

Peer Review

Review of: "Efficacy of Aromatherapy on Children: A Systematic Review with Meta-Analysis"

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Introduction

Strengths

Provides a solid conceptual framework on the psychological and physiological aspects of procedural pain in children.

Highlights the shortcomings of pharmacological approaches and the potential value of non-pharmacological interventions.

Presents aromatherapy within a complementary and nursing-care context, which is well-aligned with the review's clinical scope.

Suggestions for Improvement

Avoid subjective language such as "unfortunately." Use formal, neutral phrasing.

Some sentences are too long and complex. Break them into shorter, more digestible units.

Example:

Original: "The pain they perceive contributes to increased anxiety, but in turn, anxiety can increase perceived pain..."

Revised: "Pain perception heightens anxiety. In turn, anxiety may amplify the sensation of pain, creating a self-reinforcing cycle."

Ensure that all statements are followed by appropriate references.

Objective

Current Objective:

“To evaluate the effect of aromatherapy on the pain, anxiety, sleep duration, and stress of children undergoing diagnostic and treatment procedures.”

Suggested Revision:

“To assess the effectiveness of aromatherapy in reducing procedural pain, anxiety, stress-related physiological responses, and in improving sleep duration among pediatric patients undergoing diagnostic or therapeutic procedures.”

Rationale: More formal and clinically precise wording.

Methods

Strengths

The review follows PRISMA guidelines and is registered with PROSPERO, which enhances transparency.

The search strategy is comprehensive and spans multiple reputable databases.

Risk of bias assessments (RoB 2 and ROBINS-I) are correctly applied.

Data synthesis is appropriately conducted using random-effects meta-analysis.

Suggestions

The detailed database search table should be moved to an appendix or supplementary material.

The GRADE methodology, although applied at the end, should be mentioned earlier in the methods section under "Certainty of Evidence."

Ensure that the inclusion/exclusion criteria are fully aligned with the PICOS framework (Population, Intervention, Comparison, Outcomes, Study Design).

Clarify how multiple comparisons from the same study were handled (e.g., were they treated as independent or combined?).

Results

Strengths

Comprehensive presentation of the included studies, categorized by intervention type, outcomes measured, and method of delivery.

Subgroup and sensitivity analyses enhance the depth of the findings.

Risk of bias is clearly reported and visualized.

Meta-analytical findings are clearly explained.

Suggestions

Provide a concise summary of each outcome (pain, anxiety, sleep, physiological parameters) before diving into subgroup results.

Report heterogeneity metrics (I^2 and p-values) systematically across all outcomes.

Clarify that the "negative" standardized mean differences indicate improvements in the intervention group.

For clarity, provide clinical interpretations of effect sizes (e.g., "a large reduction in pain" instead of just "SMD = -1.12").

Discussion

Strengths

The discussion provides a balanced and cautious interpretation of the findings.

Appropriately highlights the limitations of evidence quality, heterogeneity, and publication bias.

Effect modifiers (age, method of delivery, type of fragrance) are well addressed.

Suggestions

Integrate references to existing meta-analyses and systematic reviews for context (as you already did with reference [36]).

Emphasize the need for cultural sensitivity, as expectations and beliefs about complementary therapies differ by region.

Elaborate on the clinical significance of the observed physiological changes (e.g., is a 12 bpm reduction in heart rate clinically meaningful?).

State clearly that the very low certainty of evidence precludes definitive recommendations.

Add these references to increase the impact of the paper: [10.3390/children10111763](https://doi.org/10.3390/children10111763) and [10.23736/S2724-6329.24.04961-1](https://doi.org/10.23736/S2724-6329.24.04961-1)

Implications for Practice

Strengths

Cautious in avoiding overstatement of findings.

Highlights the importance of individualized, culturally appropriate interventions.

Suggestions

Recommend that aromatherapy could be considered as an adjunct, not a replacement, for established anxiety or pain management techniques.

Suggest piloting aromatherapy protocols in select pediatric units before widespread implementation.

Add a note on cost, availability of essential oils, and potential need for staff training.

Declarations

Potential competing interests: No potential competing interests to declare.