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Attention-Deficit Hyperactivity Disorder (ADHD)

Hyperactivité et troubles de l'attention : évaluation de l'acupuncture

1. Systematic Reviews and Meta-Analysis

1.1. Generic Acupuncture

1.1.1. Zhao 2025

Zhao FY, Xu Y, Kennedy GA, Conduit R, Zhang WJ, Jiang T, Xu P, Ho YS, Fu QQ, Chow CM. Is Integrating Acupuncture into the Management of Attention-Deficit/Hyperactivity Disorder Among Children and Adolescents Now Opportune and Evidence-Based? A Systematic Review with Meta-Analysis and Trial Sequential Analysis. Complement Ther Med. 2025 Mar 12:103163.
https://doi.org/10.1016/j.ctim.2025.103163

Background and aim	The use of acupuncture is becoming increasingly popular in the management of attention-deficit/hyperactivity disorder (ADHD). This systematic review consolidates evidence on acupuncture's efficacy and safety for treating ADHD in children and adolescents.
Methods	Controlled clinical trials assessing acupuncture against waitlist-control, placebo or active controls, or as an adjunct treatment were systematically searched across seven databases from inception to November 2024. Cochrane criteria were adhered to.
Results	We reviewed **25 studies with 1,758 participants**. None compared acupuncture to placebo or behavioral therapy. Subdomain analysis of the Conners' Parent Rating Scale indicated that acupuncture and Methylphenidate had comparable effects on Conduct Problems [SMD = 0.03, 95%CI (-0.93, 0.99), p = 0.95] and Learning Problems [SMD = 0.29, 95%CI (-0.38, 0.97), p = 0.39], but acupuncture was more effective in controlling Impulsive/Hyperactive symptoms [SMD = -1.71, 95%CI (-2.08, -1.35), p < 0.01]. Insufficient sample size prevented confirmation of potential false positives. Acupuncture was safer and reduced Methylphenidate-related side-effects, including appetite loss, sleep disturbances, dry mouth, abdominal pain, and constipation. Acupuncture combined with behavioral therapy outperformed behavioral therapy alone in improving Psychosomatic symptoms [SMD = -0.88, 95%CI (-1.54, -0.23), p < 0.01]. In the Integrated Visual and Auditory Continuous Performance Test, ADHD patients receiving acupuncture alongside conventional care performed better than those receiving conventional care alone. Nevertheless, the methodological quality of the included trials was very low to low, with significant bias risk, and 88% lacked follow-up.

Conclusions	Acupuncture may offer an alternative for children and adolescents with ADHD who are intolerant to medication (primarily Methylphenidate). When combined with medication or behavioral therapy, it appeared more effective in ameliorating hyperactivity/impulsivity, inattention and conduct problems than standard treatments alone. It is also safe and well-tolerated. However, the supporting evidence is of low quality, and well-designed randomized controlled trials are needed. Thus, it is premature to recommend acupuncture as an alternative or adjunctive therapy for ADHD management.

1.1.2. Ang 2023

Ang L, Kim JT, Kim K, Lee HW, Choi JY, Kim E, Lee MS. Acupuncture for Treating Attention Deficit Hyperactivity Disorder in Children: A Systematic Review and Meta-Analysis. Medicina (Kaunas). 2023 Feb 17;59(2):392. https://doi.org/10.3390/medicina59020392.

Background and Objectives	Attention-deficit hyperactivity disorder (ADHD) is a common childhood disorder characterized by inattention, hyperactivity, and impulsivity. However, it is uncertain whether the use of acupuncture (AT) in children with ADHD is supported by the current evidence. This review aims to provide updated evidence of the effectiveness of acupuncture in children with ADHD.
Methods	Nine databases were searched from their inception to 28 July 2022. Two authors independently screened potentially eligible studies. The quality assessment of the selected studies was performed using Version 2 of the Cochrane risk-of-bias tool for randomized trials (RoB 2). The characteristics of the included studies were presented in a tabular form, and a meta-analysis was performed on the treatment effects of AT on ADHD symptoms.
Results	**Fourteen studies** involving **1185 patients** evaluating the efficacy of AT for ADHD treatment were included in this review. Compared to conventional medicine alone, the meta-analysis indicated that AT as an add-on to conventional medicine has a positive effect on improving conduct problems, learning problems, hyperactivity-impulsivity, and hyperactivity symptoms in ADHD patients. Similarly, AT alone was found to improve learning problems, hyperactivity-impulsivity, and hyperactivity symptoms in ADHD patients and exhibited better total treatment efficacy than conventional medicine alone. No major adverse events were reported. The risk of bias of the included studies was generally concerning.
Conclusions	Evidence on the effectiveness of AT for ADHD patients is currently too limited to provide recommendations for its usage. More studies with the proper methodology are needed for the validation of AT interventions in treating children with ADHD.

1.1.3. Chen 2021 ☆☆

Chen YC, Wu LK, Lee MS, Kung YL. The Efficacy of Acupuncture Treatment for Attention Deficit Hyperactivity Disorder: A Systematic Review and Meta-Analysis. Complement Med Res. 2021 Jan 28:1-11. doi

Background	This study aimed to assess the efficacy of acupuncture for treating attention deficit hyperactivity disorder (ADHD) in children and adolescents.

Patients and methods:	Systematic review and meta-analysis including randomized controlled trials that compared the effects of acupuncture treatment (AT) with pharmacotherapy (methylphenidate hydrochloride, MPH) among patients with ADHD. A total of 12 electronic databases were searched from inception until February 3, 2020. The main outcomes were the effective rate and post-treatment hyperactivity scores. We also assessed the incidence of adverse events and follow-up course.
Results	A total of **10 studies involving 876 patients were included in this study**. The meta-analysis revealed that AT yielded a significantly higher effective rate than MPH (odds ratio 2.239, 95% CI 1.438-3.487, $p < 0.001$, 8 studies), and that AT can reduce the hyperactivity scores to a lesser degree than MPH (standardized mean difference = -0.882, 95% CI -1.295 to -0.469, $p < 0.001$, 3 studies). Two studies reported no adverse events in the AT group, while one study suggested that AT can reduce adverse drug reactions. Furthermore, 3 studies concluded that the effects of AT were maintained, even after completion of treatment.
Conclusion	This study suggests that **AT may be more beneficial than MPH therapy for ADHD patients.** However, the evidence may be highly limited, especially considering the outcome of hyperactivity scores with the high risk of bias, very low GRADE, and small number of studies. Thus, further studies of rigorous design and high quality are needed to confirm and strengthen the results, especially in the Western part of the world. Additionally, well-designed randomized controlled trials that evaluate adverse events and include a long-term follow-up should be conducted to determine the efficacy, safety, and side effects of AT for ADHD in children and adolescents.

1.1.4. Zhang 2020

Zhang Shanyu. [Acupuncture for Attention Deficit Hyperactivity Disorder: A Systematic Review]. World Chinese Medicine. 2020. [212950].

Objective	To systematically evaluate the efficacy of acupuncture for children with attention deficit hyperactivity disorder (ADHD).
Methods	Papers with clinical randomized control trials (RCTs)or clinical control trials (CCTs)regarding acupuncture for ADHD were searched in databases such as Chinese National Knowledge Infrastructure (CNKI), VIP, Wangfang, China Biology Medicine (CBM), Embase and PubMed. Meta-analysis was conducted by Rev Man 5. 3 software and stata 14 software.
Results	A total of **25 papers** were included, involving **2166 patients** (1165 cases in the experiment group, 1001 cases in the control group). The combined effect size in fixed effects model [RR=1. 16, 95%CI (1. 12, 1. 21), Z=7. 34, P<0. 000 01] indicated that acupuncture alone or combined with conventional pharmacotherapy or behavioral therapy had efficacy superiority for ADHD compared with conventional pharmacotherapy alone or combined with behavioral therapy.
Conclusion	Acupuncture alone or combined with conventional pharmacotherapy or behavioral therapy has efficacy superiority for ADHD compared with conventional pharmacotherapy alone or combined with behavioral therapy, and is worthy of promotion.

1.1.5. Evans 2018

Evans S, Ling M, Hill B, Rinehart N, Austin D, Sciberras E. Systematic review of meditation-based interventions for children with ADHD. Eur Child Adolesc Psychiatry. 2018 Jan;27(1):9-27.

Objectifs	Meditation-based interventions such as mindfulness and yoga are commonly practiced in the general community to improve mental and physical health. Parents, teachers and healthcare providers are also increasingly using such interventions with children. This review examines the use of meditation-based interventions in the treatment of children with Attention-Deficit Hyperactivity Disorder (ADHD).
Méthodes	Electronic databases searched included PsycINFO, Medline, CINAHL, and AMED. Inclusion criteria involved children (aged to 18 years) diagnosed with ADHD, delivery of a meditation-based intervention to children and/or parents, and publication in a peer-reviewed journal. Studies were identified and coded using standard criteria, risk of bias was assessed using Risk of Bias in Non-randomised Studies- of interventions (ROBINS-I), and effect sizes were calculated. A total of 16 studies were identified (8 that included children in treatment, and 8 that included combined parent-child treatment).
Résultats	Results indicated that risk of bias was high across studies. At this stage, no definitive conclusions can be offered regarding the utility of meditation-based interventions for children with ADHD and/or their parents, since the methodological quality of the studies reviewed is low.
Conclusions	Future well designed research is needed to establish the efficacy of meditation-based interventions, including commonly used practices such as mindfulness, before recommendations can be made for children with ADHD and their families.

1.1.6. Ni 2015

Ni XQ, Zhang JY, Han XM, Yin DQ. [A Meta-Analysis on Acupuncture Treatment of Attention Deficit/Hyperactivity Disorder]. Acupuncture Research. 2015;40(4):319-25. [184488].

Objectives	To assess the efficacy and safety of acupuncture in treating attention-deficit/hyperactivity disorder (ADHD) children.
Methods	A literature search was conducted to retrieve randomized cotrolled clinical trials of acupuncture in treating ADHD covering the period of the years of establishment of the databases to January 2014 from database of CBM, CNKI, PubMed, Cochrane Library by using key words “attention deficit hyperactivity disorder” “hyperactivity”“minimal brain dysfunction” “acupuncture”. Two independent researchers extracted data from located articles in a pre-defined structured way, and consulted the third researcher if necessary.
Results	**Thirteen original trials including 1304 cases of children** with ADHD were obtained in this study according to our included criteria and excluded criteria. In these trials, acupuncture intervention alone, or acupuncture plus pharmacotherapy (methylphenidate, haloperidol) or acupuncture plus behavioral therapy were compared with simple pharmacotherapy or behavioral therapy alone. Results of Meta-analysis indicated that the total effective rate and Conners' index of hyperactivity (CIH) score-reduction rate in the acupuncture group were significantly superior to those of the other treatment groups [OR = 2.22, 95% CI (1.65, 3.00), Z = 5.22, P < 0.00001] [SMD = -0.94, 95% CI (-1.41, -0.47), Z = 3.89, P < 0.0001]. Acupuncture treatment is more effective than haloperidol in reducing the score of Conners' Rating Scale for ADHD [SMD = -7.28, 95% CI (-8.32, -6.23), Z = 13.62, P < 0.00001]. Acupuncture is similarly effective as Methylphenidate (Ritalin) in improving the Chinese medicine syndrome (liver-kidney yin hypoactivity) of children with ADHD [SMD = -1.14, 95% CI (-2.53, 0.25), Z = 1.60, P = 0.11]. Less severe adverse effects were reported with acupuncture therapy than the pharmacotherapy (poor appetite, dry mouth, nausea and constipation). These effects were not likely due to publication bias (approximately symmetry funnel plot, Egger's test P > 0.1).

Conclusions	**Acupuncture is an effective and safe therapy in treating ADHD, combined administration of acupuncture and pharmacotherapy or behavioral therapy is more effective than the pharmacotherapy or behavioral therapy alone**. However, more rigorously designed and high-quality RCTs are needed to confirm the above conclusion.

1.1.7. Lee 2011

Lee MS, Choi TY, Kim JI, Kim L, Ernst E. Acupuncture for Treating Attention Deficit Hyperactivity Disorder: A Systematic Review and Meta-Analysis. Chinese Journal of Integrated Medicine. 2011;17(4):257-60. [158608].

Objectives	To assess the effectiveness of acupuncture as a treatment option for attention deficit hyperactivity disorder (ADHD).
Methods	The literatures were searched using 15 databases, including MEDLINE, AMED, CINAHL, EMBASE, PsycInfo, the Cochrane Central Register of Controlled Trials, the Cochrane Database of Systematic Reviews, six Korean medical databases and two Chinese databases without language restritions. Prospective controlled clinical studies of any type of acupuncture therapy for ADHD autistic patients were included. Trials in which acupuncture was part of a complex intervention were also included. All articles were read by two independent reviewers, who extracted data from the articles according to predefined criteria. Risk of bias was assessed using the Cochrane risk of bias tool.
Results	Of 114 articles, only **three randomized clinical trials (RCTs) met our inclusion criteria**. One RCT found that electroacupuncture (EA) plus behavioural treatment was superior to sham EA plus behavioural treatment. Two RCTs reported a significant benefit of acupuncture or auricular acupuncture over conventional drug therapies.
Conclusions	**Limited evidence exists for the effectiveness of acupuncture as a symptomatic treatment of ADHD**. Given that the risk of bias of the included studies was high, firm conclusions cannot be drawn.

1.1.8. Li 2011

Li S, Yu B, Zhou D, He C, Kang L, Wang X, Jiang S, Chen X. Acupuncture for attention deficit hyperactivity disorder (ADHD) in children and adolescents. Cochrane Database Syst Rev. 2011. [156347].

Background	Attention Deficit Hyperactivity Disorder (ADHD) is a common childhood psychiatric disorder with features of inattention, hyperactivity and impulsivity. There is increasing interest in complementary and alternative therapies such as acupuncture; however, it remains unclear whether the use of acupuncture in children and adolescents with ADHD is supported by the existing evidence.
Objectives	To assess the efficacy and safety of acupuncture as a treatment for ADHD in children and adolescents.

Methods	Search strategy: We searched CENTRAL (The Cochrane Library 2010, Issue 2); MEDLINE (21 May 2010); CINAHL (21 May 2010); EMBASE (21 May 2010); ERIC (21 May 2010); PsycINFO (21 May 2010), Chinese Biological Medicine Database (10 May 2010); Chinese Scientific Periodical Database of VIP INFORMATION (10 May 2010); China Periodical in China National Knowledge Infrastructure (10 May 2010); and Chinese Evidence-Based Medicine Database (10 May 2010). We handsearched Chinese language journals and conference proceedings. Selection criteria: Randomised controlled trials and quasi-randomised controlled trials comparing acupuncture with placebo or sham acupuncture, or conventional treatment. Participants under the age of 18 years with any type of ADHD were included. Papers in any language were included. Data collection and analysis: Two review authors (S Li, B Yu) independently determined the studies to be included in the review based on inclusion and exclusion criteria and extracted the data using pre-developed extraction forms. The risk of bias within the trials was assessed by the same review authors in relation to allocation concealment, blinding and withdrawals. The measures of ADHD outcomes were extracted from core symptoms rating scales and additional secondary outcomes were considered.
Main results	**No studies met the inclusion criteria for this review**.
Authors' conclusions	A comprehensive search showed that there is no evidence base of randomised or quasi-randomised controlled trials to support the use of acupuncture as a treatment for ADHD in children and adolescents. Due to the lack of trials, we cannot reach any conclusions about the efficacy and safety of acupuncture for ADHD in children and adolescents. This review highlights the need for further research in this area in the form of high quality, large scale, randomised controlled trials.

2. Overviews of systematic reviews

2.1. Gosling 2025

Gosling CJ, Garcia-Argibay M, De Prisco M, Arrondo G, Ayrolles A, Antoun S, Caparos S, Catalán A, Ellul P, Dobrosavljevic M, Farhat LC, Fico G, Eudave L, Groenman AP, Højlund M, Jurek L, Nourredine M, Oliva V, Parlatini V, Psyllou C, Salazar-de-Pablo G, Tomlinson A, Westwood SJ, Cipriani A, Correll CU, Yon DK, Larsson H, Ostinelli EG, Shin JI, Fusar-Poli P, Ioannidis JPA, Radua J, Solmi M, Delorme R, Cortese S. Benefits and harms of ADHD interventions: umbrella review and platform for shared decision making. BMJ. 2025 Nov 26;391:e085875. https://doi.org/10.1136/bmj-2025-085875

Objectives	To assess the effects of and related evidence certainty of interventions for attention deficit/hyperactivity disorder (ADHD) across an individual's lifespan, and to develop a continuously updated web platform for people with lived experience of ADHD as a method to disseminate living evidence synthesis for shared decision making.

Methods	Design: Umbrella review and platform for shared decision making. Data sources: Six databases from inception to 19 January 2025. Study authors were contacted for additional information when necessary. Eligibility criteria for selecting studies: Systematic reviews that used meta-analyses of randomised controlled trials were eligible if they compared a drug or non-drug intervention with a passive control in individuals with a diagnosis of ADHD. Primary outcomes were severity of ADHD symptoms, analysed by rater type (clinician-rated, parent-rated, teacher-rated, or self-rated) and time point (short term (12 weeks, or study endpoint), medium term (26 weeks), and long term (52 weeks)), acceptability (participants dropping out for any reason), and tolerability (participants dropping out owing to any side effects). Secondary outcomes included daily functioning, quality of life, comorbid symptoms, and key side effects (decreased sleep and appetite). Data synthesis: Eligible meta-analyses were re-estimated with a standardised statistical approach. Methodological quality was assessed using AMSTAR-2. Evidence certainty was evaluated using an algorithmic version of the GRADE framework, adapted for drug and non-drug interventions.
Results	115 of 414 full text articles were deemed eligible and 299 were excluded; the eligible articles comprised 221 unique combinations of participants, interventions, comparators, and outcomes. For each combination, the most recent and methodologically robust meta-analysis was selected for re-estimation, which gave 221 re-estimated meta-analyses in total, derived from 47 meta-analytic reports. In the short term, alpha-2 agonists, amphetamines, atomoxetine, methylphenidate, and viloxazine showed medium to large effect sizes in reducing the severity of ADHD symptoms in children and adolescents, with moderate to high certainty evidence. Methylphenidate showed consistent benefits across raters (standardised mean difference >0.75, 95% confidence interval (CI) 0.56 to 1.03; moderate or high certainty evidence). These interventions showed lower tolerability than the placebo, but this effect was not significant for methylphenidate and atomoxetine. In adults, atomoxetine, cognitive behavioural therapy, methylphenidate (and, when restricting analyses to high quality trials, amphetamines) showed at least moderate certainty evidence of efficacy on ADHD symptoms, with medium effect sizes. Methylphenidate, amphetamines, and atomoxetine had worse tolerability than placebo (methylphenidate, risk ratio 0.50, 95% CI 0.36 to 0.69; amphetamines, 0.40, 0.22 to 0.72; atomoxetine, 0.45, 0.35 to 0.58). Some non-drug interventions (**acupuncture** and cognitive behavioural therapy in children and adolescents, and mindfulness in adults) showed large effect sizes for ADHD symptoms, but with low certainty evidence. No high certainty, long term evidence was found for any intervention. An online platform showing effects and evidence certainty of each intervention across age groups, time points, and outcomes (https://ebiadhd-database.org/) was developed.
Conclusions	This review provides updated evidence to inform patients, practitioners, and guideline developers how best to manage ADHD symptoms. The online platform should facilitate the implementation of shared decision making in daily practice.

3. Clinical Practice Guidelines

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

3.1. Haute Autorité de Santé (HAS, France) 2024 Ø

Haute Autorité de Santé. Trouble du neurodéveloppement/TDAH : Diagnostic et interventions thérapeutiques auprès des enfants et adolescents. Argumentaire. Saint-Denis La Plaine: HAS; 2024. https://www.has-sante.fr/jcms/p_3542494/fr/trouble-du-neurodeveloppement/-tdah-diagnostic-et-interventions-therapeutiques-aupres-des-enfants-et-adolescents-argumentaire

Acupuncture : Une revue systématique et une méta-analyse de Ang et al. de 2023 (407), incluant 14 études portant sur 1 185 patients, ont évalué l'efficacité de l'acupuncture pour le traitement du TDAH chez l'enfant, seule ou en complément de la médecine conventionnelle. Malgré plusieurs effets sur l'amélioration des symptômes, d'importants biais méthodologiques ont été relevés dans l'ensemble des études incluses. Les données probantes sur l'efficacité de l'acupuncture pour les patients atteints de TDAH sont actuellement trop limitées pour fournir des recommandations sur son utilisation (408).

3.2. Haute Autorité de Santé (HAS, France) 2014 Ø

HAS. Conduite à tenir en médecine de premier recours devant un enfant ou un adolescent susceptible d'avoir un trouble déficit de l'attention avec ou sans hyperactivité Paris: Haute Autorité de Santé (HAS). 2014;:41P. [167921].

Autres interventions non pharmacologiques. En 2011, il n'y avait donc pas de preuve de l'intérêt de l'acupuncture comme traitement du TDAH chez les enfants et adolescents.