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Perioperative Anxiety

Anxiété péri-opératoire : évaluation de l'acupuncture

Articles connexes: - douleur post-opératoire - gastroparésie post-opératoire - ileus post-opératoire - nausées et vomissements post-opératoires- retention urinaire post-opératoire -

1. Systematic Reviews and Meta-Analysis

1.1. Generic Acupuncture

1.1.1. Tong 2021

Tong QY, Liu R, Zhang K, Gao Y, Cui GW, Shen WD. Can acupuncture therapy reduce preoperative anxiety? A systematic review and meta-analysis. J Integr Med. 2021;19(1):20-28. [221858]. doi

1.1.2. Bae H 2014 ☆☆☆

Bae H, Bae H, Min BI, Cho S. Efficacy of acupuncture in reducing preoperative anxiety: a meta-analysis. Evid Based Complement Alternat Med. 2014. 850367. [159 514].

Purpose	Acupuncture has been shown to reduce preoperative anxiety in several previous randomized controlled trials (RCTs). In order to assess the preoperative anxiolytic efficacy of acupuncture therapy, this study conducted a meta-analysis of an array of appropriate studies.
Methods	Four electronic databases (MEDLINE, EMBASE, CENTRAL, and CINAHL) were searched up to February 2014. In the meta-analysis data were included from RCT studies in which groups receiving preoperative acupuncture treatment were compared with control groups receiving a placebo for anxiety.
Results	**Fourteen publications (N = 1,034)** were included. Six publications, using the State-Trait Anxiety Inventory-State (STAI-S), reported that acupuncture interventions led to greater reductions in preoperative anxiety relative to sham acupuncture (mean difference = 5.63, P < .00001, 95% CI [4.14, 7.11]). Further eight publications, employing visual analogue scales (VAS), also indicated significant differences in preoperative anxiety amelioration between acupuncture and shamacupuncture (mean difference = 19.23, P < .00001, 95%CI [16.34, 22.12]).
Conclusion	**Acupuncture therapy aiming at reducing preoperative anxiety has a statistically significant effect relative to placebo or nontreatment conditions.**

1.2. Special Acupuncture Techniques

1.2.1. Electroacupuncture

1.2.1.1. Su 2025

Su W, Wang J, Shi Z, Zhou J, Xu Y, Zhao Y, Hao P, Qu H. Effects of Transcutaneous Electrical Acupoint Stimulation on Preoperative Anxiety in Adults: A Meta-analysis. J Perianesth Nurs. 2025 Dec 8:S1089-9472(25)00361-2. https://doi.org/10.1016/j.jopan.2025.06.017

Background	Traditional acupuncture provides sedative and analgesic effects but is invasive and requires skilled practitioners. Transcutaneous electrical acupoint stimulation (TEAS) offers a noninvasive alternative with advantages such as ease of use and reproducibility. This meta-analysis aimed to evaluate the impact of TEAS on preoperative anxiety and related outcomes.
Methods	Randomized controlled trials from eight databases were analyzed using RevMan 5.4. Outcomes included preoperative anxiety, heart rate, mean arterial pressure, sleep quality, and postoperative pain (as the only postoperative measure).
Results	**Twelve studies involving 1,026 patients** were included. TEAS significantly reduced preoperative anxiety (SMD = –1.07, P = .0002), heart rate (MD = –8.61, P = .02), mean arterial pressure (SMD = –1.53, P = .04), and postoperative pain (SMD = –1.89, P < .0001). The effect on sleep quality was not significant (SMD = 0.72, P = .13).
Conclusion	TEAS may reduce preoperative anxiety, heart rate, arterial pressure, and postoperative pain, while its effect on sleep quality remains inconclusive. Further well-designed RCTs are needed.

1.2.2. Acupressure

1.2.2.1. Xie 2023

Xie W, Ye F, Yan X, Cao M, Ho MH, Kwok JYY, Lee JJ. Acupressure can reduce preoperative anxiety in adults with elective surgery: A systematic review and meta-analysis of randomised controlled trials. Int J Nurs Stud. 2023 Sep;145:104531. https://doi.org/10.1016/j.ijnurstu.2023.104531

Background	Preoperative anxiety is prevalent amongst adults with elective surgery and is associated with multiple detrimental perioperative physiological effects. Increasing studies support the effectiveness of acupressure in managing preoperative anxiety. However, the magnitude of acupressure's positive association with preoperative anxiety is still unclear due to a lack of rigorous evidence synthesis.
Objective	To estimate the efficacy of acupressure on preoperative anxiety and physiological parameters amongst adults scheduled for elective surgery.
Method	Systematic review and meta-analysis. Data sources: Search terms were combined for acupressure and preoperative anxiety in PubMed, Cochrane Library, EMBASE, CINAHL, China National Knowledge Infrastructure, and WanFang Data Knowledge Service Platform to search for eligible randomised controlled trials from the inception of each database through September 2022. Pairs of researchers independently screened and extracted data from included studies. The risk of bias was assessed using the Cochrane risk of bias tool Version 2.0. Meanwhile, random-effects meta-analysis of overall effects and prespecified subgroup (i.e., surgery types, intervention providers, and acupressure stimulation tools) was conducted using Review Manager Software 5.4.1. Meta-regression was performed to explore study-level variables that may contribute to heterogeneity using STATA 16.

Results	Of **24 eligible randomised controlled trials, there were a total of 2537 participants** from 5 countries contributed to this synthesis. When comparing acupressure with usual care or placebo, acupressure showed a large effect size for preoperative anxiety (SMD = -1.30; 95%CI = -1.54 to -1.06; p < 0.001; I2 = 86%). The significant mean reduction of heart rate, and systolic and diastolic blood pressure was -4.58 BPM (95%CI = -6.70 to -2.46; I2 = 89%), -6.05 mmHg (95%CI = -8.73 to -3.37; p < 0.001; I2 = 88%), and -3.18 mmHg (95%CI = -5.09 to -1.27; p = 0.001; I2 = 78%), respectively. Exploratory subgroup analyses showed significant differences in surgery types and acupressure stimulation tools, whilst the intervention providers (i.e., healthcare professionals and self-administered) showed no statistically significant difference for acupressure therapy. None of the predefined participants and study-level characteristics moderated preoperative anxiety through meta-regression.
Conclusion	Acupressure appears efficacious as a therapy for improving preoperative anxiety and physiological parameters amongst adults with elective surgery. Self-administered acupressure, which is effective with a large effect, may be considered as an evidence-based approach to managing preoperative anxiety. Hence, this review aids in the development of acupressure in different types of elective surgeries and the improvement of the rigour of acupressure therapy.

1.3. Special Clinical Forms

1.3.1. Children

1.3.1.1. Manyande 2015 ☆

Manyande A, Cyna AM, Yip P, Chooi C, Middleton P. Non-pharmacological interventions for assisting the induction of anaesthesia in children. Cochrane Database Syst Rev. 2015. [176655].

Background	Induction of general anaesthesia can be distressing for children. Non-pharmacological methods for reducing anxiety and improving co-operation may avoid the adverse effects of preoperative sedation.
Objectives	To assess the effects of non-pharmacological interventions in assisting induction of anaesthesia in children by reducing their anxiety, distress or increasing their co-operation.
Methods	SEARCH METHODS: In this updated review we searched CENTRAL (the Cochrane Library 2012, Issue 12) and searched the following databases from inception to 15 January 2013: MEDLINE, EMBASE, PsycINFO and Web of Science. We reran the search in August 2014. We will deal with the single study found to be of interest when we next update the review. SELECTION CRITERIA: We included randomized controlled trials of a non-pharmacological intervention implemented on the day of surgery or anaesthesia. DATA COLLECTION AND ANALYSIS: At least two review authors independently extracted data and assessed risk of bias in trials.

Main Results	We included 28 trials (2681 children) investigating 17 interventions of interest; all trials were conducted in high-income countries. Overall we judged the trials to be at high risk of bias. Except for parental acupuncture (graded low), all other GRADE assessments of the primary outcomes of comparisons were very low, indicating a high degree of uncertainty about the overall findings. Parental presence: In five trials (557 children), parental presence at induction of anaesthesia did not reduce child anxiety compared with not having a parent present (standardized mean difference (SMD) 0.03, 95% confidence interval (CI) -0.14 to 0.20). In a further three trials (267 children) where we were unable to pool results, we found no clear differences in child anxiety, whether a parent was present or not. In a single trial, child anxiety showed no significant difference whether one or two parents were present, although parental anxiety was significantly reduced when both parents were present at the induction. Parental presence was significantly less effective than sedative premedication in reducing children's anxiety at induction in three trials with 254 children (we could not pool results). Child interventions (passive): When a video of the child's choice was played during induction, children were significantly less anxious than controls (median difference modified Yale Preoperative Anxiety Scale (Mypas) 31.2, 95% CI 27.1 to 33.3) in a trial of 91 children. In another trial of 120 children, co-operation at induction did not differ significantly when a video fairytale was played before induction. Children exposed to low sensory stimulation were significantly less anxious than control children on introduction of the anaesthesia mask and more likely to be co-operative during induction in one trial of 70 children. Music therapy did not show a significant effect on children's anxiety in another trial of 51 children. Child interventions (mask introduction): We found no significant differences between a mask exposure intervention and control in a single trial of 103 children for child anxiety (risk ratio (RR) 0.59, 95% CI 0.31 to 1.11) although children did demonstrate significantly better co-operation in the mask exposure group (RR 1.27, 95% CI 1.06 to 1.51). Child interventions (interactive): In a three-arm trial of 168 children, preparation with interactive computer packages (in addition to parental presence) was more effective than verbal preparation, although differences between computer and cartoon preparation were not significant, and neither was cartoon preparation when compared with verbal preparation. Children given video games before induction were significantly less anxious at induction than those in the control group (Mypas mean difference (MD) -9.80, 95% CI -19.42 to -0.18) and also when compared with children who were sedated with midazolam (Mypas MD -12.20, 95% CI -21.82 to -2.58) in a trial of 112 children. When compared with parental presence only, clowns or clown doctors significantly lessened children's anxiety in the operating/induction room (Mypas MD -24.41, 95% CI -38.43 to -10.48; random-effects, I^2 75%) in three trials with a total of 133 children. However, we saw no significant differences in child anxiety in the operating room between clowns/clown doctors and sedative premedication (Mypas MD -9.67, 95% CI -21.14 to 1.80, random-effects, I^2 66%; 2 trials of 93 children). In a trial of hypnotherapy versus sedative premedication in 50 children, there were no significant differences in children's anxiety at induction (RR 0.59, 95% CI 0.33 to 1.04). **Parental interventions: Children of parents having acupuncture compared with parental sham acupuncture were less anxious during induction (Mypas MD -17, 95% CI -30.51 to -3.49) and were more co-operative (RR 1.59, 95% CI 1.01 to 2.53) in a single trial of 67 children**. Two trials with 191 parents assessed the effects of parental video viewing but did not report any of the review's prespecified primary outcomes.
Authors' Conclusions	This review shows that the presence of parents during induction of general anaesthesia does not diminish their child's anxiety. **Potentially promising non-pharmacological interventions such as parental acupuncture**; clowns/clown doctors; playing videos of the child's choice during induction; low sensory stimulation; and hand-held video games need further investigation in larger studies.

1.3.1.2. Yip 2009 ☆

Yip P, Middleton P, Cyna AM, Carlyle AV. Non-pharmacological interventions for assisting the induction of anaesthesia in children. Cochrane Database Syst Rev. 2009. CD006447. [143331].

Background	Induction of general anaesthesia can be distressing for children. Non-pharmacological methods for reducing anxiety and improving co-operation may avoid the adverse effects of preoperative sedation.
Objectives	To assess the effects of non-pharmacological interventions in assisting induction of anaesthesia in children by reducing their anxiety, distress or increasing their co-operation.
Methods	SEARCH STRATEGY: We searched CENTRAL (The Cochrane Library 2009, Issue 1). We searched the following databases from inception to 14th December 2008: MEDLINE, PsycINFO, CINAHL, DISSERTATION ABSTRACTS, Web of Science and EMBASE. SELECTION CRITERIA: We included randomized controlled trials of a non-pharmacological intervention implemented on the day of surgery or anaesthesia. DATA COLLECTION AND ANALYSIS: Two authors independently extracted data and assessed risk of bias in trials.
Main Results	We included 17 trials, all from developed countries, involving 1796 children, their parents or both. Eight trials assessed parental presence. None showed significant differences in anxiety or co-operation of children during induction, except for one where parental presence was significantly less effective than midazolam in reducing children's anxiety at induction. Six trials assessed interventions for children. Preparation with a computer package improved co-operation compared with parental presence (one trial). Children playing hand-held video games before induction were significantly less anxious than controls or premedicated children (one trial). Compared with controls, clown doctors reduced anxiety in children (modified Yale Preoperative Anxiety Scale (mYPAS): mean difference (MD) 30.75 95% CI 15.14 to 46.36; one trial). In children undergoing hypnosis, there was a nonsignificant trend towards reduced anxiety during induction (mYPAS < 24: risk ratio (RR) 0.59 95% CI 0.33 to 1.04 - 39% versus 68%: one trial) compared with midazolam. A low sensory environment improved children's co-operation at induction (RR 0.66, 95% CI 0.45 to 0.95; one trial) and no effect on children's anxiety was found for music therapy (one trial). Parental interventions were assessed in three trials. **Children of parents having acupuncture compared with parental sham-acupuncture were less anxious during induction (mYPAS MD 17, 95% CI 3.49 to 30.51) and more children were co-operative (RR 0.63, 95% CI 0.4 to 0.99)**. Parental anxiety was also significantly reduced in this trial. In two trials, a video viewed preoperatively did not show effects on child or parental outcomes.
Authors' Conclusions	This review shows that the presence of parents during induction of general anaesthesia does not reduce their child's anxiety. **Promising non-pharmacological interventions such as parental acupuncture**; clown doctors; hypnotherapy; low sensory stimulation; and hand-held video games needs to be investigated further.

1.3.2. Brain surgery

1.3.2.1. Oteri 2021

Oteri V, Martinelli A, Crivellaro E, Gigli F. The impact of preoperative anxiety on patients undergoing brain surgery: a systematic review. Neurosurg Rev. 2021 Dec;44(6):3047-3057. doi

1.3.3. Breast cancer surgery

1.3.3.1. Kahveci 2025

Kahveci S, Taylan S. The Effect of Nonpharmacological Methods on Preoperative Anxiety in Breast Surgery Patients: A Meta-analysis. J Perianesth Nurs. 2025 Apr;40(2):431-439. https://doi.org/10.1016/j.jopan.2024.05.024

Purpose	To investigate the effect of nonpharmacological methods on anxiety before breast surgery using a meta-analysis approach.
Methods	Nine electronic databases were searched to identify studies published up to October 2023. The review followed PRISMA 2020 and Cochrane 2021 recommendations. Risk of bias was assessed using the Risk of Bias 2 tool. Heterogeneity and publication bias were evaluated. Subgroup analyses were conducted for trials using anxiety-specific scales and for aromatherapy interventions.
Results	From 280 records identified, six randomized controlled trials published between 2016 and 2022 were included, involving 519 female patients (303 intervention, 216 control). Interventions included aromatherapy, music therapy, **electro-acupuncture**, and Yokukansan Kampo medicine. Meta-analysis of anxiety measured immediately before surgery showed a moderate overall efficacy of nonpharmacological interventions. Subgroup analyses indicated comparatively lower efficacy for aromatherapy.
Conclusions	Nonpharmacological approaches demonstrate moderate effectiveness in reducing preoperative anxiety in breast surgery patients. Among these, aromatherapy appears less effective than other interventions such as **electro-acupuncture**, highlighting the need for further high-quality trials to clarify the relative benefits of specific modalities.

1.3.3.2. Tola 2021

Tola YO, Chow KM, Liang W. Effects of non-pharmacological interventions on preoperative anxiety and postoperative pain in patients undergoing breast cancer surgery: A systematic review. J Clin Nurs. 2021 Dec;30(23-24):3369-3384. https://doi.org/10.1111/jocn.15827

Background	Poorly managed preoperative anxiety and pain were reported to slow the postoperative recovery of breast cancer patients. Thus, proactive management using non-pharmacological interventions becomes essential for decreasing opioid or anxiolytics consumption, anxiety level, pain intensity, postoperative complications and improving patients' haemodynamics and satisfaction with care.
Purpose	To identify, analyse and synthesise the effects of non-pharmacological interventions on preoperative anxiety and acute postoperative pain in women undergoing breast cancer surgery.
Method	For this systematic review, 12 databases including Ovid Nursing, PsycInfo, British Nursing Index, CINAHL, Cochrane Library were searched to identify relevant studies. A total of 6,012 articles were identified from the search, six RCTs and one quasi-experimental study that met the inclusion criteria were included after eligibility screening. Narrative synthesis was used to analyse data extracted from the included articles. The review adhered to the PRISMA guideline.

Results	Twelve outcomes were measured in the included studies, including preoperative anxiety, and acute postoperative pain. Music, massage, aromatherapy and **acupuncture** were the interventions delivered. Music had a small-to-large effect size and aromatherapy had a small effect size on reducing preoperative anxiety. Also, music had a large effect size whilst acupuncture had a medium effect size on minimising postoperative pain in women undergoing breast cancer surgery.
Conclusion	Music, aromatherapy and **acupuncture** appeared to be effective for reducing preoperative anxiety and postoperative pain in women undergoing breast cancer surgery. However, the small number of studies available for each intervention prevents conclusive statements about which the most effective method.
Implication for clinical practice	A nursing care pathway that standardises the use of non-pharmacological interventions for the management of both preoperative anxiety and postoperative pain in breast cancer surgery patients should be developed.

1.3.4. Gynecological surgery

1.3.4.1. Wang 2024

Wang X, Yu Q, Zhu J, Liu J, Gao X, Wang X, Wang L, Xu X. Acupuncture and Moxibustion in the Treatment of Gynecological Perioperative Anxiety: A Systematic Review and Meta-Analysis. J Pain Res. 2024 Oct 31;17:3515-3538. https://doi.org/10.2147/JPR.S464808

Objective	This systematic review and meta-analysis aims to investigate the effectiveness and safety of acupuncture and moxibustion in managing perioperative anxiety during gynecological surgery.
Methods	Relevant studies published from database inception to March 20, 2023, were searched in PubMed, Embase, Cochrane Library, Web of Science, CNKI, Wanfang, VIP, and CBM. Literature screening and data extraction were conducted independently by two investigators. Risk of bias was assessed using the Cochrane risk-of-bias tool 2.0. Meta-analyses were performed using Stata 15.1.
Results	**Twenty studies including 3,254 patients** were analyzed. Acupuncture and moxibustion significantly reduced postoperative STAI-S scores (MD = −3.50; 95% CI −6.93 to −0.07; P = 0.046) and both preoperative and postoperative VAS-anxiety and SAS scores (preoperative: SMD = −1.04; 95% CI −1.73 to −0.35; P = 0.003; postoperative: SMD = −0.78; 95% CI −1.21 to −0.35; P < 0.001) compared with controls. No significant differences were observed for preoperative or intraoperative STAI-S scores, nor for intraoperative VAS-anxiety or SAS scores.
Conclusion	Acupuncture and moxibustion demonstrate potential benefits in alleviating perioperative anxiety in patients undergoing gynecological surgery. However, the overall level of evidence is limited, mainly due to small sample sizes, underscoring the need for further high-quality randomized controlled trials.

2. Clinical Practice Guidelines

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

2.1. Arbeitsgemeinschaft Gynäkologische Onkologie 2018 (AGO, Allemagne) Ø

Diagnosis and Treatment of Patients with Primary and Metastatic Breast Cancer. Complementary

Therapy Survivorship. Arbeitsgemeinschaft Gynäkologische Onkologie (AGO). 2018;:35P. [182073].

Postoperative: pain relief, **anxiety**. Acupuncture. Level of evidence : 1b (individual RCT), grade of evidence (B), AGO recommendation grade (+/-) This examination or therapeutic intervention has for the patient no advantage shown. It can be done in individual cases. Based on current knowledge, there is currently no general recommendation to be pronounced.