95% CI: 1.22 to 9.07, P = 0.01). And for lung function, statistical benefits were found in FEV1/FVC (MD: 4.66; 95% CI: 2.21 to 7.12, P<0.001), but no difference was seen for FEV1% (MD: 1.83; 95% CI: -0.17 to 3.83, P = 0.073). There was no significant improvement in exercise capacity (6MWD: MD: 96.69; 95% CI: -0.60 to 193.98, P = 0.051), hospitalization duration (MD: -5.70; 95% CI: -11.97 to 0.58, P = 0.075), and dyspnea (mMRC: MD: -0.19; 95% CI: -0.61 to 0.63, P = 0.376) between two groups. Overall bias for CAT and mMRC was in “high” risk, FEV1%, FEV1/FVC, PaCO2, and PaO2 was in “some concern” and 1 RCT assessing hospitalization duration was in “low” risk. And the overall assessments were either moderate, low or very low certainty. Seven trials performed safety assessment of acupuncture, and no serious adverse events were reported.
Conclusion	Acupuncture might have auxiliary effects on AECOPD. However, the quality of the evidence is limited, and more high-quality RCTs are needed to be performed in the future.

1.2.2. Diaphragm Dysfunction

1.2.2.1. Liu 2021

Liu Q, Duan H, Lian A, Zhuang M, Zhao X, Liu X. Rehabilitation Effects of Acupuncture on the Diaphragm Dysfunction in Chronic Obstructive Pulmonary Disease: A Systematic Review. Int J Chron Obstruct Pulmon Dis. 2021:2023-2037. [220113]. doi

Introduction	Diaphragm dysfunction is a significant extrapulmonary effect in chronic obstructive pulmonary disease (COPD), which is manifested by changes in diaphragm structure and reduced diaphragm strength. Acupuncture is a traditional rehabilitation technique in China, which has been used in rehabilitation for COPD. But whether acupuncture can improve the diaphragm function of COPD patients remains to be verified.
Objective	The objective of this study was to evaluate the rehabilitation effects of acupuncture on diaphragm dysfunction in patients with COPD.
Methods	The authors retrieved in CNKI, VIP, SinoMed, PubMed, Ebsco, Web of Science, from inception to November 2020, for relevant randomized control trials. Two researchers independently screened the articles and extracted the data. The quality of the included studies was evaluated by Physiotherapy Evidence Database scale. The primary outcome measures were maximal inspiratory pressure and the scale for accessory respiratory muscle mobilization, the secondary outcome measures were pulmonary function-related indicators and arterial blood gas indicators.

Results	**Nine articles** were finally obtained. Seven studies added acupuncture to standard treatment for patients with diaphragm dysfunction in COPD and found statistically significant changes in the maximum inspiratory pressure and the scale for accessory respiratory muscle mobilization. Two studies have proved that use acupuncture combined with other Traditional Chinese Medicine methods in the rehabilitation for COPD can effectively improve the diaphragm strength and diaphragmatic motor performance. Seven studies showed that acupuncture has obvious improvement in pulmonary ventilation function. Seven studies reported significant differences in arterial blood gas pre- to post-intervention.
Conclusion	This systematic review found that acupuncture can effectively enhance the diaphragm strength, relieve respiratory muscle fatigue, it can also play a promoting role in improving lung function, hypoxia, and carbon dioxide retention, as well as preventing and alleviating respiratory failure. The generalizability of these results is limited by the design of the included studies.

1.2.3. T lymphocyte subsets

1.2.3.1. Wu 2020

Wu JJ, Zhang YX, Xu HR, Li YX, Jiang LD, Wang CX, Han M. Effect of acupoint application on T lymphocyte subsets in patients with chronic obstructive pulmonary disease: A meta-analysis. Medicine (Baltimore). 2020;99(16). [209218]. doi

Background	The development of chronic obstructive pulmonary disease (COPD) is related to the T lymphocyte mediated inflammatory immune response and immune imbalance. The purpose of this systematic review was to evaluate the clinical efficacy and safety of acupoint application on T lymphocyte subsets in patients with COPD.
Methods	We searched CNKI, Wan fang, Chongqing VIP, China Biology Medicine disc, PubMed, the Cochrane Library, and EMBASE for studies published as of Oct. 31, 2019. All randomized controlled trials of acupoint application on COPD patients that met the inclusion criteria were included. The Cochrane bias risk assessment tool was used for literature evaluation. RevMan5.3 software was used for meta-analysis.
Results	**Eight studies (combined n = 524)** qualified based on the inclusion criteria. Compared with routine treatment alone, acupoint application combined with routine treatment can significantly increase the T lymphocyte CD4/CD8 ratio (MD 0.12, 95% CI 0.03-0.21, P < .01, I = 49%), reduce CD8 T-cells (MD-0.99, 95% CI-1.70-0.28, P < .001, I = 37%), reduce the times of acute exacerbations (MD-0.28, 95% CI-0.35-0.21, P < .001, I = 0), and improve the clinical efficacy (MD 1.30, 95% CI 1.14-1.48, P < .001, I = 39%).
Conclusion	Acupoint application can improve the CD4/CD8 ratio and CD8 T-cells in patients with COPD and has an auxiliary effect in reducing the times of acute exacerbations and improving clinical efficacy.

1.3. Special Acupuncture Techniques

1.3.1. Acupoint herbal patching

1.3.1.1. Pang 2020

Pang L, Zhang H, Lü X, Liu J, Liu C, Lü L. Preventive and therapeutic effectiveness of Sanfu acupoint herbal patching for chronic obstructive pulmonary disease at stable stages: a systematic review and

Meta-analysis. Journal of TCM. 2020;40(4):530-549. [221513].
https://doi.org/10.19852/j.cnki.jtcm.2020.04.003

Objective	To evaluate the preventive and therapeutic effects of Sanfu acupoint herbal patching (SAHP) in adjuvant treatment in patients with stable chronic obstructive pulmonary disease (COPD).
Methods	We had searched eight electronic databases and six major trial registries from their inception to July 2017 for randomized controlled trials (RCTs). We utilized RevMan 5.3 to evaluate the methodological quality and to perform data analyses.
Results	A total of **28 RCTs involving 1615 records** were included in the descriptive analysis, and 25 RCTs were performed for Meta-analysis. Lung function such as forced vital capacity rate of one second FEV1/predicted%, forced vital capacity (FVC) % found no significant difference. The results of Meta-analysis showed that SAHP plus conventional therapy (CT) in the treatment of stable COPD were better than CT, in second sessions' data of FEV1, in third sessions' data of FEV1/FVC, in three sessions' data of SGRQ, in third session's data of Modified Medical Research Council and 6MWT. The symptoms of SAHP's adverse reactions seem to be mild and the incidence of that seems to be low. Descriptive analysis shows that SAHP with CT seems to improve clinical effective rate and had a certain preventive effect on acute exacerbation of COPD, which the curative effect may be better with the increase of treatment course.
Conclusion	SAHP with CT appears to be more effective than CT or CT plus placebo only on improving the quality of life, but the effect on lung function is not obvious. Improve clinical effective rate and preventive effect is uncertainty. SAHP with CT may be used in any Grade to safely treat patients with stable COPD. The more exactly clinical effect still needs to be proved by more high-quality, large sampling, multilingual RCTs.

1.3.1.2. Zhou 2015☆

Zhou F, Shana YW, Lewith G, Liu JP. Acupoint Herbal Patching with or without Conventional Treatment for Stable Chronic Obstructive Pulmonary Disease: a Systematic Review of Randomized Controlled Trials World J Trad Chin Med. 2015;1(1):45-48. [70497].

Background	Acupoint herbal patching (AHP) alone or as an adjuvant therapy with conventional treatment (CT) has been widely used for prevention and treatment of chronic obstructive pulmonary disease (COPD). However, current clinical evidence from a systematic review of RCTs is lacking. Objective: To evaluate the effectiveness and safety of AHP with or without CT for people with COPD at stable stage.
Methods	We searched randomized controlled trials comparing AHP (with or without CT) with no intervention, placebo, or CT from six databases. Two authors selected studies, extracted data and evaluated risk of bias of included trials. RevMan 5.2 software was used to analysis data.
Results	**Twenty one RCTs (2327 participants) were included**. AHP of non sanfu applied on no fixed dates with CT significantly decreased the mean frequency of acute exacerbation of COPD (times per year) (MD: −1.24; 95% CI: −2.02 to −0.46; 2 trials), and improved lung function parameters and quality of life. The AHP with CT showed no better effect in 6-minute walking distance (6MWD) that CT alone. AHP applied at sanfu (specific dates based on lunar calendar) with CT had significant effect for 6MWD (MD: 11.20; 95% CI: 0.83 to 21.56; I2 = 0%; 3 trials). One trial reported skin irritation from AHP. Another trial reported two patients had eye discomfort, which was inferred as the adverse effects of seretide.
Conclusion	**AHP used as an adjunct to CT, appears to be more effective than CT alone in patients with stable COPD**. However, further large, rigorously designed trials are warranted to confirm these potential effects.

1.3.1.3. Li 2012 ☆☆

Li F, Gao Z, Jing J, Xu D, Upur H. Effect of point application on chronic obstructive pulmonary disease in stationary phase and effects on pulmonary function: a systematic evaluation of randomized controlled trials. J Tradit Chin Med. 2012; 32(4):502-4. [159302].

Objective	To evaluate clinical efficacy of point application or adjuvant therapy on chronic obstructive pulmonary disease in stationary phase and effects on pulmonary functions.
Methods	Computer retrieved CNKI, VIP, CBM and other databanks and manual operations retrieved correlative literatures to find randomized controlled trials (RCTs) about comparison between point application or adjuvant therapy and no-point-applications for treatment of chronic obstructive pulmonary disease in stationary phase in China. RevMan 5.0 software was used for Meta-analysis.
Results	Among **3481 cases in the inclusive 32 RCTS**, 1780 cases were in the test group and 1701 cases in the control group. Meta-analysis indicated: 1) clinical efficacy: the groups containing point application therapy all were better than the groups of no-point-application; 2) force vital capacity (FVC): There was no statistically significant difference between the group of point application plus Western Medicine and the Western Medicine group; 3) force expiratory volume 1 (FEV1): The groups containing point application therapy were better than the no-point-application; 4) FEV1%: the groups of point application plus Western Medicine were better than the Western Medicine groups; 5) FEV1/FVC: there was a significant difference between the group of point application plus Chinese drugs and the group of Chinese drug.
Conclusion	**Point application can increase clinical efficacy** of chronic obstructive pulmonary disease in stationary phase in varying degrees, and different combinations of point application with Chinese drugs or Western Medicines have incomplete same actions in improvement of pulmonary function and therapeutic effect.

1.3.2. Pharmaco-acupuncture

1.3.2.1. Coyle 2015

Coyle ME, Liu Shaonan, Zhang AL et al. Acupuncture point injection therapy plus pharmacotherapy for chronic obstructive pulmonary disease: A systematic review of randomised controlled trials. European Journal of Integrative Medicine. 2015;7(6):567-576. [207112]. doi

Introduction	Acupuncture point injection therapy has been used for respiratory conditions, including chronic obstructive pulmonary disease (COPD), and may be an effective adjunct to pharmacotherapy. This review evaluated the efficacy and safety of acupuncture point injection therapy plus pharmacotherapy for COPD.
Methods	Five English and four Chinese databases were searched from inceptions to May 2015. Studies of acupuncture point injection therapy reporting on clinical outcomes (including lung function, symptom severity, quality of life and exercise capacity) were included. Methodological quality was assessed using the Cochrane Collaboration’s risk of bias tool, and data analysed using RevMan 5.2.

Results	**Twelve studies (841 participants)** were included. Results from meta-analyses showed the combination of acupuncture point injection therapy plus pharmacotherapy produced better outcomes for lung function during acute exacerbation (FEV1 L: MD 0.16 L [0.04, 0.28], I2 = 0%; FVC L: MD 0.29 L [0.14, 0.44], I2 = 0%) and effective rate for stable COPD and acute exacerbations (RR 1.45 [1.17, 1.79], I2 = 0% and RR 1.16 [1.07, 1.26], I2 = 0%, respectively) than pharmacotherapy alone. Higher arterial oxygenation (PaO2) was seen in participants with acute exacerbations who received acupuncture point injection therapy plus pharmacotherapy (MD 7.43 mmHg [3.49, 11.39], I2 = 93%), although considerable statistical heterogeneity was detected.
Conclusions	Based on the included studies, there is insufficient information on the safety of acupuncture point injection therapy for COPD. There is some evidence that acupuncture point injection therapy may improve lung function and effective rate in people with COPD, however the conclusions are limited by the small number of included studies and methodological differences.

1.3.3. Acupoint autohemotherapy

1.3.3.1. Huang 2021

Huang C, Chen C, Zhou R, Liang Y, Zhang J, Hong H, Liu J. A systematic review and meta-analysis of acupoint autohemotherapy and western medicine therapy in treating chronic obstructive pulmonary disease. Complement Ther Clin Pract. 2021;29. [218681]. https://doi.org/10.1016/j.ctcp.2021.101336

Objective	To evaluate the safety and efficacy of acupoint autohemotherapy（AA）.
Methods	We collected Controlled Trials that are random of AA plus medicine of the west therapy vs western medicine therapy alone in treating COPD from PubMed, the Cochrane library, EMBASE, CNKI, CBM SinoMed, China Science, and Wanfang Data from database inception to July 1, 2019. Meta-analysis was performed using the RevMan 5.3.
Results	This meta-analysis identified that the combined treatment could enhance the total effective clinical rate, the forced expiratory volume in 1 s（FEV1）and forced vital capacity（FVC）increase the 6-min walking distance, and improve the self-assessment of chronic obstructive pulmonary disease score（CAT）.
Conclusion	The clinical effects of AA plus medicine of the west therapy are better than that of western medicine alone in treating COPD. However, due to the small number and poor quality of the included RCTs（this conclusion needs to be verified with larger samples and higher quality RCTs.

1.3.4. Catgut Embedding

1.3.4.1. Gu 2023

Gu C, Yu Y, Chen Y, Duan S, Xu R, Liu S, Wang C. Effect of acupoint catgut embedding combined with western medicine on patients with stable COPD: Acupoint catgut embedding treating stable COPD meta-analysis. Medicine (Baltimore). 2023 Oct 13;102(41):e35281. https://doi.org/10.1097/MD.0000000000035281

Background	Although bronchodilators and glucocorticoids can reduce the symptoms of cough and asthma to a certain extent, the adverse drug reactions and recurrence after recovery still trouble clinicians. Acupoint catgut embedding is effective in preventing and treating acute recurrence and deterioration of COPD, but its clinical efficacy remains controversial. Therefore, this study evaluated the clinical efficacy and safety of acupoint catgut embedding combined with conventional Western medicine for COPD through meta-analysis.
Methods	Pubmed, the Cochrane Library, Web of Science, Sinomed, China Knowledge Network, VIP, and Wanfang databases were searched, with a time frame from database creation to November 2022. Meta-analysis was performed with Revman 5.3. Publication bias was assessed by Stata 15.0.
Results	**Seventeen studies** were listed, with a total sample size of 1516 cases. Meta-analysis showed that compared with conventional western medicine, acupoint catgut embedding combined with conventional western medicine could effectively improve the total effective rate of clinical symptoms of stable COPD [RR = 1.21, 95%CI (1.13, 1.29), P < .00001], forced expiratory volume in 1 second (FEV1) [mean difference (MD) = 0.04, 95%CI (0.00, 0.09), P = .04],the percentage of forced expiratory volume in 1 second predicted value [MD = 1.13, 95%CI (0.38,1.88), P = .003], acute exacerbation of chronic obstructive pulmonary disease [MD = -0.73, 95%CI (-1.04, -0.42), P < .00001], COPD assessment test score [MD = -2.39, 95%CI (-3.65, -1.13), P = .0002], the improved medical research council respiratory questionnaire score (mMRC score) [MD = -0.15, 95%CI (-0.29, -0.02),P = .03], 6-minute walk distance [MD = 28.16, 95%CI (17.31, 39.00), P < .00001], the production of inflammatory factor interleukin-8 [MD = -9.65, 95%CI (-10.44, -8.86), P < .00001], but the adverse event rate was comparable[RR = 1.39, 95%CI (0.28,6.91), P = .69]. However, there was no significant difference in forced expiratory volume in 1 second/forced vital capacity and TNF-α between the acupoint catgut embedding combined group and the conventional western medication group. Harbord test showed no significant publication bias.
Conclusion	The clinical efficacy of acupoint catgut embedding combined with conventional western medicine for stable COPD is better than that of conventional western medicine, and the safety may be equivalent to that of conventional western medicine, which has the value of further research exploration.

1.3.5. Moxibustion

1.3.5.1. Lou 2021

Lou JL, Sun HJ, Li XY, Hu HT, Zhang YJ, Jiang YL, Fang JQ. [Clinical efficacy and safety of moxibustion as adjuvant therapy for COPD in stable phase: a Meta-analysis]. Chinese Acupuncture and Moxibustion. 2021;41(4):451-7. [219072]. doi

Objective	To systematically evaluate the efficacy and safety of conventional therapy combined with moxibustion in the treatment of chronic obstructive pulmonary disease (COPD) in stable phase based on Meta-analysis medicine.
Methods	The randomized controlled trials (RCTs) of moxibustion as adjuvant therapy for COPD were retrieved from the databases of CNKI, Wanfang, SinoMed, PubMed, Web of Science, Cochrane Library and Ebsco. RevMan5.3 software was used for Meta analysis, and the quality of evidence was evaluated according to GRADE standards.

Results	A total of 16 RCTs were included, involving 1425 patients. The results of Meta-analysis showed that: compared with the conventional treatment, ①the adjuvant therapy with moxibustion had advantages in reducing the number of acute exacerbations [MD=-0.31, 95%CI:-0.49–0.13, P=0.0006]; ②the adjuvant therapy with moxibustion improved lung function significantly [FEV1% (MD=4.00, 95%CI:2.63-5.37, P<0.000 01) and FEV1/FVC (MD=3.56, 95%CI:1.69-5.43, P=0.000 2)]; ③the adjuvant therapy with moxibustion could extend the 6 min walking distance (6WMD) (MD=35.00, 95%CI:18.02-51.99, P<0.000 1); ④the adjuvant therapy with moxibustion could improve the modified British Medical Research Council breathing questionnaire (mMRC) classification significantly (MD=-0.62, 95%CI:-1.18–0.05, P=0.03); ⑤no adverse reaction was reported in the included literature.
Conclusion	The efficacy of moxibustion as adjuvant therapy for COPD in stable phase is better than that of simple conventional therapy. Due to insufficient clinical evidence and the limitations of this study, clinical safety is unclear and further evidence is needed to support the results.

1.3.6. Electroacupuncture

1.3.6.1. Chen 2025

Chen T, Zhang J, Wu Q, Zhang M. Efficacy and safety of electroacupuncture in chronic obstructive pulmonary disease: a systematic review and meta-analysis. J Thorac Dis. 2025 Oct 31;17(10):8758-8773. https://doi.org/10.21037/jtd-2025-1001

Background	Electroacupuncture (EA) has gained increased attention for chronic obstructive pulmonary disease (COPD) management but the evidence-based research is limited. While some randomized controlled trials (RCTs) reported improvements in pulmonary function and quality of life (QoL) others showed no significant benefits compared to conventional therapies. This study aims to evaluate the clinical efficacy of EA in the treatment of COPD through a systematic review and meta-analysis.
Methods	Following PRISMA guidelines relevant RCTs were searched in six databases [PubMed Embase Cochrane Web of Science Wanfang and China National Knowledge Infrastructure (CNKI)] from inception to October 8 2023. Eligible articles were identified based on the PICOS principles: participants (COPD patients aged ≥18 years) interventions (EA monotherapy or combination therapy) comparisons (sham acupuncture medications rehabilitation) outcomes (pulmonary function symptom scores) and study design (RCTs). Forest plots and funnel plots of meta-analyses of different outcomes were generated using RevMan 5.4. One-way sensitivity analyses were performed using Stata 15.0. The quality of the included RCTs was evaluated using the Cochrane Collaboration's tool for assessing risk of bias. The primary outcomes included body mass index (BMI) modified Medical Research Council (mMRC) score COPD Assessment Test (CAT) score clinical effective rate 6-minute walk distance (6MWD) forced expiratory volume in 1 second (FEV1) forced vital capacity (FVC) FVC% FEV1% and FEV1/FVC%.

Results	A total of **15 RCTs involving 1,076 patients** were included. Our data demonstrated significantly higher FVC [weighted mean difference (WMD): 0.28; 95% confidence interval (CI): 0.14 0.43; P<0.001] FEV1% (WMD: 3.99; 95% CI: 2.30 5.67; P<0.001) FEV1/FVC% (WMD: 3.77; 95% CI: 2.38 5.17; P<0.001) 6MWD (WMD: 11.74; 95% CI: 7.48 16.01; P<0.001) and clinical effective rate (risk ratio: 1.11; 95% CI: 1.03 1.20; P=0.006) as well as lower CAT scores (WMD: -2.39; 95% CI: -3.63 -1.15; P<0.001) in the EA group compared to the control group. Subgroup analyses revealed enhanced therapeutic outcomes (e.g. pulmonary rehabilitation) in patients who received ≥8 weeks of EA monotherapy or combination therapies. However risk of bias was unclear in three RCTs due to inadequate randomization and heterogeneity arose from variability in control interventions.
Conclusion	EA is a promising therapy for improving COPD outcomes particularly when combined with rehabilitation and extended treatment duration. Future studies should prioritize homogeneous designs larger multiethnic cohorts and mechanistic investigations to validate these findings and optimize protocols.

1.3.6.2. Wei 2022

Wei Y, Yuan N, Dong Y, Wang L, Ding J. Transcutaneous electrical nerve stimulation over acupoint for chronic obstructive pulmonary disease: A systematic review and meta-analysis. Front Public Health. 2022 Oct 6;10:937835. https://doi.org/10.3389/fpubh.2022.937835. https://pubmed.ncbi.nlm.nih.gov/3627

Background	Transcutaneous electrical nerve stimulation over an acupoint (acu-TENS), a new technique applied in pulmonary rehabilitation programs, has been gradually used in the management of chronic obstructive pulmonary disease (COPD). However, the effects of acu-TENS have not been fully evaluated. Therefore, this review was conducted to assess the effects of acu-TENS on COPD.
Methods	A total of seven electronic databases were searched from their inception to September 2021 for randomized controlled trials of acu-TENS for COPD. Two investigators independently performed data extraction and methodological quality assessment. Heterogeneity was examined by Cochrane χ2 and I 2 tests. The source of heterogeneity was investigated by subgroup analysis or sensitivity analysis.
Results	In our review, **ten studies** between 2008 and 2021 were included. The aggregated results indicated that acu-TENS showed positive effects in forced expiratory volume in 1 s (FEV1) [MD = 0.13 L, 95% CI (0.11-0.16), P < 0.00001], FEV1% predicted [MD = 5.92%, 95% CI (3.43-8.41), P < 0.00001], 6-min walk distance (6MWD) [MD = 14.68m, 95% CI (6.92-22.44), P = 0.0002], dyspnea visual analog scale (DVAS) [MD = -7.58, 95%CI (-14.33 to -0.84), P = 0.03], modified Borg scale (MBS) [MD = -0.46, 95% CI (-0.86 to -0.06), P = 0.03], and COPD assessment test (CAT) [MD = -4.25, 95% CI (-5.24 to -3.27), P < 0.00001]. Although six studies reported adverse effects, only one patient had shoulder pain after acu-TENS.
Conclusion	Acu-TENS seems to be effective in improving pulmonary function and health status in patients with COPD, with little effect on exercise capacity and dyspnea. However, this result should be interpreted with caution, and high-quality RCTs were needed for further verification.

1.3.7. Comparison of Acupuncture techniques

1.3.7.1. Ma 2023

Ma YZ, Zhang D, Zhao GX, Wang J, Zhang HL. [Acupuncture and moxibustion in treatment of chronic

obstructive pulmonary disease at stable stage: a network Meta-analysis]. Zhongguo Zhen Jiu. 2023 Jul 12;43(7):843-53. Chinese. https://doi.org/10.13703/j.0255-2930.20220618-k0004

Backgound	The efficacy on chronic obstructive pulmonary disease (COPD) at stable stage treated with different methods of acupuncture and moxibustion was evaluated using network Meta-analysis method.
Methods	The articles of the randomized controlled trial (RCT) on stable COPD treated with acupuncture and moxibustion were searched electronically in CNKI, Wanfang, VIP, SinoMed, PubMed, EMbase, Web of Science and Cochrane library. The search was conducted from the inception of the databases to March 20th, 2022. Data analysis was performed using R4.1.1, Stata16.0 and RevMan5.3 softwares.
Results	A total of **48 RCTs** were included, involving 15 kinds of acupuncture and moxibustion interventions and a sample size of 3 900 cases. The results of network Meta-analysis showed that: ① For the forced expiratory volume in one second predicted (FEV1%), both the governor vessel moxibustion combined with conventional treatment (G+C therapy) and the yang-supplementing moxibustion combined with conventional treatment (Y+C therapy) obtained the better effect than that of the conventional treatment (P<0.05), and the G+C therapy was more effective compared with the thread-embedding therapy combined with conventional treatment (E+C therapy) and warm needling (P<0.05). ② Concerning to COPD assessment test (CAT) score, the results indicated that the Y+C therapy, and the mild moxibustion combined with conventional treatment (M+C therapy) were more effective when compared with the conventional treatment (P<0.05), and the effect of the Y+C therapy was better than that of the E+C therapy (P<0.05). ③ Regarding six-minute walking distance (6MWD), the effect of acupuncture combined with conventional treatment (A+C therapy) was better than that of either the E+C therapy or the conventional treatment (P<0.05). The effect of the G+C therapy was optimal for improving FEV1%, the Y+C therapy obtained the best effect for improving CAT score, and A+C therapy was the most effective for improving 6MWD. Due to the limitation of the quality and quantity of included studies, this conclusion needs to be further verified through high-quality RCT.

2. Overview of Systematic Reviews

2.1. Zeng 2024

Zeng Q, Liu L, Chen Y, Chen D, Zhou Z, Hu W, Gong S, He B, Qi W, Wang C, Yang Z, Yu S, Zhao L. Efficacy and Safety of Acupuncture in Managing COPD: An Overview of Systematic Reviews. Int J Chron Obstruct Pulmon Dis. 2024 Jul 26;19:1721-1739. https://doi.org/10.2147/COPD.S464546

Backgound	Acupuncture has been used as an adjuvant therapy for Chronic obstructive pulmonary disease (COPD). However, systematic reviews (SRs) and meta-analyses (MAs) have reported inconsistent results and unknown quality. This overview aimed to summarize the current SRs/MAs to provide evidence for the effectiveness and safety of acupuncture in the treatment of COPD.
Methods	SRs/MAs were searched via eight databases from their establishment to December 31, 2023. The methodological quality was assessed by A Measurement Tool to Assess Systematic Reviews 2 (AMSTAR 2). The risk of bias was assessed using the Risk of Bias in Systematic Review (ROBIS) tool. The Preferred Reporting Items for Systematic Reviews and Meta-analyses for Acupuncture (PRISMA-A) to evaluate the reporting quality. The Grading of Recommendations Assessment, Development and Evaluation (GRADE) was used to determine the strength of evidence. In addition, we also conducted an analysis of the acupuncture points used in the primary RCTs.

Results	**Twenty-two SRs/Mas** were included in this overview. Based on the assessment using AMSTAR 2, nineteen SRs/MAs were “critically low”. Eight SRs/MAs had a low risk of bias. Based on PRISMA-A, the reporting completeness of eighteen SRs/MAs were more than 70%. As for GRADE assessment, only three outcome measures were of high quality. COPD patients can benefit from moxibustion, acupoint application, acupoint catgut embedding, manual acupuncture, and electroacupuncture, as indicated by effectiveness in measures including lung function, 6MWD, mMRC, CAT, and acute exacerbation. In addition, the efficacy of TENS needed to be further demonstrated. The commonly used acupuncture points in the RCTs include BL13, BL23, and EX-B1.
Conclusion	Evidence from SRs showed that acupuncture is beneficial to lung function, acute exacerbation, 6MWD, mMRC and CAT. For SGRQ and brog scale, acupuncture should be used selectively, but this finding should still be taken with caution.

2.2. Chun 2021

Chun L, Li X, Feng Z, Xie Y, Li J. Role of Acupuncture in the Treatment of COPD: An Overview of Systematic Reviews. Int J Gen Med. 2021. [218233]. doi

Background	Since consistent evidence on the effectiveness of acupuncture in the treatment of chronic obstructive pulmonary disease (COPD) is not available, this overview aims to summarize and critically evaluate the methodological and evidence quality of systematic reviews (SRs) on this topic.
Methods	Eight electronic databases were searched to identify relevant SRs of the use of acupuncture in the treatment of COPD from inception to January 2021. Two researchers independently screened the literature, extracted the data, and cross-checked the data. The Assessing the Methodological Quality of Systematic Reviews 2 (AMSTAR 2) list was used to assess the methodological quality of SRs. The Grades of Recommendations, Assessment, Development and Evaluation (GRADE) system was used to assess the quality of evidence for the outcomes of interest.
Results	**Nine SRs** that conducted quantitative syntheses were included in this overview. The methodological quality of the SRs and the quality of evidence for the main outcome measures were generally unsatisfactory. Only 2 SRs were rated as low methodological quality by AMSTAR 2, and the remaining SRs were rated as critically low quality. The key limitations of the SRs were lack of a protocol and registration or a list of excluded studies. We did not find high-quality evidence to confirm the effectiveness of acupuncture for COPD, and the main reason was that the qualitative data synthesis relied on trials with small sample sizes and critically low quality.
Conclusion	Acupuncture appears to be an effective therapeutic method for COPD, but the credibility of the results is limited owing to the generally low methodological quality and evidence quality of the included SRs. Further rigorous and comprehensive studies are required to provide robust evidence and draw definitive conclusions.

3. Clinical Practice Guidelines

⊕ positive recommendation (regardless of the level of evidence reported)
Ø negative recommendation (or lack of evidence)

3.1. U.S. Navy Bureau of Medicine and Surgery (USA) 2013 ⊕

Acupuncture. U.S. Navy Bureau of Medicine and Surgery. 2013.17p. [180539].

Category B (limited evidence): Authorized but not recommended for routine use (consider as adjunct). Chronic Obstructive Pulmonary Disease

3.2. Canadian Thoracic Society (CTS, Canada) 2011 Ø

Marciniuk D, Goodridge D, Hernandez P, Rocker G, Balter M, Bailey P, Ford G, Bourbeau J, O'donnell De, Maltais F, Mularski Ra, Cave Aj, Mayers I, Kennedy V, Oliver Tk, Brown C. Managing dyspnea in patients with advanced chronic obstructive pulmonary disease: A Canadian Thoracic Society clinical practice guideline. Can Respir J. 2011;18(2):69-78. [156306].

Recommendation #3c. There is insufficient evidence to support the routine use of anxiolytic medications, nebulized opioids, **acupuncture**, acupressure, distractive auditory stimuli (music), relaxation, handheld fans, counselling programs or psychotherapy.