LETTER

Five Critical Queries on Network Meta-Analysis: "Effective Yet Insignificant" Manipulative Therapy for Myofascial Pain Syndrome? [Letter]

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Dear editor

We read recent publication "Manipulative Treatment of Myofascial Pain Syndrome: A Network Meta-Analysis Based on Randomized Controlled Trials" with our collective attention.[1] However, this work warrants urgent clarification to prevent potential misguidance in clinical practice. Below are five incisive queries demanding our shared attention.

Statistical Power vs Clinical Assertion: A Paradox?

The NMA reports a visual analog scale (VAS) standardized mean difference (SMD) of -0.25 (95% CI: -0.68 to 0.18), suggesting that the true effect spans negligible harm to moderate benefit. While the point estimate implies a small effect, the wide confidence interval crossing the null value (SMD = 0) precludes definitive efficacy claims. Clinically, this uncertainty obscures distinctions between therapeutic effects, placebo responses, or natural symptom fluctuations. For instance, an SMD of -0.25 corresponds to a <10% pain reduction on a 100-mm VAS—below the minimally clinically important difference (MCID) threshold of 15–20 mm for chronic pain. Such statistical ambiguity necessitates caution in clinical translation, as overinterpretation risks endorsing interventions with unproven benefit-to-harm ratios.

Methodological Flaws: Overlooked Biases?

The risk of bias (RoB) assessment reveals critical flaws: 11 trials inadequately described randomization methods (eg, unspecified "computer randomization"). Future trials should standardize randomization protocols using validated tools (eg, stratified block randomization via REDCap), implement sham techniques (eg, placebo manual pressure devices) to enhance blinding, and adopt centralized web-based allocation concealment systems. These strategies align with CONSORT guidelines for non-pharmacological trials and mitigate performance and detection biases.

Heterogeneity Oversimplification: Technique Variability Ignored?

While emphasizing low I^2 values (VAS:11%, PPT:3%), clinical heterogeneity is conspicuously underaddressed. "Trigger point compression" techniques diverge starkly: Internationally standardized protocols prioritize biomechanically quantified pressure application, typically involving sustained force maintenance within specific neuromuscular tissue layers guided by neurophysiological biomarkers.[2] In contrast, Chinese clinical investigations systematically incorporate meridian system principles, employing technique-driven interventions such as plucking and kneading methods that align with channel pathway dynamics and qi-blood modulation theories.[3] This epistemological dichotomy reflects distinct therapeutic philosophies. Vague descriptions of force, duration, and frequency may distort efficacy comparisons. If interventions are fundamentally different, are direct/indirect comparisons valid? This oversimplification risks misleading conclusions about therapy effectiveness. Future syntheses should stratify analyses by therapeutic philosophy or restrict comparisons to mechanistically homogeneous interventions.

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Publication Bias: Premature Certainty?

The interpretation of publication bias requires cautious scrutiny. While the Egger test yields a P-value of 0.07 accompanied by claims of low publication bias, such conclusions remain statistically underpowered given the limited number of included studies. Funnel plot analyses demonstrate questionable reliability in domains with fewer than 10 trials, as exemplified by the pressure pain threshold subgroup containing merely five studies. The potential exclusion of unpublished negative results, compounded by insufficient exploration of grey literature and clinical trial registries, introduces substantial risks of selective outcome reporting. Mitigation strategies include systematic grey literature searches (eg, CNKI, Wanfang), screening of trial registries (ClinicalTrials.gov, WHO ICTRP), and statistical adjustments (trim-and-fill analysis) to account for missing studies.

Clinical Recommendations: Evidence-Practice Discrepancy?

The analysis advocates for trigger point compression based on its surface under the cumulative ranking curve value of 0.73, yet reveals critical inconsistencies in pressure pain threshold outcomes where the intervention ranks third with a SUCRA of 0.60, showing non-significant between-group differences. This discrepancy raises concerns about potential analytical selectivity. Clinicians should prioritize evidence-based modalities (eg, dry needling), transparently communicate therapeutic uncertainties using GRADE frameworks,[4] and tailor interventions to patient preferences (eg, meridian-based techniques for those aligned with traditional Chinese medicine).

Disclosure

The authors declare no conflicts of interest in this communication.

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