CADTH Reference List

Acupuncture for Depression

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Summary of Abstracts

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Key Message

We found 24 relevant systematic reviews about the clinical effectiveness of acupuncture for people with depression.

Research Question

What is the clinical effectiveness of acupuncture for people with depression?

Methods

Literature Search Methods

An information specialist conducted a literature search on key resources including MEDLINE, PsycInfo, the Cochrane Database of Systematic Reviews, the International HTA Database, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search approach was customized to retrieve a limited set of results, balancing comprehensiveness with relevancy. The search strategy comprised both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. Search concepts were developed based on the elements of the research questions and selection criteria. The main search concepts were acupuncture and depression. Retrieval was limited to the human population. The search was completed on May 17, 2023, and limited to English-language documents published since January 1, 2020. Internet links were provided, where available.

Selection Criteria and Summary Methods

One reviewer screened literature search results (titles and abstracts) and selected publications according to the inclusion criteria presented in Table 1. Full texts of study publications were not reviewed. The Overall Summary of Findings was based on information available in the abstracts of selected publications.

Table 1: Selection Criteria

Criteria	Description
Population	People with depression
Intervention	Acupuncture, including needle and electroacupuncture (as adjunctive or monotherapy)
Comparator	No treatment (e.g., waitlist, sham therapy), usual care (e.g., psychotherapy, pharmacotherapy)
Outcomes	Clinical benefits (e.g., psychological symptoms, function, quality of life, patient satisfaction) and harms (e.g., adverse events)
Study designs	Health technology assessments, systematic reviews

Results

We found 24 systematic reviews about the clinical effectiveness of acupuncture for people with depression.[1-24] We did not identify any relevant health technology assessments.

Additional references of potential interest that did not meet the inclusion criteria are provided in Appendix 1.

Overall Summary of Findings

We found 24 systematic reviews about the clinical effectiveness of acupuncture for people with depression.[1-24] Three studies focused specifically on major depressive disorder,[4,14,22] 7 on post-stroke depression,[3,8,13,15,16,18,19] 2 on perimenopausal depression,[21,24] and 1 on chronic pain related depression.[17] Of the 24 systematic reviews, 16 studies[1,3-5,9-13,15,17,19-21,23,24] compared the impact of acupuncture alone to a relevant comparator, and 19 studies[1-4,6-11,13,14,16-18,20-23] compared the impact of acupuncture as an adjunctive treatment to a relevant comparator. Eight systematic reviews evaluated electroacupuncture as an intervention of interest.[2,9,11,12,14,15,22,24] Acupuncture was an adjunctive therapy to pharmacotherapy for most of the identified systematic reviews.[1-4,6-11,14,16-18,21-23] Some systematic reviews evaluated the clinical effectiveness of acupuncture in combination with cognitive behavioural therapy,[10] hormone replacement therapy,[21] or transcranial magnetic stimulation.[3]

The results of the systematic reviews evaluating the clinical effectiveness of acupuncture alone varied. Seven systematic reviews concluded that acupuncture resulted in favourable outcomes compared to pharmacotherapy,[3,5,10,20,21,23,24] whereas 7 other systematic reviews observed no difference in terms of impact on depression or symptoms of depression.[1,9,11-13,15,17] Compared to sham or placebo, 5 systematic reviews[4,10-12,23] concluded that acupuncture resulted in better improvements in depression or symptoms of depression. For safety outcomes, 6 systematic reviews observed fewer adverse events with acupuncture alone compared to pharmacotherapy.[4,9,13,15,17,23]

Overall, the majority of systematic reviews assessing the clinical effectiveness of acupuncture as an adjunctive treatment for depression found it to have a favourable effect compared to antidepressants.[1,3,7,9,14,16-18,21,22] One systematic review concluded that there was no difference between adjunctive acupuncture and antidepressants for outcomes related to depression and depression symptoms.[11] Additionally, 2 systematic reviews found fewer adverse events with adjunctive acupuncture compared to antidepressants.[16,17] Three systematic reviews concluded that adjunctive acupuncture is associated with better outcomes compared to waitlist, sham, or placebo.[2,4,8]

Refer to Table 2 for a detailed summary of the abstracts of the 23 systematic reviews included in this report.

Table 2: Summary of Included Clinical Effectiveness Studies

Study citation	Study design, population	Intervention and comparators	Relevant outcomes	Author's conclusions
Cai et al. (2023)[1]	SR and MA with 9 RCTs **Population**: People with late-life depression N = 603	**Interventions**: Acupuncture, acupuncture with antidepressants **Comparator**: Antidepressants	HAMD, cure rate	Results of the MA indicate that acupuncture with antidepressants is associated with significantly reduced HAMD scores and significantly higher cure rate compared to antidepressant alone. No significant difference was found between acupuncture and antidepressants.
Chen et al. (2023)[2]	SR and MA with 22 RCTs **Population**: People with depression N = 2,391	**Interventions**: Electroacupuncture with antidepressants **Comparator**: Waitlist	Depression symptoms, and safety	Electroacupuncture plus antidepressant achieved superior outcomes compared with those in the waitlist.
Lam et al. (2023)[3]	SR and NMA with 62 RCTs **Population:** People with post-stroke depression N = 5,308	**Interventions**: Acupuncture, acupuncture with other therapies **Comparators:** Pharmacotherapy, usual care	Depression symptoms, HAMD	Acupuncture alone and acupuncture with transcranial magnetic stimulation led to better alleviation of depression symptoms compared to pharmacotherapy. Additionally, acupuncture alone or adjunct to other therapies significantly decreased HAMD scores compared to usual care.
Xu at al. (2023)[4]	SR and MA with 43 RCTs **Population:** Adults with major depressive disorder N = 3,756	**Interventions**: Acupuncture, acupuncture with antidepressants **Comparators:** Sham, antidepressants	HAMD, SDS	Acupuncture alone or acupuncture with antidepressants was associated with better HAMD and SDS scores compared to sham acupuncture. Additionally, acupuncture led to fewer adverse event than antidepressants alone.
Paiva et al. (2022)[5]	SR with 49 studies **Population:** Adults with depression N = NR	**Intervention**: Acupuncture **Comparator**: Standard depression treatment	Depression symptoms	Acupuncture significantly reduces depression in adults. Acupuncture has advantages in relieving depressive symptoms when compared to standard treatments.
Wang et al. (2022)[6]	SR and MA with 21 studies **Population:** People with depression N = 1,733	**Intervention**: Acupuncture with paroxetine **Comparator**: Conventional treatment	HAMD, total clinical response rate, SERS, TESS	Acupuncture with paroxetine resulted in lower HAMD scores, higher total response rate, lower SERS scores, and lower TESS scores.

Study citation	Study design, population	Intervention and comparators	Relevant outcomes	Author's conclusions
Xu et al. (2022)[7]	SR and MA with 16 RCTs **Population:** People with depression N = 1,958	**Interventions**: Acupuncture with antidepressants **Comparator**: Antidepressants	HAMD-17, SDS, SERS, WHOQOL-BREF, antidepressant dosage increase, remission rate, treatment response	Acupuncture with antidepressants led to reduced HAMD-17, SDS, and SERS scores compared to antidepressants alone. Additionally, the intervention improved WHOQOL-BREF scores, decreased the number of people who increased dosage rates, and increased remission rates and treatment responses.
Zhang et al. (2022)[8]	SR and NMA **Population:** People with post-stoke depression N = NR	**Interventions:** Acupuncture with fluoxetine or paroxetine **Comparators:** Placebo, antidepressants, transcranial magnetic stimulation	HAMD	When compared to placebo, acupuncture with fluoxetine or paroxetine was the most effective for change in HAMD at 4 weeks, whereas transcranial magnetic stimulation was the most effective at 8 weeks.
Zhang et al. (2022)[9]	SR and MA with 34 trials **Population:** People with depression N = NR	**Interventions**: Electroacupuncture, electroacupuncture with SSRIs **Comparators**: SSRIs and manual acupuncture	Efficacy and safety	The efficacy of electroacupuncture or electroacupuncture with SSRIs was not less than antidepressants and manual acupuncture. Both interventions groups showed a rapid onset and greater safety compared to SSRIs.
Zhao et al. (2022)[10]	SR and MA with 21 RCTs **Population:** People with depression with concomitant or residual insomnia N = 1,571	**Interventions**: Acupuncture, acupuncture with standard care (pharmacotherapy and/or CBT) **Comparators**: waitlist or placebo, standard care	PSQI, HAMD	Acupuncture significantly reduced HAMD and PSQI scores. MA results favours acupuncture in decreasing PSQI and HAMD compared to pharmacotherapy and placebo. Authors noted that acupuncture had a limited therapeutic advantage against sham and placebo.
Zhou et al. (2022)[11]	SR and MA with 16 RCTs **Population:** People with depression N = NR	**Interventions:** Electroacupuncture, electroacupuncture with antidepressants **Comparators:** Western drugs, sham electroacupuncture	HAMD, SDS, adverse events	Electroacupuncture is associated with reduced HAMD scores. Electroacupuncture was found to be as effective as antidepressants in reducing SDS scores but more effective than sham. No statistical difference between electroacupuncture plus antidepressants and antidepressants was found.

Study citation	Study design, population	Intervention and comparators	Relevant outcomes	Author's conclusions
Jiang et al. (2021)[12]	SR with NMA with 21 RCTs **Population:** People with subthreshold depression N = 5,048	**Intervention:** Electroacupuncture **Comparator:** Control group	CES-D, BDI, PHQ-9, K-6	Electroacupuncture improved CES-D scores compared to the control group
Liu et al. (2021)[13]	SR and MA with 17 RCTs **Population:** People with post-stroke depression N = 1,402	**Interventions:** Acupuncture, acupuncture and conventional treatment **Comparators:** Conventional treatment, antidepressants	HAMD-17, HAMD-24, HAMD, adverse events	Acupuncture and conventional treatment resulted in lower HAMD scores compared to conventional treatment. No difference in HAMD scores was observed between acupuncture and antidepressants. Fewer adverse events were observed with acupuncture compared to antidepressants. No difference was observed between conventional treatment with acupuncture and conventional treatment in terms of adverse events.
Nguyen et al. (2021)[14]	SR and MA with 5 RCTs **Population:** People with major depressive disorder N = NR	**Interventions:** Acupuncture (electroacupuncture and traditional) with paroxetine **Comparator:** Paroxetine	Quality of life	Acupuncture with paroxetine is significantly associated with improved quality of life compared to paroxetine alone.
Wang et al. (2021)[15]	SR and MA with 19 RCTs **Population:** People with post stroke depression N = NR	**Intervention:** electroacupuncture **Comparator:** antidepressants	HAMD, adverse events	No significant difference in HAMD scores between study groups was observed. Electroacupuncture resulted in less adverse events compared to the antidepressant group.
Wang et al. (2021)[16]	SR and MA with 24 RCTs **Population:** People with post-stroke depression N = 1,860	**Interventions:** Acupuncture with flupentixol/melitracen, acupuncture + fluoxetine hydrochloride, acupuncture + sertraline hydrochloride, acupuncture + doxepin hydrochloride **Comparators:** flupentixol/ melitracen, fluoxetine hydrochloride, sertraline	HAMD-17, HAMD-24, activities of daily living scale, TESS	Acupuncture in combination with western medicine resulted in improvements in HAMD scores and fewer adverse events compared to western medicine alone.

Study citation	Study design, population	Intervention and comparators	Relevant outcomes	Author's conclusions
		hydrochloride, doxepin hydrochloride		
You et al. (2021)[17]	SR and MA with 8 RCTs **Population:** People with chronic pain-related depression N = 636	**Interventions:** Acupuncture, acupuncture with drug treatment **Comparators:** Drug treatment	HAMD, VAS, adverse events	Single acupuncture and drug treatment have the same effect on HAMD scores and VAS scores, but acupuncture had fewer adverse events. Acupuncture with drugs was more beneficial than single drug treatment in improving HAMD and VAS scores
Zhang et al. (2021)[18]	SR and MA with 13 RCTs **Population:** People with post-stroke depression N = 904	**Interventions:** Acupuncture with antidepressants **Comparator:** Antidepressant	HAMD, NIHSS, Barthel Index	Acupuncture combined with antidepressants showed a more favourable effect on HAMD, NIHSS, and Barthel Index than antidepressants alone.
Zhang et al. (2021)[19]	SR and MA with 14 RCTs **Population:** People with post-stroke depression N = 1,124	**Intervention:** Acupuncture **Comparator:** Conventional western medicinal therapy (i.e., antidepressants)	HAMD, TESS, NIHSS, and total clinical efficacy	Acupuncture is associated with better total clinical efficacy, NIHSS scores, and TESS scores compared to conventional therapy. Acupuncture improved HAMD scores up to 6 weeks after administration.
Zhang et al. (2021)[20]	SR **Population:** People with depression N = NR	**Intervention:** Acupuncture with or without antidepressants **Comparator:** Antidepressants	Efficacy and safety	Compared with antidepressants, acupuncture has fast onset and long-term efficacy in the treatment of depression and can enhance the efficacy of antidepressants.
Zhao et al. (2021)[21]	SR and MA with 25 RCTs **Population:** People with perimenopausal depression N = 2,213	**Interventions:** Acupuncture, acupuncture with standard care (antidepressant or HRT) **Comparators:** Standard care, placebo/sham	HAMD, clinical efficacy, KI	Acupuncture reduced HAMD scores at the 2-, 4-, and 12-week follow up. Acupuncture with standard care resulted in lower HAMD scores compared to standard care alone and lower KI scores compared to antidepressants or antidepressants with HRT.
Zhichao et al. (2021)[22]	SR and NMA with 71 studies **Population:** People with major depressive disorder N = NR	**Interventions:** Electroacupuncture with SSRIs, manual acupuncture with SSRIs, acupuncture with SNRIs **Comparators:** Acupuncture alone, pharmacological interventions, inactive groups	Depression symptoms of MDD	Electroacupuncture with SSRIs and manual acupuncture with SSRIs were more effective in improving depression symptoms compared with acupuncture alone, pharmacological interventions alone, or other inactive groups. The combination of acupuncture and SNRIs was more effective than SNRIs alone

Study citation	Study design, population	Intervention and comparators	Relevant outcomes	Author's conclusions
Li et al. (2020)[23]	Overview of MAs with 31 MAs and 59 RCTs **Population:** People with depression N = 5,857	**Intervention:** Acupuncture, acupuncture with antidepressants **Comparators:** No treatment, waitlist, treatment as usual, control acupuncture (invasive, noninvasive sham controls), antidepressants (SSRIs, TCAs),	Severity of depression, adverse events	The results of the included MAs were conflicting, but the MA conducted found that acupuncture led to a reduction in severity of depression compared to comparators, as well as acupuncture with antidepressants. Additionally, acupuncture resulted in less adverse events compared to antidepressants.
Xiao et al. (2020)[24]	SR and MA with 16 RCTs **Population:** People with perimenopausal depression N = 1,311	**Interventions:** Manual acupuncture, electroacupuncture **Comparators:** antidepressants, HRT	HAMD, adverse events	Acupuncture and electroacupuncture resulted in lower HAMD scores compared to antidepressants. Authors observed less adverse events with acupuncture compared to antidepressants

BDI = Beck Depression Inventory Scales; CBT = cognitive behavioural therapy; CES-D = Center for Epidemiologic Studies Depression Scale; HAMD = Hamilton Depression Rating Scale; HRT = hormone replacement therapy; K-6 = Kessler Psychological Distress Scale; KI = Kupperman Index; MA = meta-analysis; NA = not applicable; NIHSS = National Institutes of Health Stroke Scale; NMA = network meta-analysis; NR = not reported; NRS = nonrandomized study; PHQ = Patient Health Questionnaire; PSQI = Pittsburg Sleep Quality Index; RCT = randomized controlled trial; SDS = Self-Depression Scale; SERS = Side Effects Rating Scales; SNRI = serotonin-norepinephrine reuptake inhibitors; SSRI = selective serotonin reuptake inhibitors; TESS = Treatment Emergent Symptom Scale; TSA = tetracyclic antidepressants; VAS = visual analogue scale, WHOQOL-BREF = WHO Quality of Life-BREF.

References

Health Technology Assessments

No literature identified.

Systematic Reviews

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Appendix 1: References of Potential Interest

Systematic Reviews

Alternative Comparator – Different Acupuncture Method With Antidepressants

Li C, Chen S, Liu S, Mu Y, Su M. Effect of acupuncture combined with antidepressants on post-stroke depression: A network meta-analysis of nine acupuncture therapy. *Front Neurol*. 2023 Mar 23;14:979643. PubMed

Unclear or No Comparator

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