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CORRESPONDENCE

Concerns regarding methodological and reporting discrepancies in 'Management strategies for pulpitis in vital permanent teeth in children and adolescents: a systematic review and meta-analysis of randomised clinical trials'

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Dear Editor,

We read with great interest the recently published article entitled "Management strategies for pulpitis in vital permanent teeth in children and adolescents: a systematic review and meta-analysis of randomised clinical trials" by Asgary et al. (2025). This topic is of high clinical relevance in paediatric dentistry, and we sincerely thank the authors for addressing such an important issue. We would also like to express our gratitude and appreciation to Dr. Asgary and his team for their unique and valuable contributions to the fields of endodontics and paediatric endodontics. However, during our careful review of this systematic review and meta-analysis, we identified several inconsistencies and issues that may potentially alter the interpretation of the meta-analytic outcomes.

In reviewing the details of Table 1 alongside the original randomised controlled trials, we observed substantial inconsistencies in reported data, particularly in relation to sample sizes, age distributions, pulp status, haemostatic agents, restoration materials, and—most importantly—success rates. For clarity, the identified discrepancies are grouped below into distinct categories to better illustrate the scope and nature of these concerns.

Sample characteristics

Several studies were inaccurately reported with respect to sample size, age distribution, sex, or tooth maturity. For example, Vu et al. (2020) clearly reported a mean age of 9.2 ± 1.5 years, yet this information was listed as "not mentioned" in the review, which would reduce transparency and weaken the validity of age-related subgroup interpretations. The trial by Uesrichai et al. (2019) explicitly provided a sex distribution of 45:22 (female:male) and a mean age of 10 ± 2.1 years, whereas these data were presented as "not mentioned" or inconsistently reported, thereby limiting assessment of population comparability across included trials. In Nosrat et al. (2013), the original study involved 55 patients and 51 teeth, but the review reported a sample size of 110/110, which would lead to overweighting of the study in the meta-analysis and distortion of pooled effect estimates. In addition, Brizuela et al. (2017) included both immature and mature permanent teeth, although only immature teeth were reported in the review table, potentially biasing interpretation of treatment outcomes by restricting the reported population.

Outcome and success rate data

Discrepancies were particularly pronounced in reported success rates, which directly influence pooled estimates and subgroup analyses. For instance, the 12-month outcomes reported for Abuelniel et al. (2021) were 90% for mineral trioxide aggregate (MTA) and 93.3% for Biodentine, whereas the systematic review presented these as 93.1% and 96.5%, respectively; this inflation would lead to overestimation of treatment effect and alteration of pooled event counts and odds ratios. Similarly, in the

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study by Tozar and Erkmen (2020), the original data indicated 88.8% success for MTA and 95.5% for MTA/laser, yet the review reversed these values, resulting in inversion of the true direction of treatment effect and direct bias of pooled estimates. In Alawwad et al. (2020), platelet-rich fibrin and MTA showed divergent results across follow-up periods—75% vs. 100% at 6 months and 41.7% vs. 50% at 12 months—yet the review reported both groups uniformly as 50%, thereby masking true inter-group differences and artificially reducing between-group variability. Moreover, although intermediate outcomes such as the 6-month results from Abuelniel et al. (2021) are reported in Table 1 of the systematic review, they were not incorporated into the corresponding forest plot (Figure 3a), despite being clearly available in the original trial. This selective inclusion of available follow-up data may introduce selective outcome reporting bias and affect the interpretation of pooled estimates. Similarly, in Brizuela et al. (2017), based on the original table of accumulated failures, the calculated success rates for calcium hydroxide were 97.2%, 93.1%, and 86.4%, and for MTA were 100%, 91.9%, and 86.4% at 3-, 6-, and 12-month follow-up periods, respectively; however, the values reported in the systematic review did not correspond with these outcomes, which would directly affect pooled estimates and heterogeneity measures.

Clinical procedures and materials

Inaccuracies were also observed in the reporting of clinical protocols and materials. In Katge and Patil (2017), the haemostatic agent was reported as 3% sodium hypochlorite, yet this was recorded as 2.5% in the review, reducing methodological reproducibility and accuracy of cumulative data extraction. The study by Nosrat et al. (2013) was reported as using amalgam as the restoration material, although no such detail was specified in the primary publication, potentially misrepresenting clinical procedures included in the synthesis.

Terminology

Terminological inconsistencies were identified, including the incorrect expansion of the abbreviation "AR" as "accelerated resolution" rather than the correct term "Abscess Remedy" in the study by Eppa et al. (2018), which would lead to misrepresentation of the biological nature of the intervention included in the analysis.

Figure labelling and data omission

Additional concerns were noted in figure presentation and labelling. In Figs. 2 and 3, the compared materials were inconsistently labelled, with calcium hydroxide and MTA interchanged, which may lead to misinterpretation of effect direction by readers. Furthermore, relevant outcome data were omitted in some forest plots, thereby compromising accurate interpretation of treatment effects.

These discrepancies extend beyond minor typographical errors. In particular, misreporting or reversal of success rates, omission of available follow-up time points, and inaccurate reporting of sample sizes represent the discrepancies with the greatest potential to affect the statistical interpretation of the meta-analysis. Such errors directly influence pooled effect estimates, subgroup analyses, and measures of heterogeneity. In addition, incorrect labelling of forest plots may mislead readers regarding the direction and magnitude of treatment effects. Exclusion or misrepresentation of data, such as the omission of intermediate outcomes or longer follow-up results, further weakens the validity and generalizability of the meta-analytic conclusions. The handling of failures in some studies—where early failures were excluded from later time points, resulting in reported 100% success—also warrants clarification, as this approach substantially influences outcome interpretation.

Given the significance of this systematic review and meta-analysis for guiding vital pulp therapy in children and adolescents, we believe that clear and accurate reporting of primary study data is essential to ensure valid interpretation of pooled outcomes. Where such reporting inconsistencies affect extracted data used for quantitative synthesis, their correction would necessarily require appropriate recalculation of the corresponding meta-analyses to ensure statistical validity. Our intention is to highlight reporting inconsistencies that may influence data synthesis and pooled estimates, rather than to question the methodological rigour of the included trials or the review process itself. We respectfully submit these observations to support transparency, reproducibility, and clarity for readers, clinicians, and editors.

Author contributions Berkant Sezer and Hilal Öztürk wrote the letter.

Data availability Data sharing is not applicable to this article as no new data were created or analysed in this paper.

Declarations

Conflict of interest The authors declare no competing interests.

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