Qeios

Peer Review

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

Nasrin Hanifi[1]

1. Emergency and Critical Care Nursing, Zanjan University of Medical Sciences, Iran, Islamic Republic of

The study addresses an important and under-researched area, given that aromatherapy is widely used in nursing practice, yet there is a lack of quantitative synthesis of its effects on children. The study follows a structured systematic review process, including searches from multiple biomedical databases, trial registries, and refereed journals. The use of established bias assessment tools (RoB 2 and ROBINS-I) adds credibility to the risk of bias evaluation. The authors use a random-effects model, which is appropriate for pooling heterogeneous studies. Effect sizes are well-reported using standardized mean differences (SMD) with confidence intervals. Forest plots are used to visually present results, enhancing transparency. The inclusion of a GRADE summary table strengthens the study by clearly communicating the certainty of evidence, helping readers interpret the reliability of findings.

The majority of included studies have a high risk of bias, which significantly weakens the reliability of the meta-analysis findings. This should have been discussed more thoroughly, with possible subgroup or sensitivity analyses to explore the impact of bias on results. The studies included cover a wide age range (from 1.8 days to 12.3 years), which may introduce variability in responses to aromatherapy. There is also no clear analysis of whether the effects vary based on age groups, medical conditions, or aromatherapy protocols (e.g., type of essential oil, duration of exposure). Although the reported effect sizes for pain and anxiety are large (SMD ≈ -1.1), the clinical significance of these findings is not discussed.

Without a clear comparison to established clinical thresholds, it is difficult to determine how meaningful these effects are in practice. There is no mention of a publication bias assessment (e.g., funnel plot analysis or Egger's test), which is important given that studies showing positive effects are more likely to be published. While the study confirms potential benefits of aromatherapy, it does not provide a strong discussion of the biological or psychological mechanisms underlying these effects in children. While the

 doi.org/10.32388/T3QOPF

study correctly acknowledges the low certainty of evidence, the conclusion that "aromatherapy seems to have a positive effect" might still be too strong. A more cautious wording, emphasizing the need for higher-quality RCTs, would be more appropriate.

Declarations

Potential competing interests: No potential competing interests to declare.