Effects of acupoint-stimulation for the treatment of primary dysmenorrhoea compared with NSAIDs: a systematic review and meta-analysis of 19 RCTs.

Xu Y, Zhao W, Li T, Bu H, Zhao Z, Zhao Y, Song S

BMC Complement Altern Med. 2017 Aug 31;17(1):436.

BACKGROUND: Primary dysmenorrhoea (PD), defined as painful menses in women with normal pelvic anatomy, is one of the most common gynaecological syndromes. Acupoint-stimulation could potentially be an effective intervention for PD. Our aim was to determine the effectiveness of acupoint-stimulation compared with Non-Steroidal Anti-Inflammatory Drugs (NASIDs) in the treatment of PD.

METHODS: Six databases were searched to December 2014. Sixteen studies involving 1679 PD patients were included. We included randomized controlled trials that compared acupoint-stimulation with NASIDs for the treatment of PD. The main outcomes assessed were clinical effectiveness rate, symptom score, visual analogue score, variation in peripheral blood prostaglandin F2alpha (PGF2alpha) and side effects.

 All analyses were performed using Comprehensive Meta-Analysis statistical software.

RESULTS: (1) The total efficacy was better than control group: odds ratio = 5.57; 95% confidence interval (95% CI) = 3.96, 7.83; P < 0.00001; (2) The effect of intervention was positive in relieving the severity of PD symptoms: mean difference (MD) = 2.99; 95%CI = 2.49, 3.49; P < 0.00001; (3) No statistical difference existed between two groups in terms of a reduction in the VAS: MD = 1.24; 95%CI = -3.37, 5.85; P = 0.60; (4) The effect of intervention on the variation in peripheral blood PGF2alpha between two groups was positive: MD = 7.55; 95%CI = 4.29,10.82; P < 0.00001; (5) The side effects of control groups was more than the acupoint-stimulation group: OR = 0.03; 95%CI =0.00,0.22; P = 0.0005.

CONCLUSIONS: According to this article, acupoint-stimulation can relieve pain effectively in the treatment of PD and offers advantages in increasing the overall effectiveness.

Effect of acupuncture on hot flush and menopause symptoms in breast cancer- A systematic review and meta-analysis.

Chien TJ, Hsu CH, Liu CY, Fang CJ

PLoS One. 2017 Aug 22;12(8)

BACKGROUND: Many breast cancer patients suffer from hot flush and medical menopause as side effects of treatment. Some patients undergo acupuncture, rather than hormone therapy, to relieve these symptoms, but the efficacy of acupuncture is uncertain. This meta-analysis evaluated the efficacy of acupuncture on hot flush and menopause symptoms in women with breast cancer. METHODS: A literature search was performed, following the PRISMA Statement and without language restrictions, of 7 databases from inception through March 2017. All selected studies were randomized clinical trials (RCTs) that examined the effect of needle acupuncture on hot flush and menopause symptoms in patients with breast cancer.

 The methodological quality of these trials was assessed using Cochrane criteria, and meta-analysis software (RevMan 5.2) was used to analyze the data.

RESULTS: We examined 844 breast cancer patients (average age: 58 years-old) from 13 RCTs. The trials had medium-to-high quality, based on the modified Jadad scale. The meta-analysis showed that acupuncture had no significant effect on the frequency and the severity of hot flush (p = 0.34; p = 0.33), but significantly ameliorated menopause symptoms (p = 0.009). None of the studies reported severe adverse events.

CONCLUSIONS: Acupuncture significantly alleviated menopause symptoms, but had no effect on hot flush. Breast cancer patients concerned about the adverse effects of hormone therapy should consider acupuncture. Further large-scale studies that also measure biomarkers or cytokines may help to elucidate the mechanism by which acupuncture alleviates menopause symptoms in patients with breast cancer.

Drug-Free Interventions to Reduce Pain or Opioid Consumption After Total Knee Arthroplasty: A Systematic Review and Meta-analysis.

Tedesco D, Gori D, Desai KR, Asch S, Carroll IR, Curtin C, McDonald KM, Fantini MP, Hernandez-Boussard T

JAMA Surg. 2017 Oct 18;152(10)

Importance: There is increased interest in nonpharmacological treatments to reduce pain after total knee arthroplasty. Yet, little consensus supports the effectiveness of these interventions.

Objective: To systematically review and meta-analyze evidence of nonpharmacological interventions for postoperative pain management after total knee arthroplasty.

Data Sources: Database searches of MEDLINE (PubMed), EMBASE (OVID), Cochrane Central Register of Controlled Trials CENTRAL), Cochrane Database of Systematic Reviews, Web of Science (ISI database), Physiotherapy Evidence (PEDRO) database, and ClinicalTrials.gov for the period between January 1946 and April 2016.

Study Selection: Randomized clinical trials comparing nonpharmacological interventions with other interventions in combination with standard care were included.

Data Extraction and Synthesis: Two reviewers independently extracted the data from selected articles using a standardized form and assessed the risk of bias. A random-effects model was used for the analyses.

Main Outcomes and Measures: Postoperative pain and consumption of opioids and analgesics.

Results: Of 5509 studies, 39 randomized clinical trials were included in the meta-analysis (2391 patients). The most commonly performed interventions included continuous passive motion, preoperative exercise, cryotherapy, electrotherapy, and acupuncture.

 Moderate-certainty evidence showed that electrotherapy reduced the use of opioids mean difference, -3.50; 95% CI, -5.90 to -1.10 morphine equivalents in milligrams per kilogram per 48 hours; P = .004; I2 = 17%) and that acupuncture delayed opioid use (mean difference, 46.17; 95% CI, 20.84 to 71.50 minutes to the first patient-controlled analgesia; P < .001; I2 = 19%). There was low-certainty evidence that acupuncture improved pain (mean difference, -1.14; 95% CI, -1.90 to -0.38 on a visual analog scale at 2 days; P = .003; I2 = 0%). Very low-certainty evidence showed that cryotherapy was associated with a reduction in opioid consumption (mean difference, -0.13; 95% CI, -0.26 to -0.01 morphine equivalents in milligrams per kilogram per 48 hours; P = .03; I2 = 86%) and in pain improvement (mean difference, -0.51; 95% CI, -1.00 to -0.02 on the visual analog scale; P < .05; I2 = 62%). Low-certainty or very low-certainty evidence showed that continuous passive motion and preoperative exercise had no pain improvement and reduction in opioid consumption: for continuous passive motion, the mean differences were -0.05 (95% CI, -0.35 to 0.25) on the visual analog scale (P = .74; I2 = 52%) and 6.58 (95% CI, -6.33 to 19.49) opioid consumption at 1 and 2 weeks (P = .32, I2 = 87%), and for preoperative exercise, the mean difference was -0.14 (95% CI, -1.11 to 0.84) on the Western Ontario and McMaster Universities Arthritis Index Scale (P = .78, I2 = 65%). Conclusions and Relevance: In this meta-analysis, electrotherapy and acupuncture after total knee arthroplasty were associated with reduced and delayed opioid consumption.

Dengzhanxixin injection for cerebral infarction: A systematic review and meta-analysis of randomized controlled trials.

Wang J, Xie Y, Zhao S, Zhang J, Chai Y, Li Y, Liao X

Medicine (Baltimore). 2017 Aug;96(32)

BACKGROUND: No systematic review has been published in English of Dengzhanxixin (DZXX) injection for cerebral infarction. The aim of this systematic review was to assess the effects and safety of DZXX injection for cerebral infarction.

METHODS: Eight databases were searched from their inception. Randomized controlled trials (RCTs) related to DZXX for cerebral infarction in English or Chinese without restrictions on the publication status were included.

 Neurological deficit, quality of life, and response rates were analyzed. Adverse events were also investigated.

RESULTS: Twenty-three randomized controlled trials (RCTs) with 2291 participants were included. Meta-analysis showed that DZXX injection plus routine western therapy was better than routine western therapy alone for reducing neurologic deficit (MD -2.86, 95% CI -3.87 to -1.86), for improving quality of life (MD 9.48, 95% CI 8.34-10.63), and for improving response rates (RR 1.20, 95% CI 1.15-1.25). No serious adverse drug events (ADE) were reported.

CONCLUSIONS: DZXX injection may have a potential therapeutic effect for cerebral infarction in reducing neurologic deficit, improving life quality and response rates. However, we could not draw any definitive conclusions due to the insufficient evidences. More high-quality trials are needed to provide more strong evidence and to assess the safety of DZXX injection.

Electro-Acupuncture is Beneficial for Knee Osteoarthritis: The Evidence from Meta-Analysis of Randomized Controlled Trials.

Chen N, Wang J, Mucelli A, Zhang X, Wang C

Am J Chin Med. 2017;45(5):965-985.

Knee osteoarthritis (KOA) is a common chronic degenerative disease of the elderly. Electro-acupuncture (EA) is considered as a beneficial treatment for KOA, but the conclusion is controversial. This systematic review compiled the evidence from 11 randomized controlled trials to objectively assess the effectiveness and safety of EA for KOA. Eight databases including PubMed, Cochrane Library, Clinic trials, Foreign Medical Literature Retrial Service (FMRS), Science Direct, China National Knowledge Infrastructure (CNKI), Chinese Scientific Journal Database (VIP), and Wanfang Data were extensively searched up to 5 July 2016. The outcomes included the evaluation of effectiveness, pain and physical function. Risk of bias was evaluated according to the Cochrane risk of bias tool. Eleven RCTs with 695 participants were included. Meta-analysis indicated that EA was more effective than pharmacological treatment (RR [Formula: see text] 1.14; 95% CI [Formula: see text] 1.01,1.28; [Formula: see text]) and manual acupuncture (RR [Formula: see text] 1.12; 95% CI [Formula: see text] 1.02,1.22; [Formula: see text]). Also, EA had a more significant effect in reducing the pain intensity (SMD [Formula: see text]; 95% CI [Formula: see text]; [Formula: see text]) and improving the physical function in the perspective of WOMAC (MD [Formula: see text]; 95% CI [Formula: see text], 5.56; [Formula: see text]) and LKSS (pharmacological treatment: MD [Formula: see text]; 95% CI [Formula: see text], 6.64; [Formula: see text]). Furthermore, these studies implied that EA should be performed for at least 4 weeks. Conclusively, the results indicate that EA is a great opportunity to remarkably alleviate the pain and improve the physical function of KOA patients with a low risk of adverse reaction. Therefore, more high quality RCTs with rigorous methods of design, measurement and evaluation are needed to confirm the long-term effects of EA for KOA.

Moxibustion treatment for primary osteoporosis: A systematic review of randomized controlled trials.

Xu F, Huang M, Jin Y, Kong Q, Lei Z, Wei X

PLoS One. 2017 Jun 7;12(6)

Primary osteoporosis (POP) has a serious impact on quality of life for middle-aged and elderly, which particularly increase the risk of fracture. We conducted the systematic review to evaluate the effects of moxibustion for POP in randomized controlled trials (RCTs). Eight databases were searched from their inception to July 30, 2016. The RCTs reporting the moxibustion as a monotherapy or in combination with conventional therapy for POP were enrolled. The outcomes might be fracture incidence, quality of life, clinical symptoms, death attributed to osteoporosis, adverse effect, bone mineral density (BMD), and biochemical indicators. Literature selection, data abstraction, quality evaluation, and data analysis were in accordance with Cochrane standards. Thirteen trials including 808 patients were included. Meta-analysis was not conducted because of the obvious clinical or statistical heterogeneity. Limited evidence suggested that moxibustion plus anti-osteoporosis medicine might be more effective in relieving the pain (visual analogue scale scores average changed 2 scores between groups, 4 trials), increasing the BMD of femoral neck (average changed 0.4 g/cm2 between groups, 3 trials), and improving the level of bone gla protein, osteoprotegerin and bone alkaline phosphatase (2 trials) compared with anti-osteoporosis medicine alone. However, the quality of previous studies was evaluated as generally poor. The safety evidence of moxibustion was still insufficient. Due to the paucity of high-quality studies, there was no definite conclusion about the efficacy and safety of moxibustion treating POP although parts of positive results were presented. Future research should pay attention to the dose-response relation and fracture incidence of moxibustion for POP.

Acupuncture for polycystic ovarian syndrome: A systematic review and meta-analysis.

Jo J, Lee YJ, Lee H

Medicine (Baltimore). 2017 Jun;96(23)

BACKGROUND: This systematic review aimed at summarizing and evaluating the evidence from randomized controlled trials (RCTs) using acupuncture to treat polycystic ovarian syndrome (PCOS), specifically focusing on ovulation rate, menstrual rate, and related hormones.

METHODS: Fifteen databases were searched electronically through February 2016. Our review included RCTs of women with PCOS; these RCTs compared acupuncture with sham acupuncture, medication, or no treatment. Two reviewers independently extracted data. Data were pooled and expressed as mean differences (MDs) for continuous outcomes and risk ratios for dichotomous outcomes, with 95% confidence intervals (CIs) using a random-effects model.

RESULTS: We found a low level of evidence that acupuncture is more likely to improve ovulation rate (MD 0.35, 95% CI: 0.14-0.56) and menstruation rate (MD 0.50, 95% CI: 0.32-0.68) compared with no acupuncture. We found statistically significant pooled benefits of acupuncture treatment as an adjunct to medication in luteinizing hormone (LH), LH/follicular stimulating hormone (FSH) ratio, testosterone, fasting insulin, and pregnancy rates, but the level of evidence was low/very low.

CONCLUSION: There is limited evidence to judge the efficacy and safety of acupuncture on key reproductive outcomes in women with PCOS. Large-scale, long-term RCTs with rigorous methodological input are needed.

Moxibustion for the treatment of osteoarthritis: An updated systematic review and meta-analysis.

Choi TY, Lee MS, Kim JI, Zaslawski C

Maturitas. 2017 Jun;100:33-48.

The aim of this study was to update previous reviews and examine recent evidence from randomised clinical trials (RCTs) of the use of moxibustion for osteoarthritis (OA). Twelve databases were searched from inception through to September 2016 with no language limits applied. Data extraction and risk-of-bias assessments were performed by two independent reviewers. A total of 19 RCTs met all inclusion criteria and were evaluated. Three RCTs compared the effects of moxibustion with those of sham moxibustion in patients with knee OA (KOA) and found favourable effects of moxibustion on pain reduction (n=305; SMD, -0.46; 95% CI: -0.86 to -0.06, P=0.02, I2=65%), including at follow-up (n=305; SMD, -0.36; 95% CI: -0.70 to -0.01, P=0.04, I2=54%). Eleven RCTs compared the effects of moxibustion with those of conventional oral drug therapies. Eight RCTs reported a total symptom score and the meta-analysis showed superior effects of moxibustion compared with drug therapies for this measure (n=691; SMD, -0.24; 95% CI: -0.78 to 0.29; P=0.37, I2=91%) and response rate (n=758 knees; RR, 1.10; 95% CI: 1.05-1.16, P <0.0001, I2=0%). Three RCTs found superior or equivalent effects of moxibustion on symptom score compared with intra-articular injection or topical drug therapy. The existing trial evidence is sufficiently convincing to suggest that moxibustion, compared with sham moxibustion and oral drugs, is effective for pain reduction and symptom management in KOA. The level of evidence is moderate, given the high risk of bias and small sample size.

The effectiveness of acupuncture, acupressure and chiropractic interventions on treatment of chronic nonspecific low back pain in Iran: A systematic review and meta-analysis.

Yeganeh M, Baradaran HR, Qorbani M, Moradi Y, Dastgiri S

Complement Ther Clin Pract. 2017 May;27:11-18.

BACKGROUND: Low back pain (LBP) is one of the most common health problems in adults. The impact of LBP on the individual can cause loss of health status and function related to pain in the back. To reduce the impact of LBP on adults, drug therapy is the most frequently recommended intervention. But over the last decade, a substantial number of randomized clinical trials of non-pharmacological intervention for LBP have been published.

OBJECTIVE: To determine the effectiveness of acupuncture, acupressure and chiropractic (non-pharmacological) interventions on the treatment of chronic nonspecific low back pain in Iran.

STUDY DESIGN: Systematic review and meta-analysis.

METHODS: A systematic literature search was completed without date restrictions up to May 2013 in five major databases (Medline, CINAHL, Science Direct, CAJ Full-text Database, and Cochrane databases). Only randomized controlled trials published in Persian (Farsi) or English languages were included. Two independent reviewers extracted the data. The quality of the papers was assessed using the Cochrane Back Review Risk of Bias criteria.

RESULTS: Initial searches revealed 415 papers, 382 of which were excluded on the basis of abstract alone. After excluding 23 papers due to duplication, the remaining 10 trial papers were subjected to a more detailed analysis of the full text, which resulted in three being excluded. The seven remaining trials had a lack of methodological and clinical homogeneity, precluding a meta-analysis. The trials used different comparators with regards to the primary outcomes, the number of treatments, the duration of treatment and the duration of follow-up.

CONCLUSION: This systematic review demonstrates that acupuncture, acupressure and chiropractic may have a favorable effect on self-reported pain and functional limitations on NSCLBP. However, the results should be interpreted in the context of the limitations identified, particularly in relation to the heterogeneity in the study characteristics and the low methodological quality in many of the included studies.

Ear Acupuncture for Immediate Pain Relief-A Systematic Review and Meta-Analysis of Randomized Controlled Trials.

Murakami M, Fox L, Dijkers MP

Pain Med. 2017 Mar 1;18(3):551-564.

Objective: To systematically review the literature on the effectiveness of ear acupuncture (EA) for immediate pain relief.

Data sources: AMED, CINAHL, Cochrane Reviews, Embase, PsycINFO, PubMed, Scopus Web of Science, from inception through March 2015.

Study selection: English publications, randomized controlled trials on human subjects involving EA as a treatment for pain, with outcomes recorded within 48 hours. Data extraction and design: Two authors independently assessed trial eligibility, quality, results, and side effects, and extracted data; a third author checked final data. Effect size (d), mean difference (MD), and 95% confidence interval (CI) were calculated. The Physiotherapy Evidence Database PEDro) scoring system was used to assess study quality. Meta-analysis was performed for two primary outcomes measures-pain intensity score and analgesic requirements.

Results: Ten studies met inclusion criteria. Quality per PEDro scores: four excellent, four good, two fair. Based on their primary outcome measures, six studies showed EA being superior to its comparator, three showed no difference to comparators (which in all cases were analgesics), and one study showed significant pain decrease at the first time point and no significant decrease at the second. Meta-analysis was completed for the three studies that evaluated pain intensity as a primary outcome measure, and EA was superior to comparator (MD = -0.96, 95% CI = -1.82- -0.11), but the MD was small.

 Meta-analysis was completed for the six studies that evaluated analgesic requirements, and EA was superior (MD = -1.08, 95% CI = -1.78- -0.38]), again with a small MD. Six studies reported side effects; all were minor and transient.

Conclusions: Ear acupuncture may be a promising modality to be used for pain reduction within 48 hours, with a low side effect profile. Rigorous research is needed to establish definitive evidence of a clinically significant difference from controls or from other pain treatments.

Acupuncture and moxibustion for chronic fatigue syndrome in traditional Chinese medicine: a systematic review and meta-analysis.

Wang T, Xu C, Pan K, Xiong H

BMC Complement Altern Med. 2017 Mar 23;17(1):163.

BACKGROUND: As the etiology of chronic fatigue syndrome (CFS) is unclear and the treatment is still a big issue. There exists a wide range of literature about acupuncture and moxibustion (AM) for CFS in traditional Chinese medicine (TCM). But there are certain doubts as well in the effectiveness of its treatment due to the lack of a comprehensive and evidence-based medical proof to dispel the misgivings. Current study evaluated systematically the effectiveness of acupuncture and moxibustion treatments on CFS, and clarified the difference among them and Chinese herbal medicine, western medicine and sham-acupuncture.

METHODS: We comprehensively reviewed literature including PubMed, EMBASE, Cochrane library, CBM (Chinese Biomedical Literature Database) and CNKI (China National Knowledge Infrastructure) up to May 2016, for RCT clinical research on CFS treated by acupuncture and moxibustion. Traditional direct meta-analysis was adopted to analyze the difference between AM and other treatments. Analysis was performed based on the treatment in experiment and control groups. Network meta-analysis was adopted to make comprehensive comparisons between any two kinds of treatments. The primary outcome was total effective rate, while relative risks (RR) and 95% confidence intervals (CI) were used as the final pooled statistics.

RESULTS: A total of 31 randomized controlled trials (RCTs) were enrolled in analyses. In traditional direct meta-analysis, we found that in comparison to Chinese herbal medicine, CbAM (combined acupuncture and moxibustion, which meant two or more types of acupuncture and moxibustion were adopted) had a higher total effective rate (RR (95% CI), 1.17 (1.09 ~ 1.25)). Compared with Chinese herbal medicine, western medicine and sham-acupuncture, SAM (single acupuncture or single moxibustion) had a higher total effective rate, with RR (95% CI) of 1.22 (1.14 ~ 1.30), 1.51 (1.31-1.74), 5.90 (3.64-9.56). In addition, compared with SAM, CbAM had a higher total effective rate (RR (95% CI), 1.23 (1.12 ~ 1.36)). In network meta-analyses, similar results were recorded. Subsequently, we ranked all treatments from high to low effective rate and the order was CbAM, SAM, Chinese herbal medicine, western medicine and sham-acupuncture.

CONCLUSIONS: In the treatment of CFS, CbAM and SAM may have better effect than other treatments. However, the included trials have relatively poor quality, hence high quality studies are needed to confirm our finding.

Acupuncture therapy in the management of the clinical outcomes for temporomandibular disorders: A PRISMA-compliant meta-analysis.

Wu JY, Zhang C, Xu YP, Yu YY, Peng L, Leng WD, Niu YM, Deng MH

Medicine (Baltimore). 2017 Mar;96(9).

PURPOSE: The purpose of this study was to evaluate conventional acupuncture therapy in the management of clinical outcomes for temporomandibular disorders (TMD) in adults.

METHODS: The electronic databases PubMed, EMBASE, Cochrane Central Register of Controlled Trials, and Clinical Trails.gov were searched for reports published until March 31, 2016.

RESULTS: Nine eligible studies from 8 publications involving 231 patients were included in the meta-analysis. A comparison of the main outcome of visual analog scale (VAS) values of pain between the acupuncture group and control group showed a significant decrease (MD = -0.98, 95% CI [-1.62, -0.34], I=54%, P = 0.003) in the VAS following acupuncture treatment. However, subgroup analysis according to the type of sham control group indicated that there were significant differences in the results when sham acupuncture was used as the control group (MD = -1.54, 95% CI [-2.63, -0.45], I=58%, P = 0.006) as well as when sham laser treatment was used as the control group (MD = -1.29, 95% CI [-2.32, -0.27], I = 0%, P = 0.01). However, there was no significant difference when the splint treatment group was used as the control group (MD = -0.09, 95% CI [-0.69, 0.50], I = 0%, P = 0.76). Subgroup analyses of VAS for pain by the classification of diseases indicated that the myogenous TMD subgroup demonstrated a significant difference (MD = -1.49, 95% CI [-2.45, -0.53], I = 47%, P = 0.002), and TMD showed no statistically significant difference (MD = -0.42, 95% CI [-1.14, 0.30], I = 46%, P = 0.25). Subgroup analysis according to whether the subgroup penetrated the skin showed that nonpenetrating sham acupuncture as the control group showed a significant difference (MD = -1.56, 95% CI [-2.70, -0.41], I = 58%, P = 0.008) compared with the conventional acupuncture as the treatment modality, while penetrating sham acupuncture as the control group showed no significant difference (MD = -1.29, 95% CI [-3.40, 0.82], I = not applicable, P = 0.23). No publication bias was observed considering the symmetry of the funnel plots.

CONCLUSIONS: Our results indicate that conventional acupuncture therapy is effective in reducing the degree of pain in patients with TMD, especially those with myofascial pain symptoms.

Acupuncture and Lifestyle Modification Treatment for Obesity: A Meta-Analysis.

Fang S, Wang M, Zheng Y, Zhou S, Ji G

Am J Chin Med. 2017;45(2):239-254.

Obesity is an epidemic health hazard associated with many medical conditions. Lifestyle interventions are foundational to the successful management of obesity. However, the body's adaptive biological responses counteract patients' desire to restrict food and energy intake, leading to weight regain. As a complementary and alternative medical approach, acupuncture therapy is widely used for weight control. The objective of this study was to assess the efficacy of acupuncture treatment alone and in combination with lifestyle modification. We searched the MEDLINE, EMBASE, CENTRAL and Chinese Biomedical Literature Databases for relevant publications available as of 24 October 2015 without language restriction. Eligible studies consisted of randomized controlled trials for acupuncture with comparative controls. A total of 23 studies were included with 1808 individuals. We performed meta-analyses of weighted mean differences based on a random effect model. Acupuncture exhibited a mean difference of body mass index reduction of 1.742[Formula: see text]kg/m2 (95% confidence interval [Formula: see text]) and 1.904[Formula: see text]kg/m2 (95% confidence interval [Formula: see text]) when compared with untreated or placebo control groups and when lifestyle interventions including basic therapy of both treatment and control groups.

 Adverse events reported were mild, and no patients withdrew because of adverse effects. Overall, our results indicate that acupuncture is an effective treatment for obesity both alone and together with lifestyle modification.

Sanfu acupoint herbal patching for stable asthma: A systematic review and meta-analysis of randomised controlled trials.

Zhou F, Liang N, Maier M, Liu JP

Complement Ther Med. 2017 Feb;30:40-53.

BACKGROUND: Sanfu acupoint herbal patching (SAHP) is extensively used in people with stable asthma in China. However, the evidence available is scarce. This systematic review aims to evaluate the preventive and therapeutic effect and safety of SAHP in people with stable asthma.

METHODS: We searched seven electronic databases for randomized controlled trials (RCTs). The Cochrane risk of bias tool was utilized to evaluate the methodological quality of the included studies and RevMan 5.3 and GRADEpro 3.6.1 were applied to perform data analyses.

RESULTS: A total of 34 RCTs involving 3313 participants were included. The overall methodological quality of the trials was of high risk of bias. SAHP plus conventional therapy (CT) decreased the mean frequency (times per year) of asthma exacerbations compared with CT alone (MD: -1.42; 95% CI: -2.19 to -0.65; 7 RCTs), and similar effect was found for SAHP versus sham SAHP (MD: 0.42; 95%CI: 0.26-0.69; 1 RCT). For lung function (including PEF%, FEV1% and FEV1/FVC), SAHP plus CT showed better effect than CT alone, and so did SAHP versus sham SAHP on PEF and PEF%. Adverse effects in the SAHP groups were reported to be mild and well tolerated.

CONCLUSIONS: SAHP alone or combined with CT appears to be more effective than sham SAHP or CT on reduction of asthma exacerbations, improving lung function, and SAHP seems to be safe. However, the findings should be interpreted with caution due to limitations in trial quality. Further, rigorously designed, large-scale trials are warranted for robust evidence.

Acupuncture for the Treatment of Peripheral Neuropathy: A Systematic Review and Meta-Analysis.

Dimitrova A, Murchison C, Oken B

J Altern Complement Med. 2017 Mar;23(3):164-179.

OBJECTIVES: Neuropathy and its associated pain pose great therapeutic challenges. While there has been a recent surge in acupuncture use and research, little remains known about its effects on nerve function. This review aims to assess the efficacy of acupuncture in the treatment of neuropathy of various etiologies.

METHODS: The Medline, AMED, Cochrane, Scopus, CINAHL, and clintrials.gov databases were systematically searched from inception to July 2015. Randomized controlled trials (RCTs) assessing acupuncture's efficacy for poly- and mononeuropathy were reviewed. Parallel and crossover RCTs focused on acupuncture's efficacy were reviewed and screened for eligibility. The Scale for Assessing Scientific Quality of Investigations in Complementary and Alternative Medicine was used to assess RCT quality. RCTs with score of >9 and active control treatments such as sham acupuncture or medical therapy were included.

RESULTS: Fifteen studies were included: 13 original RCTs, a long-term follow-up, and a re-analysis of a prior RCT. The selected RCTs studied acupuncture for neuropathy caused by diabetes, Bell's palsy, carpal tunnel syndrome, human immunodeficiency virus (HIV), and idiopathic conditions. Acupuncture regimens, control conditions, and outcome measures differed among studies, and various methodological issues were identified. Still, the majority of RCTs showed benefit for acupuncture over control in the treatment of diabetic neuropathy, Bell's palsy, and carpal tunnel syndrome. Acupuncture is probably effective in the treatment of HIV-related neuropathy, and there is insufficient evidence for its benefits in idiopathic neuropathy. Acupuncture appears to improve nerve conduction study parameters in both sensory and motor nerves. Meta-analyses were conducted on all diabetic neuropathy and Bell's palsy individual subject data (six RCTs; a total of 680 subjects) using a summary estimate random effects model, which showed combined odds ratio of 4.23 (95% confidence interval 2.3-7.8; p < 0.001) favoring acupuncture over control for neuropathic symptoms.

CONCLUSIONS: Acupuncture is beneficial in some peripheral neuropathies, but more rigorously designed studies using sham-acupuncture control are needed to characterize its effect and optimal use better.

Clinical effectiveness of acupuncture on Parkinson disease: A PRISMA-compliant systematic review and meta-analysis.

Lee SH, Lim S

Medicine (Baltimore). 2017 Jan;96(3).

BACKGROUND: Parkinson's disease (PD) is the second-most-common chronic and progressive neurodegenerative disease. The long-term use of levodopa leads to a loss of efficacy and to complications. Therefore, many patients with PD have turned to complementary therapies to help relieve their symptoms. Acupuncture is most commonly used as a complementary therapy in patients with PD. This paper presents a systematic review and meta-analysis of the effects of acupuncture for patients with PD. This study was performed to summarize and evaluate evidence regarding the effectiveness of acupuncture in the relief of PD symptoms.

METHODS: Seven databases, namely, MEDLINE, EMBASE, the Cochrane Library, the China National Knowledge Infrastructure [CNKI], and three Korean medical databases, were searched from their inception through August 2015 without language restrictions. Randomized controlled trials (RCTs) were included if they contained reports of acupuncture compared with no treatment and conventional treatment alone or acupuncture plus conventional treatment compared with conventional treatment alone for PD symptoms. Assessments were performed with the unified PD rating scales (UPDRS) I, II, III, and IV and the total score, the Webster scale, and effectiveness rating. Methodological quality was assessed using the Physiotherapy Evidence Database (PEDro) scale and the Cochrane risk of bias (ROB). RESULTS: In all, 982 potentially relevant articles were identified; 25 RCTs met our inclusion criterion, 19 of 25 RCTs were high-quality studies (i.e., a score of 6 or higher). The included RCTs showed favorable results for acupuncture plus conventional treatment compared with conventional treatment alone in the UPDRS II, III, and IV and the total score. Acupuncture was effective in relieving PD symptoms compared with no treatment and conventional treatment alone, and acupuncture plus conventional treatment had a more significant effect than conventional treatment alone.

CONCLUSIONS: We performed a systematic review and meta-analysis to evaluate the use of acupuncture for relief of PD symptoms and found that acupuncture has significant positive effects. Acupuncture can be considered as a combination treatment with conventional treatment for patients with PD. Further studies on this topic should be carried out according to rigorous methodological designs in both the East and the West.

Therapeutic effect of acupuncture on the outcomes of in vitro fertilization: a systematic review and meta-analysis.

Qian Y, Xia XR, Ochin H, Huang C, Gao C, Gao L, Cui YG, Liu JY, Meng Y

Arch Gynecol Obstet. 2017 Mar;295(3):543-558.

PURPOSE: Controversial results have been reported concerning the effect of acupuncture on in vitro fertilization (IVF) outcomes. The current review was conducted to systematically review published studies of the effects of acupuncture on IVF outcomes. METHODS: Women undergoing IVF in randomized controlled trials (RCTs) were evaluated for the effects of acupuncture on IVF outcomes. The treatment groups involved traditional, electrical, laser, auricular, and other acupuncture techniques. The control groups consisted of no, sham, and placebo acupuncture. The PubMed, Embase, and Web of Science databases were searched. The pregnancy outcomes data are expressed as odds ratios (ORs) with 95% confidence intervals (CIs) based on a fixed model or random model depending on the heterogeneity determined by the Q test and I2 statistic. The major outcomes were biochemical pregnancy rate (BPR), clinical pregnancy rate (CPR), live birth rate (LBR), and ongoing pregnancy rate (OPR). Heterogeneity of the therapeutic effect was evaluated by a forest plot analysis, and publication bias was assessed by a funnel plot analysis.

RESULTS: Thirty trials (a total of 6344 participants) were included in this review. CPR data showed a significant difference between the acupuncture and control groups (OR 1.26, 95% CI 1.06-1.50, p = 0.01), but there was significant statistical heterogeneity among the studies (p = 0.0002). When the studies were restricted to Asian or non-Asian area trials with a sensitivity analysis, the results significantly benefited the CPR in Asian group (OR 1.51, 95% CI 1.04-2.20, p = 0.03). Based on the area subgroup analysis, we found that in the Asian group, the IVF outcomes from the EA groups were all significantly higher than those from the control groups (CPR: OR 1.81, 95% CI 1.20-2.72, p = 0.005; BPR: OR 1.84, 95% CI 1.12-3.02, p = 0.02; LBR: OR 2.36, 95% CI 1.44-3.88, p = 0.0007; OPR: OR 1.94, 95% CI 1.03-3.64, p = 0.04). Meanwhile, compared with other acupuncture time, the IVF outcome results were significantly superior in the acupuncture group when acupuncture was conducted during controlled ovarian hyperstimulation (COH) (CPR: OR 1.71, 95% CI 1.27-2.29, p = 0.0004; LBR: OR 2.41, 95% CI 1.54-3.78, p = 0.0001; BPR: OR 1.50, 95% CI 1.02-2.20, p = 0.04; OPR: OR 1.88, 95% CI 1.06-3.34, p = 0.03). However, when acupuncture was conducted at the time of embryo transfer, the BPR and OPR from the acupuncture groups were significantly lower than those of the controls in the Asian group (BPR: OR 0.67, 95% CI 0.48-0.92, p = 0.01; OPR: OR 0.68, 95% CI 0.49-0.96, p = 0.03).

CONCLUSIONS: Based on an analysis of the studies, acupuncture improves the CPR among women undergoing IVF. When the studies were restricted to Asian or non-Asian area patients, compared with traditional acupuncture and other methods, electrical acupuncture yielded better IVF outcomes. Optimal positive effects could be expected using acupuncture in IVF during COH, especially in Asian area. However, as a limitation of this review, most of the included studies did not mention the number of embryos transferred.

Acupuncture for Blood Pressure Control in Stroke Patients: Case Reports.

Zheng H, Zhao X, Du Y, Shi X

Forsch Komplementmed. 2016;23(6):351-355.

BACKGROUND: Effective control of hypertension is deeply associated with the secondary prevention of stroke. The blood pressure-lowering effect of acupuncture alone is controversial but worthy of exploration, considering the side effects of and the problems of low adherence to drugs. CASE REPORTS: One male patient experienced severe dizziness after overuse of valsartan, which decreased his blood pressure to 110/70 mm Hg. Our acupuncture treatment of 40 sessions alone regulated his blood pressure to about 110/70-130/80 mm Hg, with disappearance of the dizziness after 3 sessions. The second male patient with a suboptimal blood pressure during treatment with 50 mg/day of irbesartan received sole acupuncture treatment of 41 sessions, which decreased his blood pressure to about 120/70-130/80 mm Hg after 6 sessions. The third patient, who refused to take antihypertensive drugs because of their side effects, received acupuncture treatment of 46 sessions over 2 months, which reduced his blood pressure from 150/90 to 120/80 mm Hg. The efficacy continued for 3 months (cases 1 and 3) or 2 months (case 2) post treatment end.

CONCLUSION: Our cases suggest the potential of acupuncture alone to favorably control high blood pressure or regulate low blood pressure in stroke individuals, as a means of secondary prevention of stroke.

The persistence of the effects of acupuncture after a course of treatment: a meta-analysis of patients with chronic pain.

MacPherson H, Vertosick EA, Foster NE, Lewith G, Linde K, Sherman KJ, Witt CM, Vickers AJ

Pain. 2017 May;158(5):784-793.

There is uncertainty regarding how long the effects of acupuncture treatment persist after a course of treatment. We aimed to determine the trajectory of pain scores over time after acupuncture, using a large individual patient data set from high-quality randomized trials of acupuncture for chronic pain. The available individual patient data set included 29 trials and 17,922 patients. The chronic pain conditions included musculoskeletal pain (low back, neck, and shoulder), osteoarthritis of the knee, and headache/migraine. We used meta-analytic techniques to determine the trajectory of posttreatment pain scores. Data on longer term follow-up were available for 20 trials, including 6376 patients. In trials comparing acupuncture to no acupuncture control (wait-list, usual care, etc), effect sizes diminished by a nonsignificant 0.011 SD per 3 months (95% confidence interval: -0.014 to 0.037, P = 0.4) after treatment ended. The central estimate suggests that approximately 90% of the benefit of acupuncture relative to controls would be sustained at 12 months. For trials comparing acupuncture to sham, we observed a reduction in effect size of 0.025 SD per 3 months (95% confidence interval: 0.000-0.050, P = 0.050), suggesting approximately a 50% diminution at 12 months. The effects of a course of acupuncture treatment for patients with chronic pain do not seem to decrease importantly over 12 months. Patients can generally be reassured that treatment effects persist. Studies of the cost-effectiveness of acupuncture should take our findings into account when considering the time horizon of acupuncture effects. Further research should measure longer term outcomes of acupuncture.

Acupuncture for the treatment of hiccups following stroke: a systematic review and meta-analysis.

Yue J, Liu M, Li J, Wang Y, Hung ES, Tong X, Sun Z, Zhang Q, Golianu B

Acupunct Med. 2017 Mar;35(1):2-8.

OBJECTIVES: To assess the effectiveness and safety of acupuncture for hiccups following stroke.

METHODS: Medline, Embase, CENTRAL, CINAHL, and four Chinese medical databases were searched from their inception to 1 June 2015. The dataset included randomized controlled trials (RCTs) with no language restrictions that compared acupuncture as an adjunct to medical treatment (effectiveness) or acupuncture versus medical treatment (comparative effectiveness) in stroke patients with hiccups. The Cochrane risk of bias tool was used to assess the methodological quality of the trials.

RESULTS: Out of 436 potentially relevant studies, five met the inclusion criteria. When acupuncture was compared with other interventions (as sole or adjunctive treatment), meta-analysis revealed a significant difference in favor of cessation of hiccups within a specified time period (CHWST) following intervention when used as an adjunct (risk ratio (RR) 1.59, 95% CI 1.16 to 2.19, I2=0%), but not when used alone (RR 1.40, 95% CI 0.79 to 2.47, I2=65%, ie, high heterogeneity). No safety information was reported in these studies.

CONCLUSIONS: Our systematic review and meta-analysis suggests that acupuncture may be an effective treatment for patients suffering from hiccups following stroke when used as an adjunct to medical treatment. However, due to the limited number of RCTs and poor methodology quality, we cannot reach a definitive conclusion, hence further large, rigorously designed trials are needed.