Table des matières

1. Systematic Reviews and Meta-Analysis 1
1.1. Generic Acupuncture 1
1.1.1. Zhang 2025 (plus Speech and Language Therapy) 1
1.1.2. Li 2024 1
1.1.3. Zhou 2023 (combined with language rehabilitation training) 2
1.1.4. Sang 2022 ☆ 3
1.1.5. Zhang 2021 3
1.1.6. Park 2020 4
1.1.7. Xie 2020 (acupuncture plus rééducation) 4
1.1.8. Zhong 2020 5
1.1.9. Tang 2019 5
1.1.10. Zhang 2019 6
1.1.11. Zhu 2018 ☆ 6
1.1.12. Mitchell 2017 Ø 7
1.1.13. Tan 2016 ☆☆ 8
1.1.14. Sun 2014 ☆☆ 9
1.1.15. Zhang 2014 ☆ 9
1.1.16. Sun 2012 ☆ 10
1.1.17. Pang 2010 ☆ 10
1.1.18. Li 2010 ☆☆ 11
1.2. Special Acupuncture Techniques 11
1.2.1. Comparison of acupuncture techniques 11
1.2.1.1. Feng 2023 11
1.2.1.2. Liang 2022 12
1.2.1.3. Yang 2022 12
1.2.1.4. Tang 2019 (scalp, tongue, and Jin's 3-needle acupuncture) 13
1.2.2. Scalp acupuncture 14
1.2.2.1. Fu 2022 14
1.2.3. Tongue Acupuncture 15
1.2.3.1. Yang S 2022 15
1.2.3.2. Yang X 2022 16
1.2.3.3. Kan 2013 ☆ 16
1.2.4. Resuscitation-inducing acupuncture 17
1.2.4.1. Chen 2015 ☆ 17
2. Overviews of Systematic Reviews 17
2.1. Jinke 2020 17
3. Clinical Practice Guidelines 18
3.1. American Heart Association/American Stroke Association (AHA, ASA, USA) 2026 Ø 18
3.2. Haute Autorité de Santé (HAS, France) 2022 Ø 18

Poststroke Aphasia/ Dysarthria

Aphasie / Dysarthrie post- AVC

1. Systematic Reviews and Meta-Analysis

1.1. Generic Acupuncture

1.1.1. Zhang 2025 (plus Speech and Language Therapy)

Zhang L, Lin B, Huang Y, Wang M, Ni J, Song J, Huang J. Speech and Language Therapy Plus Electroacupuncture or Non-Invasive Brain Stimulation for Post-Stroke Aphasia: A Systematic Review and Network Meta-Analysis. NeuroRehabilitation. 2025 May;56(3):302-314. https://doi.org/10.1177/10538135241312600

Backgound	The combination of speech and language therapy (SLT) with acupuncture, electroacupuncture, and non-invasive brain stimulation is commonly used in clinical practice and scientific research for post-stroke aphasia (PSA).
Objective	This study assesses the therapeutic effectiveness of SLT-based combination therapies in improving language function in patients with PSA.
Methods	PubMed, CBM, Embase, Web of Science, Cochrane Library, China National Knowledge Infrastructure (CNKI), Wan Fang Data and Chinese Scientific Journals Database (VIP) were searched through 2 December, 2024. This study included randomized controlled trials (RCTs) that compared the influence of SLT-based combination treatments and controls on language function in patients with PSA. The meta-analysis was conducted using random effects NMA.
Results	A total of **66 studies** were included. The NMA assessing the effectiveness of various interventions for improving speech, repetition, and listening comprehension skills following SLT revealed that combined therapies generally outperformed SLT alone. For speaking skills, SLT + Electroacupuncture demonstrated the highest likelihood of improvement (SUCRA = 84.6). For repetition scores, SLT + Electroacupuncture was effective (SUCRA = 92.0). In listening comprehension, SLT + tDCS showed the greatest potential for improvement (SUCRA = 89.8).
Conclusion	The results revealed that any type of SLT-based combination intervention was more effective than SLT alone.

1.1.2. Li 2024

Li J, Jiang Y, Li S, Zhuang L. Meta-analysis of clinical efficacy of acupuncture and moxibustion in rehabilitation treatment for post-stroke aphasia. Am J Transl Res. 2024 Oct 15;16(10):5182-5190. https://doi.org/10.62347/VYKU6210

Objective	To systematically evaluate the clinical efficacy of traditional Chinese acupuncture and moxibustion in treating post-stroke aphasia through meta-analysis.

Methods	Major Chinese and international databases were searched from their inception to December 2023. The search terms included “randomized controlled clinical studies on acupuncture treatment for stroke-related aphasia”. After screening by specialists, the selected studies were analyzed using RevMan 5.3 software.
Results	A total of 1,900 documents were retrieved, of which **10 studies involving 848 cases** met the inclusion criteria and were included in the meta-analysis. The results indicated that traditional Chinese acupuncture could enhance the effectiveness of language rehabilitation training both as a standalone treatment and in combination with other assessment measures. Acupuncture improved the clinical effectiveness of language rehabilitation training for patients with post-stroke aphasia (RR = 3.75, 95% CI [2.54, 2.55], P < 0.00001). When combined with language rehabilitation therapy, acupuncture significantly improved patients' comprehension (MD = 0.95, 95% CI [0.89, 1.02], P < 0.00001), repetition (MD = 0.82, 95% CI [0.76, 0.88], P < 0.00001), reading (MD = 1.95, 95% CI [1.89, 2.01], P < 0.00001), and spontaneous speech abilities (MD = 10.90, 95% CI [9.56, 12.23], P < 0.00001), compared to the control group.
Conclusion	Acupuncture improves the clinical efficacy of language rehabilitation training for stroke-related aphasia. It also enhanced patients' comprehension, repetition, and spontaneous speech abilities more effectively than monotherapy. However, the overall quality of the included studies was low, emphasizing the need for high-quality randomized controlled trials to further validate these findings.

1.1.3. Zhou 2023 (combined with language rehabilitation training)

Zhou D, Liang R, Zhu L, Tang Q. A meta-analysis of functional recovery of aphasia after stroke by acupuncture combined with language rehabilitation training. Medicine (Baltimore). 2023 Nov 24;102(47):e36160. https://doi.org/10.1097/MD.0000000000036160 .

Background	The aim of this systematic review is to evaluate the effectiveness of combining acupuncture with speech rehabilitation training, compared to acupuncture alone or speech rehabilitation training alone, in the treatment of post-stroke aphasia.
Methods	To gather data for this study, we searched 6 databases: PubMed, Cochrane Library, Embase, China National Knowledge Infrastructure, WanFang Data, and Chongqing VIP Database. We included clinical randomized controlled trials on acupuncture combined with rehabilitation training for post-stroke aphasia published between January 1, 2011 and October 8, 2023. Two researchers independently screened the literature, evaluated its quality, and extracted the data using Stata 15.1 SE and RevMan 5.4 software. We conducted a meta-analysis using the random effects model, and expressed dichotomous variables as odds ratios (OR) with 95% confidence intervals (CIs) and continuous variables as weighted mean differences (WMD) with 95% confidence intervals. Specifically, the odds of improvement were significantly higher in the combination group (OR = 3.89, 95% CI = [2.62, 5.78]). Improvements were also seen in several language functions, including expression (WMD = 5.14, 95% CI = [3.87, 6.41]), understanding (WMD = 9.16, 95% CI = [5.20, 13.12]), retelling (WMD = 11.35, 95% CI = [8.70, 14.00]), naming (WMD = 11.36, 95% CI = [8.12, 14.61]), reading (WMD = 9.20, 95% CI = [4.87, 13.52]), writing (WMD = 5.65, 95% CI = [3.04, 8.26]), and reading aloud (WMD = 7.45, 95% CI = [3.12, 11.78]). Scores on the Chinese Aphasia Complete Test Scale, Western Aphasia Complete Test Scale, and China Rehabilitation Research Center Aphasia Check Scale were also significantly higher in the combination group, with improvements of 7.89, 9.89, and 9.27, respectively.
Results	A total of **16 clinical randomized controlled trials, including 1258 patients,** were included in this meta-analysis. The results showed that compared to simple rehabilitation training or acupuncture treatment alone, the combination of acupuncture and language rehabilitation training was more effective in improving clinical outcomes for patients with post-stroke aphasia.

Conclusions	The results of this meta-analysis indicate that acupuncture combined with language rehabilitation training can effectively improve the language function of post-stroke aphasia patients and increase clinical effectiveness. However, further research is needed to confirm these findings and provide a more reliable evidence-based basis for clinical practice. In particular, additional studies with large sample sizes, high quality, and more specific and standardized outcome measures are needed to strengthen the evidence. The limited quantity and quality of the current studies may affect the generalizability of the results.

1.1.4. Sang 2022 ☆

Sang B, Deng S, Zhai J, Hao T, Zhuo B, Qin C, Zhang M, Zhao X, Meng Z. Does acupuncture therapy improve language function of patients with aphasia following ischemic stroke? A systematic review and meta-analysis. NeuroRehabilitation. 2022;51(2):231-245. https://doi.org/10.3233/NRE-220007.

Background	Aphasia is one of the most common complications in patients with ischemic stroke. Studies have shown that acupuncture can improve the symptoms of aphasia patients. However, the effect of acupuncture on language function in patients with ischemic stroke is still controversial.
Objective	This study aimed to critically assess the efficacy and safety of acupuncture for aphasia following ischemic stroke.
Methods	PubMed, Embase, Cochrane Central Register of Controlled Trials, Web of Science Core Collection, China National Knowledge Infrastructure, Wanfang Digital Periodicals, and Chinese Science and Technology Periodicals database were searched. All randomized controlled trials (RCTs) that met the criteria were included.
Results	Meta-analyses showed that mean difference in change of auditory comprehension score (MD = 7.71, 95% CI: 1.83 to 13.59, P = 0.01), spontaneous speech (MD = 2.77, 95% CI: 0.59 to 4.95, P = 0.01), repetition score (MD = 14.48, 95% CI: 11.04 to 17.91, P < 0.00001) and naming score (MD = 14.60, 95% CI: 11.33 to 17.88, P < 0.00001) measured by WAB scale were statistically significant. Subgroup analyses demonstrated that there were statistically significant mean differences in four items of WAB scale in patients with sub-acute stroke, and no statistically significant differences in patients with acute stroke.
Conclusion	The present study suggests that acupuncture may improve the language function of patients with aphasia following ischemic stroke, especially during the sub-acute phase. However, due to insufficient sample sizes and information on the safety, more high-quality RCTs are still needed.

1.1.5. Zhang 2021

Zhang Y, Wang Z, Jiang X, Lv Z, Wang L, Lu L. Effectiveness of Acupuncture for Poststroke Aphasia: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. Complement Med Res. 2021;28(6):545-556. English. https://doi.org/10.1159/000512672

Background	Aphasia is one of the common complications of stroke, and it considerably influences the quality of life of patients. Acupuncture, a therapy used in traditional Chinese medicine for aphasia after stroke, has potential therapeutic effects. We aimed to investigate the therapeutic effect of acupuncture on individuals with poststroke aphasia.

Methods	Randomized controlled trials (RCTs) on acupuncture for poststroke aphasia (either alone or combined with other therapies) were included and compared. We conducted a systematic review and meta-analysis by searching databases, such as MEDLINE, Cochrane Library, Embase, China National Knowledge Infrastructure, VIP, and Wanfang, from inception to July 15, 2019. No language restrictions were applied in this study.
Results	**Fourteen trials involving 936 participants** had poor reporting and methodological quality. Our meta-analysis showed that compared to the speech and language therapy (SLT) group, acupuncture combined with SLT could improve the rate of Boston Diagnostic Aphasia Examination (BDAE) (OR: 0.15, 95% confidence interval [CI]: 0.04–0.25, p = 0.005), scores of Aphasia Battery of Chinese (ABC) which includes repeating ability (SMD: 1.46, 95% CI: 1.24–1.69, p < 0.00001), reading ability (SMD: 1.57, 95% CI: 1.25–1.90, p < 0.00001), writing ability (SMD: 1.52, 95% CI: 1.19–1.86, p < 0.00001), naming ability (SMD: 1.40, 95% CI: 1.04–1.76, p < 0.00001), and listening comprehension ability (SMD: 0.57, 95% CI: 0.22–0.92, p = 0.001). All RCTs were considered at high risk of biased assessment.
Conclusions	Acupuncture (either alone or combined with SLT) may be effective for poststroke aphasia. In the future, rigorous clinical trials with an accurate method design and high reporting quality are required to validate our results.

1.1.6. Park 2020

Park YJ, Lee JM. Effect of Acupuncture Intervention and Manipulation Types on Poststroke Dysarthria: A Systematic Review and Meta-Analysis. Evid Based Complement Alternat Med. 2020. [212565]. doi

Objective	This study aimed to evaluate the effect of acupuncture intervention and manipulation types on poststroke dysarthria.
Methods	Electronic database, including PubMed, CENTRAL, Scopus, RISS, and CNKI, were searched for randomized controlled trials (RCT), treating dysarthria using acupuncture, speech-language therapy (SLT), and general management (GM), published before April 2019. The number, distribution, intensity, depth, and repetition of acupuncture and bleeding therapy on the sublingual veins were considered as manipulation types. Risk of bias of the included trials was evaluated, and their efficacy was assessed using risk ratio (RR) and the standard mean differences in the Frenchay Dysarthria Assessment and Speech Function Grading, with 95% confidence intervals (CIs).
Results	**Fifteen RCT trials involving 1453 patients** were isolated. Electroacupuncture plus SLT and manual acupuncture plus SLT were more effective than SLT only, respectively (RR = 1.520, 95% CI [1.183-1.952], RR = 1.380, 95% CI [1.281-1.488]). The clinical efficacy of acupuncture plus GM was higher than that of GM alone (RR = 1.165, 95% CI [1.050-1.293]). Meta-ANOVA showed that none of the manipulation types increased the clinical efficacy of acupuncture on dysarthria. The methodological quality was low.
Conclusion	In conclusion, our study suggests that the effect of acupuncture on poststroke dysarthria may be maximized when manual acupuncture or electroacupuncture is combined with SLT, irrespective of manipulation types.

1.1.7. Xie 2020 (acupuncture plus rééducation)

Xie Q, Chen X, Xiao J, Liu S, Yang L, Chen J, Lai J, Lan R, Chen Y, Yang H, Guo X. Acupuncture combined with speech rehabilitation training for post-stroke dysarthria: A systematic review and meta-analysis of randomized controlled trials. Integr Med Res. 2020;9(4). [211466]. doi

Background	The evidence of Acupuncture combined with speech rehabilitation training for post-stroke dysarthria is insufficient and there is no consensus on its efficacy.

Methods	We searched seven Chinese and English medicine databases for randomized controlled trials (RCTs) from their inception to November 2019. The primary outcome measure was the clinical response rate, assessed with the Frenchay Dysarthria Assessment (FDA) tool. We assessed risk of bias using the Cochrane risk-of-bias tool. We used GRADE to assess the certainty of evidence (CoE).
Results	**Thirty studies** were included in this systematic review, 23 of which were pooled in meta-analysis. Acupuncture combined with speech rehabilitation training is likely beneficial for was response rate (n = 1685; RR = 1.37; 95% CI [1.29, 1.46], P < 0.01, I 2 = 34%; 17 studies, low CoE) compared to speech rehabilitation treatment alone.
Conclusion	The combination of acupuncture and speech rehabilitation training may improve total response rate of stroke patients with dysarthria. However, more RCTs with rigorous study design and validated outcome measures are needed to confirm the evidence.

1.1.8. Zhong 2020

Zhong Yue. [Efficacy of Acupuncture and Moxibustion for Aphasia after Stroke: A Network Meta-analysis]. Liaoning Journal of TCM. 2020. [212899].

Objective	To evaluate the clinical efficacy of acupuncture and moxibustion in the treatment of aphasia after stroke.
Methods	We searched Pubmed, Medline, Cochrane Library, CNKI, VIP, CBM, Wanfang from inception to October 2018, to collect RCTs for treatment of aphasia after stroke, in according to Cochrane Handbook, two researchers assessed the risk of quality and bias independently. GeMTC 0. 14. 3 and stata 14. 0 were used to do statistics and network structure diagram.
Results	A total **15 studied** met the inclusion criteria, **1211 cases** included, involving Jin's three needles + rehabilitation, tongue needle+ rehabilitation, scalp electro-acupuncture + rehabilitation, pricking blood + rehabilitation, acupuncture + traditional Chinese medicine, acupuncture + Chinese medicine + rehabilitation, combined therapy with acupuncture+ rehabilitation, tongue needle + scalp needle + rehabilitation, scalp acupuncture + psychological intervention + rehabilitation and rehabilitation (language rehabilitation training). Compared with single language rehabilitation training, scalp electro-acupuncture + rehabilitation and combined therapy with acupuncture +rehabilitation have statistical significance. According to the curative effect, they were ranked from high to low, followed by scalp electro-acupuncture + rehabilitation, combined therapy with acupuncture +rehabilitation and rehabilitation.
Conclusion	According to the results of this network meta-analysis, the effect of acupuncture combined with other therapies on post-stroke aphasia is better than rehabilitation therapy. Scalp electro-acupuncture + rehabilitation may be the best treatment for aphasia after stroke, and high-quality clinical research is still needed in the future.

1.1.9. Tang 2019

Tang HY, Tang W, Yang F, Wu WW, Shen GM. Efficacy of acupuncture in the management of post-apoplectic aphasia: a systematic review and meta-analysis of randomized controlled trials. BMC Complement Altern Med. 2019;19(1):282. [203927]. DOI

Background	Aim of this study was to evaluate the effectiveness of scalp, tongue, and Jin's 3-needle acupuncture for the improvement of postapoplectic aphasia.

Method	PubMed, Cochrane, Embase databases were searched using index words to identify qualifying randomized controlled trials (RCTs). Meta-analyses of odds ratios (OR) or standardized mean differences (SMD) were performed to evaluate the outcomes between investigational (scalp / tongue / Jin's 3-needle acupuncture) and control (traditional acupuncture; TA and/or rehabilitation training; RT) groups.
Results	**Thirty-two RCTs (1310 participants in investigational group and 1270 in control group)** were included. Compared to TA, (OR 3.05 [95% CI: 1.77, 5.28]; p<0.00001), tongue acupuncture (OR 3.49 [1.99, 6.11]; p<0.00001), and Jin's 3-needle therapy (OR 2.47 [1.10, 5.53]; p = 0.03) had significantly better total effective rate. Compared to RT, scalp acupuncture (OR 4.24 [95% CI: 1.68, 10.74]; p = 0.002) and scalp acupuncture with tongue acupuncture (OR 7.36 [3.33, 16.23]; p<0.00001) had significantly better total effective rate. In comparison with TA/RT, scalp acupuncture, tongue acupuncture, scalp acupuncture with tongue acupuncture, and Jin's three-needling significantly improved ABC, oral expression, comprehension, writing and reading scores.
Conclusion	As treatments to postapoplectic aphasia, scalp / tongue acupuncture and Jin's Three-needling are found better than TA and/or RT in yielding total effective rate and improving ABC, oral expression, comprehension, reading and writing scores.

1.1.10. Zhang 2019

Zhang B, Han Y, Huang X, Liu Z, Li S, Chang J, Gao Y. Acupuncture is effective in improving functional communication in post-stroke aphasia : A systematic review and meta-analysis of randomized controlled trials. Wien Klin Wochenschr. 2019;131(9-10):221-232. [201951].

Objective	In this meta-analysis the authors evaluated the effectiveness of acupuncture in improving functional communication and language function in post-stroke aphasia (PSA) patients.
Methods	Data sources: MEDLINE, EMBASE, CENTRAL, AMED, SinoMed, CNKI, VIP, and Wanfang databases, ICTRP, ISRCTN, EUCTR, ClinicalTrials.gov, and Stroke Trials Registries. A search was carried out for randomized controlled trials (RCTs) investigating the effects of acupuncture compared with no treatment or placebo acupuncture on post-stroke aphasia (PSA). The searched records were independently screened by two authors, who extracted the data, and assessed risk of bias of the included RCTs. Data aggregation and risk of bias evaluation were conducted on Review Manager Version 5.3. The protocol was registered in the PROSPERO database (CRD42016037543).
Results	A total of **28 RCTs involving 1747 patients** (883 patients in the treatment group and 864 patients in the control group) were included in the quantitative synthesis. The results demonstrated significant effects of acupuncture in improving PSA functional communication (P < 0.00001, standardized mean difference (SMD) = 1.01 [0.81, 1.20]), severity of impairment (P < 0.0001, SMD = 0.64 [0.45, 0.84]), spontaneous speech (P = 0.0002, SMD = 1.51 [0.71, 2.32]), auditory comprehension (P < 0.0001, SMD = 0.84 [0.43, 1.26]), repetition (P < 0.00001, SMD = 1.13 [0.75, 1.52]), naming (P = 0.03, SMD = 0.65 [0.08, 1.23]), reading (P < 0.0001, SMD = 1.56 [0.83, 2.29]), and writing (P = 0.009, SMD = 1.03 [0.25, 1.80]).
Conclusion	Acupuncture seems to be effective in improving PSA functional communication and language function.

1.1.11. Zhu 2018 ☆

Zhu Wen-Min, Zhong Wen-Juan, Xu Bo, Chen Xiao-Hang. [Meta-analysis on the clinical efficacy of acupuncture combined with speech rehabilitation for aphasia after stroke]. Lishizhen Medicine and

Materia Medica Research. 2018;(8):. [183820].

Objective	The aim of this study is to comprehensively evaluate the clinical efficacy of acupuncture combined with speech rehabilitation for aphasia after stroke.
Methods	We performed online searches of the CNKI, Wanfang, CBM, VIP, Pubmed in November 2017 to find studies of being combined with speech rehabilitation for aphasia after stroke. Review Manager5. 3 was used to perform the meta-analysis.
Results	A total of **12 trials involving 1091 patients** were included. Among them, 11 trials were evaluated with effective rate, and the clinical effective rate of experimental group increased significantly compared with the control group, from 77. 84%(397/510) to 92. 56%(473/511)(P < 0. 01). 12 trials' effect size of aphasia battery in Chinese score was WMD = 33. 78, 95% CI(22. 58, 44. 99), Z = 5. 91(P < 0. 00001), and the difference was statistically significant. Acupuncture combined with speech rehabilitation has significant difference in improving comprehension ability [WMD = 4. 07, 95% CI(1. 41, 6. 74), Z = 3. 00(P = 0. 003)], retelling ability [WMD = 10. 17, 95% CI(9. 32, 11. 01), Z = 23. 55(P < 0. 00001)], reading ability [WMD = 10. 78, 95% CI(6. 55, 15. 01), Z = 5. 00(P < 0. 00001)] and writing ability [WMD = 5. 66, 95% CI(4. 95, 6. 37), Z = 15. 58(P < 0. 00001)]of stroke patients compared with control group.
Conclusion	Current RCTs clinical evidence indicated that acupuncture combined with speech rehabilitation better than speech rehabilitation without acupuncture.

1.1.12. Mitchell 2017 Ø

Mitchell C, Bowen A, Tyson S, Butterfint Z, Conroy P. Interventions for dysarthria due to stroke and other adult-acquired, non-progressive brain injury. Cochrane Database Syst Rev. 2017. [99802].

Background	Dysarthria is an acquired speech disorder following neurological injury that reduces intelligibility of speech due to weak, imprecise, slow and/or unco-ordinated muscle control. The impact of dysarthria goes beyond communication and affects psychosocial functioning. This is an update of a review previously published in 2005. The scope has been broadened to include additional interventions, and the title amended accordingly.
Objectives	To assess the effects of interventions to improve dysarthric speech following stroke and other non-progressive adult-acquired brain injury such as trauma, infection, tumour and surgery.
Methods	Search methods: We searched the Cochrane Stroke Group Trials Register (May 2016), CENTRAL (Cochrane Library 2016, Issue 4), MEDLINE, Embase, and CINAHL on 6 May 2016. We also searched Linguistics and Language Behavioral Abstracts (LLBA) (1976 to November 2016) and PsycINFO (1800 to September 2016). To identify further published, unpublished and ongoing trials, we searched major trials registers: WHO ICTRP, the ISRCTN registry, and ClinicalTrials.gov. We also handsearched the reference lists of relevant articles and contacted academic institutions and other researchers regarding other published, unpublished or ongoing trials. We did not impose any language restrictions. Selection CRITERIA: We selected randomised controlled trials (RCTs) comparing dysarthria interventions with 1) no intervention, 2) another intervention for dysarthria (this intervention may differ in methodology, timing of delivery, duration, frequency or theory), or 3) an attention control. data collection and analysis: Three review authors selected trials for inclusion, extracted data, and assessed risk of bias. We attempted to contact study authors for clarification and missing data as required. We calculated standardised mean difference (SMD) and 95% confidence interval (CI), using a random-effects model, and performed sensitivity analyses to assess the influence of methodological quality. We planned to conduct subgroup analyses for underlying clinical conditions.

Main Results	We included five small trials that randomised a total of 234 participants. Two studies were assessed as low risk of bias; none of the included studies were adequately powered. Two studies used an attention control and three studies compared to an alternative intervention, which in all cases was one intervention versus usual care intervention. The searches we carried out did not find any trials comparing an intervention with no intervention. The searches did not find any trials of an intervention that compared variations in timing, dose, or intensity of treatment using the same intervention. Four studies included only people with stroke; one included mostly people with stroke, but also those with brain injury. Three studies delivered interventions in the first few months after stroke; two recruited people with chronic dysarthria. Three studies evaluated behavioural interventions, **one investigated acupuncture** and another transcranial magnetic stimulation. One study included people with dysarthria within a broader trial of people with impaired communication. Our primary analysis of a persisting (three to nine months post-intervention) effect at the activity level of measurement found no evidence in favour of dysarthria intervention compared with any control (SMD 0.18, 95% CI -0.18 to 0.55; 3 trials, 116 participants, GRADE: low quality, I^2 = 0%). Findings from sensitivity analysis of studies at low risk of bias were similar, with a slightly wider confidence interval and low heterogeneity (SMD 0.21, 95% CI -0.30 to 0.73, I^2 = 32%; 2 trials, 92 participants, GRADE: low quality). Subgroup analysis results for stroke were similar to the primary analysis because few non-stroke participants had been recruited to trials (SMD 0.16, 95% CI -0.23 to 0.54, I^2 = 0%; 3 trials, 106 participants, GRADE: low quality).Similar results emerged from most of the secondary analyses. There was no evidence of a persisting effect at the impairment (SMD 0.07, 95% CI -0.91 to 1.06, I^2 = 70%; 2 trials, 56 participants, GRADE: very low quality) or participation level (SMD -0.11, 95% CI -0.56 to 0.33, I^2 = 0%; 2 trials, 79 participants, GRADE: low quality) but substantial heterogeneity on the former. Analyses of immediate post-intervention outcomes provided no evidence of any short-term benefit on activity (SMD 0.29, 95% CI -0.07 to 0.66, I^2 = 0%; 3 trials, 117 participants, GRADE: very low quality); or participation (SMD -0.24, 95% CI -0.94 to 0.45; 1 study, 32 participants) levels of measurement.There was a statistically significant effect favouring intervention at the immediate, impairment level of measurement (SMD 0.47, 95% CI 0.02 to 0.92, P = 0.04, I^2 = 0%; 4 trials, 99 participants, GRADE: very low quality) but only one of these four trials had a low risk of bias.
Authors' Conclusions	We found no definitive, adequately powered RCTs of interventions for people with dysarthria. We found limited evidence to suggest there may be an immediate beneficial effect on impairment level measures; more, higher quality research is needed to confirm this finding. Although we evaluated five studies, the benefits and risks of interventions remain unknown and the emerging evidence justifies the need for adequately powered clinical trials into this condition. **People with dysarthria after stroke or brain injury should continue to receive rehabilitation according to clinical guidelines.**

1.1.13. Tan 2016 ☆☆

Tan J, Zhang H, Han G, Ai K, Deng S. [Acupuncture for aphasia: a retrospective analysis of clinical literature]. Zhongguo Zhen Jiu. 2016;36(4):431-6. [167679].

Objectives	With the Meta-analysis method, the clinical efficacy of acupuncture and other regular methods for aphasia was evaluated, and the acupoints selection for aphasia was explored.

Methods	The acupuncture literature of clinical randomized control trials for aphasia published in CNKI, WANFANG, VIP and CBM database was searched; the statistical analysis of clinical efficacy of acupuncture and other regular methods for aphasia was performed by using software Revman 5. 2 provided by Cochrane library. A file of Microsoft Excel was established to perform the analysis of acupoints selection based on frequency analysis method, so as to summarize the characteristics and rules.
Results	Totally 385 articles were searched, and **37 articles** those met the inclusive criteria was included, involving **1,260 patients in the acupuncture group and 1 238 patients in the control group**. The Meta-analysis results showed OR = 3.82, 95% CI [3.01, 4.85]; rhombus was located on the right side and the funnel plot was nearly symmetry, indicating the treatment effect of the acupuncture group for aphasia was superior to the control group (Z = 11.04, P < 0.000 01). The frequency-analysis results showed that the frequency of acupoints from top to bottom was Lian-quan (CV 23), Tongli (HT 5), Yamen (GV 15), Jinjin (EX-HN 12), Yuye (EX-HN 13), Baihui (GV 20), Yuyan II, Yuyan I and Yuyan III. The frequency of meridians from top to bottom was the governor vessel, extra channels, conception vessel, heart meridian and large intestine meridian.
Conclusions	It is concluded that the **clinical efficacy of acupuncture combined with speech rehabilitation training and medication treatment for aphasia is superior to that of speech rehabilitation training and medication treatment alone**. The clinical treatment for aphasia focuses on its local effect; the main acupoints are in the head and face, and the meridians are governor vessel, extra channels and conception vessel.

1.1.14. Sun 2014 ☆☆

Sun Xi-Gang, Zhou Zhen, Wei Qian, Guo Jia-Kui. [Systematic review of randomized controlled trials on treating motor aphasia with acupuncture combined with language rehabilitation]. China Journal of Traditional Chinese Medicine and Pharmacy. 2014;11:3575-358. [186920].

Objectives	To evaluate the efficacy of treating motor aphasia with acupuncture combined with language rehabilitation systematically.
Methods	Literatures about treating motor aphasia with acupuncture combined with language rehabilitation were searched from CBM, CNKI, VIP, WF, Pubmed, Embase and Cochrane library, then the RCTs of treating motor aphasia with acupuncture combined with language rehabilitation were screened out and included. Two valuators extracted data and evaluated the quality according to Cochrane Review Handbook independently. The RevMan 5. 1 software was used to analyze data.
Results	A total of **26 trials involving 1 641 cases** were included. Meta-analysis results of ABC scale, BDAE scale and CRRCAE scale were [RR=1. 24, 95%CI (1. 14, 1. 34)], [RR=1. 36, 95%CI (1. 19, 1. 54)], and [RR=1. 16, 95%CI (1. 01, 1. 33)] respectively. In the aspect of improvement of ABC and CRRCAE scores, the treatment of acupuncture combined with language rehabilitation was superior to language rehabilitation training only, and the differences were statistically signiicant.
Conclusions	In the symptom improvement and curative effect of motor aphasia, the **treatment motor aphasia with acupuncture combined with language rehabilitation was superior to language rehabilitation training only**.

1.1.15. Zhang 2014 ☆

Zhang Yong, Fu Li-Xin, Zhu Yuan et al. [Acupuncture treatment for aphasia after stroke : a systematic review]. Journal of Clinical Acupuncture and Moxibustion 2014;30(11):62. [174242]

Objective	To assess the therapeutic effect of acupuncture on aphasia after stroke.
Methods	Computerized methods as well as manual retrieval methods were applied to search the relevant literatures according to the method of Cochrane systematic assessment. Meta - analysis was conducted by using Review Manager 5. 2 software on randomized trial (RCT) and quasi - randomized controlled clinical trials (q - RCT) which complied with the standard.
Results	15 articles and 1 163 patients with aphasia after stroke were included. According to the analysis of acupuncture group and the control group in efficiency, listening comprehension, reading skills, writing skills and other aspects, differences were statistically significant.
Conclusion	The acupuncture treatment has a good effect on aphasia after stroke. However , the quality of relevant trials is relatively low. Therefore, we still need more high-quality and large samples of RCTs to further validate.

1.1.16. Sun 2012 ☆

Sun Youzhi. Acupuncture therapy on apoplectic aphasia rehabilitation. Journal of Traditional Chinese Medicine. 2012;32(3):314-321. [187019].

Objectives	Acupuncture has often been used for aphasia rehabilitation in China. The purpose of this paper was to: 1) provide a historic overview of acupuncture for aphasia due to stroke;2) summarize the commonly used acupuncture approaches;and 3) objectively comment on the effectiveness of acupuncture for the rehabilitation of this type of disorder.
Methods	The Elsevier database and a Chinese database (CNKI) were searched through December, 2010 with the key words “aphasia, acupuncture” in English and Chinese, respectively. Case reports, uncontrolled clinical observations and controlled clinical trials were all included if acupuncture was the sole treatment or the main component of complex intervention for the rehabilitation of aphasia caused by cerebrovascular disease.
Results	More than 100 relevant articles were found. After analyzing these articles, we found that acupuncture for apoplectic aphasia most often included tongue, scalp, body and combination acupuncture. Tongue bleeding, deep insertion and strong stimulation were adopted by many practitioners. The ten most frequently used acupoints (or areas) were Lianquan (RN 23), Jinjin (EX-HN 12), Yuye (EX-HN 13), Tongli (HT 5), Fengchi (GB 20), Neiguan (PC 6), Baihui (DU 20), No. 1, 2 and 3 language sections, Sanyinjiao (SP 6) and Yamen (DU 15).
Conclusions	Controlled clinical studies and a systematic literature review demonstrate that **acupuncture has therapeutic effects on aphasia after stroke**.

1.1.17. Pang 2010 ☆

Pang Y, Wu LB, Liu DH. Acupuncture therapy for apoplectic aphasia: a systematic review. Chinese Acupuncture & Moxibustion. 2010; 30(7):612-6. [155108].

Objectifs	To assess the therapeutic effect of acupuncture for apoplectic aphasia.
Méthodes	A systematic review of the relevant randomized controlled trials (RCTs) of acupuncture for apoplectic aphasia was performed with Cochrance system assessment methods. The quality of researches was reviewed one by one, and data was extracted by two reviewers independently. Meta-analysis was conducted with the assistance of RevMan 5.0 software.

Résultats	**Eleven randomized controlled trials (RCTs) involving 756 patients** were included. Meta-analysis indicated that there was statistical difference between acupuncture and language training groups on cured rate with [RR = 1.74, 95% CI (1.10, 2.74), P = 0.02] at the end of treatment. However, acupuncture combined language training group was statistically superior to language training group on cured rate with [RR = 3.01, 95% CI (1.81, 5.01), P < 0.000 1], language function score with [WMD =10.54, 95% CI (7.86, 13.21), P < 0.000 01], oral expression with [WMD = 8.86, 95% CI (7.38, 10.35), P < 0.000 01].
Conclusions	It is approved that acupuncture (or acupuncture combined language training) is **effective for apoplectic aphasia**. But the quality of inclusive literature is low. Therefore, more RCTs of high methodological quality is requested to be carried out.

1.1.18. Li 2010 ☆☆

Li YF, Kurabayashi Y, Zhao SH, Yu Q, Cheng F, Wang YL, Wei KN, Liu EQ. [Meta analysis on acupuncture treatment of aphasia]. Acupuncture Research. 2010;35(6):468-73. (chi). [156520]

Objective	To evaluate the therapeutic effect of acupuncture for the aphasia.
Methods	The publications of acupuncture for the treatment of aphasia are comprehensively searched from relevant domestic medical literature databases, China National Knowledge Infrastructure and Chinese BioMedical Literature Database. Meta analysis was conducted by using the publications.
Results	**Twenty six trials** of 338 matched the selection criteria and their data were suitable for Meta analysis. The total aphasia patients were **1749**. The total odds ratio (OR) of the improvement with acupuncture plus language training and drugs compared with language training plus drug intervention was 3.66 (95% confidence interval, 2.81, 4.76), and the funnel plot was approximately symmetry. It is indicated that the curative effect of the acupuncture group is better than that of the control group (Z = 9.60, P < 0.001).
Conclusion	The effect of acupuncture with language training plus drugs for the treatment of aphasia is **better than that of language training plus drugs only.**

1.2. Special Acupuncture Techniques

1.2.1. Comparison of acupuncture techniques

1.2.1.1. Feng 2023

Feng S, Tang M, Huang G, Wang J, Lv Y, He S, Liu D, Gu L. Comparison of the efficacy of acupuncture-related Therapies for post-stroke motor aphasia: A Bayesian network meta-analysis. Front Neurol. 2022 Dec 20;13:992079. https://doi.org/10.3389/fneur.2022.992079

Background	Motor aphasia, which can affect the communication ability of patients and even triggers severe psychological disorders, is one of the most common sequelae after stroke. Acupuncture (a typical complementary alternative therapy) is frequently combined with speech training (ST) to treat post-stroke motor aphasia (PSMA) and presents significant efficacy. However, the most effective acupuncture intervention is still unknown. This study aims to analyze the efficacy of several acupuncture approaches combined with ST for PSMA to identify the best intervention for clinical decision-making by using network meta-analysis (NMA).

Methods	Eight major databases were searched from the time of their establishment to March 2022. Clinical efficacy rate (CER) was used as the primary outcome indicator. R software (version 4.13.0) and STATA software (version 16.0) were used to analyze the data.
Results	A total of **29 randomized controlled trials (RCTs)** and six treatment regimens were included in this study. In the pair-wise meta-analysis, we found that the efficacy of scalp-tongue acupuncture (STA) combined with ST [OR = 8.30; 95% Credible interval (CrI): 3.87, 17.33], tongue acupuncture (TA) combined with ST (OR = 3.95; 95% CrI: 2.27, 6.89), scalp-body acupuncture (SBA) combined with ST (OR = 3.75; 95% CrI: 2.26, 6.22), scalp acupuncture (SA) combined with ST (OR = 2.95; 95% CrI: 1.74, 5.0), and body acupuncture (BA) combined with ST (OR = 2.30; 95% CrI: 1.26, 4.19) were significantly superior to that of ST. In addition, the efficacy of STA + ST was significantly superior to that of SA +ST (OR = 2. 82; 95% CrI: 1.24, 6.38) and BA + ST (OR = 3.61; 95% CrI: 1.40, 9.29). According to the surface under the cumulative ranking curve (SUCRA), STA + ST (SUCRA = 97.9%) may be the best treatment regimen to improve the clinical outcome in patients with PSMA.
Conclusion	The NMA showed that STA combined with ST may be the best treatment to improve CER, compared with other combination treatments. However, since the overall quality and number of studies are limited, further RCTs with a large sample and multicenter are needed for further validation.

1.2.1.2. Liang 2022

Liang P, Li Y, Feng Y, Yin G, Chen S, Liu X, Zhang F. Effects of Acupuncture-Related Therapies in the Rehabilitation of Patients with Post-Stroke Aphasia-A Network Meta-Analysis of Randomized Controlled Trials. Brain Sci. 2022 Sep 23;12(10):1282. https://doi.org/10.3390/brainsci12101282

Objective	The purpose of this study was to evaluate the rehabilitation effects of four common interventions (BA: body acupuncture, SA: scalp acupuncture, TA: tongue acupuncture, SLT: speech and language training) used singly or in combination with language function in patients with post-stroke aphasia (PSA).
Design	We systematically searched PubMed, EMBASE, Cochrane Library, Ovid, Web of Science, CNKI, VIP, and Wanfang from inception to 4 April 2022. Only randomized controlled trials that met the eligibility criteria were included. The risk of bias of studies included was assessed using the RoB-2 tool. The effects of different interventions for PSA patients were analyzed and ranked according to the surface under the cumulative ranking (SUCRA) analysis.
Results	A total of **69 RCTs were included, including 5097 total participants**. According to the results of the SUCRA curves, TA ranked highest in improving overall efficacy (SUCRA = 86%) and oral expression score (SUCRA = 86%). BA + TA ranked highest in increasing the comprehension score (SUCRA = 74.9%). BA + SA ranked highest in improving aphasia patients' repetition (SUCRA = 89.2%) and denomination scores (SUCRA = 93%).
Conclusions	Results of our network meta-analysis and SUCRA ranking showed that tongue acupuncture, body acupuncture + tongue acupuncture, and body acupuncture + scalp acupuncture seem to offer better advantages than other interventions for improving the language function in PSA patients. Moreover, it is noteworthy that our results are limited to the Chinese population, since all eligible studies are from China. Future well-designed studies with larger sample sizes and more ethnic groups are required to further verify these findings.

1.2.1.3. Yang 2022

Yang X, Shi L, Ran D, Li M, Qin C, An Z. The treatment of post-stroke dysarthria with a combination of different acupuncture types and language rehabilitation training: a systematic review and network meta-analysis. Ann Transl Med. 2022 Dec;10(23):1281. https://doi.org/10.21037/atm-22-5583

Background	This study used a network meta-analysis to evaluate the efficacy of various different acupuncture types and language rehabilitation training on post-stroke dysarthria (PSD), and examined the possible mechanisms involved. There are often clinical studies comparing the effects of different acupuncture methods on dysarthria after stroke. The efficacy of these methods can be ranked by network meta-analysis. This is necessary for clinical acupoints selection. The results of this study illustrated the comparison of the therapeutic effects of 6 different acupuncture types, which can provide some reference for clinical acupoints selection and research.
Methods	A comprehensive search for clinical studies related to the use of acupuncture to treat PSD was conducted in eight English and Chinese databases. Patients were divided into six groups based on the acupoints selected, namely, tongue, neck, scalp, body, combination, and traditional acupuncture. The recovery of neurological function in the patients was assessed based on the curative impact and the National Institutes of Health Stroke Scale (NIHSS) score. The quality of the included studies was evaluated using the Cochrane risk bias assessment tool and the STandards for Reporting Interventions in Clinical Trials of Acupuncture (STRICTA) criteria. A network meta-analysis was performed using the network-meta package of Stata 15.1 software based on frequency. The heterogeneity test, consistency test, head-to-head mixed comparison, efficacy ranking, and publication bias study were all performed.
Results	A total of **47 studies** were finally included. There was a total of **4,197 patients** in the eligible studies. The model for network meta-analysis proved robust, with minimal heterogeneity and high consistency. Combined acupuncture combined with language rehabilitation training was the most effective in treating dysarthria symptoms, followed by tongue acupuncture (TA) and nape acupuncture (NA). In addition, the combined effect of acupuncture and language training was superior to that of acupuncture alone. In terms of recovery of nerve function, traditional acupuncture and body acupuncture were more effective. To facilitate the recovery of nerve function, increasing the frequency of acupoints is necessary.
Conclusions	Combined acupuncture may have the most beneficial healing effect on PSD, followed by acupuncture of the tongue and the nape of the neck. In terms of recovery of nerve function, traditional acupuncture and body acupuncture may have more effective.

1.2.1.4. Tang 2019 (scalp, tongue, and Jin's 3-needle acupuncture)

Tang HY, Tang W, Yang F, Wu WW, Shen GM. Efficacy of acupuncture in the management of post-apoplectic aphasia: a systematic review and meta-analysis of randomized controlled trials. BMC Complement Altern Med. 2019;19(1):282. [202527].

Background	Aim of this study was to evaluate the effectiveness of scalp, tongue, and Jin's 3-needle acupuncture for the improvement of postapoplectic aphasia.
Method	PubMed, Cochrane, Embase databases were searched using index words to identify qualifying randomized controlled trials (RCTs). Meta-analyses of odds ratios (OR) or standardized mean differences (SMD) were performed to evaluate the outcomes between investigational (scalp / tongue / Jin's 3-needle acupuncture) and control (traditional acupuncture; TA and/or rehabilitation training; RT) groups.

Results	**Thirty-two RCTs (1310 participants in investigational group and 1270 in control group)** were included. Compared to TA, (OR 3.05 [95% CI: 1.77, 5.28]; p<0.00001), tongue acupuncture (OR 3.49 [1.99, 6.11]; p<0.00001), and Jin's 3-needle therapy (OR 2.47 [1.10, 5.53]; p = 0.03) had significantly better total effective rate. Compared to RT, scalp acupuncture (OR 4.24 [95% CI: 1.68, 10.74]; p = 0.002) and scalp acupuncture with tongue acupuncture (OR 7.36 [3.33, 16.23]; p<0.00001) had significantly better total effective rate. In comparison with TA/RT, scalp acupuncture, tongue acupuncture, scalp acupuncture with tongue acupuncture, and Jin's three-needling significantly improved ABC, oral expression, comprehension, writing and reading scores.
Conclusion	As treatments to postapoplectic aphasia, scalp / tongue acupuncture and Jin's Three-needling are found better than TA and/or RT in yielding total effective rate and improving ABC, oral expression, comprehension, reading and writing scores.

1.2.2. Scalp acupuncture

1.2.2.1. Fu 2022

Fu QW, Liu M, Zhang LZ, Yang H, Zhang LQ, Yang SS, Xie Y, Wan XX, Tang Y, Zhang QX. Head Acupuncture Plus Schuell's Language Rehabilitation for Post-Stroke Aphasia: A Systematic Review and Meta-Analysis of 32 Randomized Controlled Trials. Chin J Integr Med. 2022 Aug;28(8):743-752. https://doi.org/10.1007/s11655-022-3722-5.

Objective	To evaluate the existing randomized controlled trials (RCTs) for evidence of the efficacy and safety of head acupuncture (HA) plus Schuell’s language rehabilitation (SLR) in post-stroke aphasia.
Methods	Seven databases including Embase, PubMed, Cochrane Library, Technology Periodical Database, the China National Knowledge Infrastructure, SinoMed and Wanfang Data Information Site were searched for RCTs published from database inception until November 14, 2021. RCTs that compared HA plus SLR with sham (or blank) control, acupuncture therapy alone, certain language rehabilitation therapy alone or other therapies for post-stroke aphasia were included. Data were extracted and assessed, and the quality of RCTs was evaluated. Fixed-effects model was used, with meta-inflfluence analysis, meta-regression, and regression-based sub-group analyses applied for exploration of heterogeneity. Publication bias was estimated by funnel plots and Egger’s tests.

Results	A total of **32 RCTs with 1,968 patients** were included and 51 comparisons were conducted classified as types of strokes and aphasia. (1) For patients with aphasia after ischemic stroke, HA plus PSA showed significantly higher accumulative markedly effective rate [relative risk (RR)=1.55, 95% confidence interval (CI): 1.19–2.02, I2=0%] and accumulative effective rate (RR=1.22, 95% CI: 1.09–1.36, I2=0%). (2) For patients with comprehensive types of stroke, HA plus PSA was more effective in increasing recovery rate (RR=1.89, 95% CI: 1.39–2.56, I2=0%), accumulative markedly effective rate (RR=1.53, 95% CI: 1.36-1.72, I2=9%) and accumulative effective rate (RR=1.14, 95% CI: 1.09-1.19, I2=34%). (3) For patients with aphasia after stroke, HA plus PSA was superior to PSA alone with statistical significance in increasing recovery rate (RR=2.08, 95% CI: 1.24–3.46, I2=0%), accumulative markedly effective rate (RR=1.49, 95% CI: 1.24–1.78, I2=0%) and accumulative effective rate (RR=1.15, 95% CI: 1.06–1.24, I2=39%). (4) For patients with multiple types of aphasia, HA plus PSA also demonstrated significantly higher recovery rate (RR=1.86, 95% CI: 1.28–2.72, I2=0%), accumulative markedly effective rate (RR=1.55, 95% CI: 1.35–1.78, I2=22%), and accumulative effective rate (RR=1.17, 95% CI: 1.11–1.23, I2=41%). (5) For patients with motor aphasia after ischemic stroke, compared with PSA alone, HA plus PSA showed significantly higher accumulative markedly effective rate (RR=1.38, 95% CI: 1.06–1.79, I2=0%) and accumulative effective rate (RR=1.20, 95% CI: 1.05–1.37, I2=0%). Meta-regression analyses were performed without significant difference, and publication bias was found in some comparisons.
Conclusion	HA plus SLR was significantly associated with better language ability and higher effective rate for patients with post-stroke aphasia, and HA should be operated cautiously especially during acupuncture at eye and neck. (Registration No. CRD42020154475)

1.2.3. Tongue Acupuncture

Articles connexes : acupuncture linguale

1.2.3.1. Yang S 2022

Yang S, Li L, Jiang R, Ding H, Xu F, Ge L, Kuang P, Wang Z. Tongue Acupuncture for the Treatment of Poststroke Aphasia: A Systematic Review and Meta-Analysis. Evid Based Complement Alternat Med. 2022 Oct 3;2022:4731074. https://doi.org/10.1155/2022/4731074

Objective	This review evaluated the efficacy of tongue acupuncture for the clinical treatment of poststroke aphasia.
Methods	PubMed, Medline, Cochrane, Embase, CNKI, VIP, and Wanfang databases were searched from their inception to 1st June 2022. The dataset included randomized controlled trials (RCTs) with tongue acupuncture for the treatment of poststroke aphasia. Data aggregation and risk of bias evaluation were conducted on Review Manager Version 5.4.1 and Stata16.0. The main outcome measures included the Aphasia Battery of Chinese (ABC), the Chinese Functional Communication Profile (CFCP), the Boston Diagnostic Aphasia Examination (BDAE), and clinical efficiency. Then, comparing the effectiveness of tongue acupuncture, tongue acupuncture combined with conventional therapies, conventional therapies with head acupuncture, language training, body acupuncture, and Jie Yu Dan.

Results	A total of **20 studies with 1355 patients** were included. Meta-analysis showed that compared with conventional treatments, tongue acupuncture has a significant improvement in clinical efficacy score (MD = 1.25, 95% CI (1.09, 1.43), P=0.001) and CFCP of poststroke aphasia (MD = 39.78, 95% CI (26.59, 52.97), P < 0.00001), but was not significant in improving ABC (MD = 5.95, 95% CI (2.85, 9.04), P=0.06). Compared to the conventional treatments, tongue acupuncture combined with conventional therapies promoted the ABC (MD = 11.48, 95% CI (2.20, 20.75), P < 0.00001), clinical efficacy score (MD = 1.22, 95% CI (1.14, 1.30), P < 0.00001), and CFCP score (MD = 29.80, 95% CI (19.08, 40.52), P < 0.00001) of poststroke aphasia.
Conclusion	This systematic review indicated that tongue acupuncture or tongue acupuncture combined with conventional treatments was an effective therapy for treating poststroke aphasia. However, stricter evaluation standards and rigorously designed RCTs are needed.

1.2.3.2. Yang X 2022

Yang X, Shi L, Ran D, Kong Y, Shi W, Zhou J, Gao H, Han Y, Zhang H. Comparison of Tongue Acupuncture and Traditional Acupuncture in the Treatment of Poststroke Dysarthria: A Meta-Analysis and Tongue Acupuncture System Classification Evaluation. Evid Based Complement Alternat Med. 2022 Nov 1;2022:4897863. https://doi.org/10.1155/2022/4897863

Objective	To discuss whether tongue acupuncture is more effective than traditional acupuncture in the treatment of poststroke dysarthria and explore the advantage of tongue acupuncture treatment parameters.
Methods	We evaluated the efficacy of tongue acupuncture compared with traditional acupuncture through a rigorous meta-analysis process. The included studies were from eight databases in English and Chinese. The Cochrane risk of bias assessment tool was used to evaluate the quality of studies. Stata15.1 software was used for meta-analysis and sensitivity analysis. Tongue acupuncture therapeutic parameters were classified and counted based on tongue acupoint location, acupuncture manipulation, and the number of manipulations. Subgroup analysis was used to compare the differences between various treatment parameters. Outcome The meta-analysis eventually included a total of 9 studies. Tongue acupuncture is superior to traditional acupuncture in clinical efficacy [OR = 3.62, 95%CI (2.24, 5.85), P < 0.0001], FDA score [SMD = -1.99, 95%CI (-3.77, -0.21), P=0.028], and NIHSS score [WMD = 0.86, 95%CI (0.15, 1.57), P=0.017, I2 = 31.7%] in the treatment of poststroke dysarthria. According to the classified statistics of tongue acupuncture treatment parameters, there are three kinds of tongue acupuncture points in 9 studies: lingual surface, sublingual, and both lingual surface and sublingual acupoints. The operation methods include the oblique stabbing of the root of the tongue, twisting after stabbing, and acupoint pricking. The number of operation methods varies from 1 to 3.
Conclusion	Tongue acupuncture outperforms traditional acupuncture in terms of clinical efficacy, FDA score, and NIHSS score in the treatment of poststroke dysarthria. The curative effect of sublingual acupoints is better than that of lingual surface acupoints, the combined use of multiple manipulations is better than that of a single manipulation, and acupuncture manipulation has a cumulative effect. PROSPERO registration number: CRD42021285722.

1.2.3.3. Kan 2013 ☆

Kan Jun-Wei, Wang Cheng-Wei, Qiu Ling. [A systematic review and meta - analysis of tongue acupuncture for aphasia after stroke]. Journal of Clinical Acupuncture and Moxibustion 2013;29(5):51. (chi). [175301]

Objective	To assess the therapeutic effect and adverse reaction of tongue acupuncture for aphasia after stroke.
Methods	Computer retrieval of Cochrane, Mediline, CNKI, CMB , VIP databases and manual search the relevant randomized controlled trials (RCTs) or quasi - randomized controled trials (Q - RCTs) of tongue acupuncture for aphasia after stroke. To evaluate the quality of these trials with Cochrance system assessment methods. Meta - analysis was conducted with the assistance of RevMan5. 1 software.
Results	19 relevant trials, including a total of 1540 patients,778 cases in the test group,762 cases in the control group. Research the clinical efficacy for Meta analysis.
Conclusion	**Tongue acupuncture has a certain clinical curative effect on aphasia after stroke**. But the quality of relevant trials is relatively low, and there is still a need of greater samples and higher quality of RCT documentations to verify.

1.2.4. Resuscitation-inducing acupuncture

1.2.4.1. Chen 2015 ☆

Chen Jie, Liang Weixiong, Liu Qiong, Qin Shaochen, Hei Shangyan,. [Effectiveness and safety of resuscitation-inducing acupuncture for post-stroke dysphasia: a systematic review]. Journal of Guangzhou University of Traditional Chinese Medicine. 2015;4:607-614. [187001].

Objectives	To systematically evaluate the effectiveness and safety of resuscitation-inducing acupuncture for post-stroke dysphasia.
Methods	The randomized controlled trials (RCTs) of resuscitation-inducing acupuncture for post-stroke dysphasia were searched in the domestic and overseas databases such as CBM, CNKI, Weipu VIP, Wanfang Data, Pub Med, Web of Science, Embase and the Cochrane Library (from the founded date to December of 2014). Literature screening, information extracting and literature quality assessment were done by 2 reviewers independently. Rev Man5. 3. 0 software was used for Meta-analysis.
Results	A total of **8 RCTs were included into the analysis, involving in 766 cases**. The results of Meta-analysis showed: (1) **for patients in the recovery stage of stroke, 4-week resuscitation-inducing acupuncture combined with routine treatment including internal medicine plus swallowing function training or not had better efficiency than the control group without resuscitation-inducing acupuncture** (P<0. 001); (2) for patients in the acute stage, the difference of efficiency between the combination group and the control group was insignificant (P=0. 05); (3)The efficiency of resuscitation-inducing acupuncture combined with routine treatment for the complication of pulmonary infection stayed uncertain.
Conclusions	**Resuscitation-inducing acupuncture combined with routine treatment is recommended to the patients with dysphasia in the recovery stage of recovery**. But the cure time window, treatment course and effectiveness evaluation still need to be confirmed by more large-scale, high-quality randomized controlled trials.

2. Overviews of Systematic Reviews

2.1. Jinke 2020

Jinke Huang, Xiaohui Qin, Min Shen, Yong Huang. An overview of systematic reviews and meta-analyses on acupuncture for post-stroke aphasia. European Journal of Integrative Medicine. 2020;37.

[212115]. doi

Introduction	Because current evidence regarding the effectiveness of acupuncture for post-stroke aphasia (PSA) is controversial, we comprehensively evaluated the methodological quality and evidence quality of systematic reviews/meta-analyses (SRs/MAs) on acupuncture for PSA.
Methods	SRs/MAs on acupuncture treatment for PSA were searched in eight databases. Assessing the Methodological Quality of Systematic Reviews 2 (AMSTAR-2) and the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) assessments were used to ascertain the methodological quality and evidence quality, respectively.
Results	Six SRs/MAs on acupuncture treatment for PSA were included. The evaluation results of AMSTAR-2 showed that the methodological quality of all of the included SRs/MAs was rated as critically low. For GRADE, 14 (14/32, 43.75%) outcomes were rated as very low-quality evidence, 12 (14/32, 37.5%) as low-quality evidence, 6 (6/32,18.75%) as moderate-quality evidence, and 0 as high-quality evidence. Descriptive analysis results showed that acupuncture combined with speech and language therapy (SLT) appears, to some extent, to improve clinical effectiveness for the treatment of PSA, compared with SLT alone.
Conclusions	Compared with SLT alone, acupuncture combined with SLT for the treatment of PSA may improve clinical effectiveness, but this conclusion must be considered cautiously due to the generally low methodological quality and evidence quality in the included SRs/MAs.

3. Clinical Practice Guidelines

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

3.1. American Heart Association/American Stroke Association (AHA, ASA, USA) 2026 Ø

Richards LG, Ifejika NL, Stein J, Bahouth MN, Abshire Saylor M, Barrett AM, Chen P, Deutsch AF, Dusenbury W, Ellis C Jr, Eng J, Fleet J, Ford HR, Grattan ES, Harvey RL, Jones CA, Krishnan C, Kutzle S, Matthews D, Mazwi N, Minga J, Nilsen DM, Noser E, Porter HR, Raghavan P, Rose DK, Skidmore ER, St-Onge MP, Stoykov ME, Schettini AT, Terrill AL, Tirschwell DL, Vilar P, Whitaker-Hilbig A, Zorowitz R; Peer Review Committee. 2026 Guideline for Adult Stroke Rehabilitation and Recovery: A Guideline From the American Heart Association and American Stroke Association. Stroke. 2026 Aug 27. https://doi.org/10.1161/str.0000000000000536

- *Poststroke Aphasia*: Substantial research has emerged related to the use of neurostimulation, **acupuncture**, CBT, pharmacotherapy, and artificial intelligence/VR. Additional research and clinical practice guidelines are needed to support neurostimulation and alternative treatment approaches that accommodate and compensate for cognitive and linguistic deficits that decrease access and reduce quality of life and life satisfaction for persons with aphasia.

3.2. Haute Autorité de Santé (HAS, France) 2022 Ø

Recommander les bonnes pratiques : Rééducation à la phase chronique d'un AVC de l'adulte : Pertinence, indications et modalités. Paris: Haute Autorité de Santé (HAS). 2022. Synthèse URL. Argumentaire URL

Aphasie et troubles de la communication. Acupuncture : pas assez de preuves d'efficacité. Concernant l’acupuncture, nous avons retrouvé 2 méta-analyses récentes mettant en évidence un effet positif significatif de l’acupuncture sur la récupération de l’aphasie post-AVC. Cependant, aucune de ces méta-analyses n’a réalisé d’analyse à la phase chronique de l’AVC.

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