



**Baishideng  
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## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Methodology*

**Manuscript NO:** 90590

**Title:** Can propensity score matching replace randomized controlled trials?

**Provenance and peer review:** Invited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 05824612

**Position:** Peer Reviewer

**Academic degree:** PhD, PsyD

**Professional title:** Adjunct Professor, Assistant Lecturer, Reader in Health Technology Assessment, Research Assistant, Research Assistant Professor, Research Associate, Research Fellow, Research Scientist, Researcher, Science Editor, Statistician

**Reviewer's Country/Territory:** Iran

**Author's Country/Territory:** Singapore

**Manuscript submission date:** 2023-12-07

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2023-12-07 18:16

**Reviewer performed review:** 2023-12-07 18:28

**Review time:** 1 Hour

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty

<b>Creativity or innovation of this manuscript</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation
<b>Scientific significance of the conclusion in this manuscript</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input checked="" type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

## SPECIFIC COMMENTS TO AUTHORS

I have thoroughly reviewed your paper and appreciate your efforts. I've given constructive feedback to improve your article's quality. Please consider my suggestions to enhance clarity and impact. Once you make revisions, I will gladly review the updated version. Your commitment to improvement is commendable, and I look forward to seeing how your article evolves. Best regards. Abstract 1. While the abstract is informative, it might benefit from being more concise. Abstracts should quickly convey key points. Consider shortening some of the longer sentences and focusing on the most critical aspects of your study. 2. The abstract mentions the use of examples to demonstrate the versatility of PSM and RCT integration, but it doesn't provide any specific examples. Including at least one brief, illustrative example could enhance the reader's understanding. 3. While the abstract mentions the study examining applications, advantages, and considerations of using PSM with RCTs, it does not specify how this



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examination is conducted. Are you conducting a meta-analysis, a systematic review, or using case studies? A brief mention of the methodology would be beneficial. 4. While the abstract discusses the potential of this integrated methodology, elaborating slightly on its implications for future research or clinical practice could add value. How might this integration change the way clinical trials are conducted or interpreted? 5. It might be useful to briefly specify what these ethical challenges are and how PSM integration with RCTs addresses them.

**Introduction**

- You mention the inception of PSM by Rosenbaum and Rubin in 1983. Briefly elaborating on how PSM has evolved since its inception and its impact on clinical research could provide valuable context.
- You've highlighted various challenges associated with RCTs. It might be beneficial to briefly discuss how these challenges have historically impacted the field of clinical research and decision-making.
- Elaborate on why integrating PSM with RCTs could be a solution to the challenges faced by RCTs. This would strengthen the argument for your study's significance.
- The introduction is dense with information. Consider breaking down complex sentences into shorter, clearer ones to enhance readability. This will make the introduction more accessible to a broader audience.
- Ensure that terms like EBM, PSM, and RCTs are clearly defined for readers who may not be familiar with them. This could either be done in the introduction or in a dedicated section for definitions.
- While you mention the intention to explore the strengths and limitations of both methodologies, it could be beneficial to hint at what unique contributions your study/review aims to make to the existing body of knowledge.
- You start by linking your discussion to EBM but don't revisit this connection later in the introduction. Drawing a clearer line between your study and its implications for EBM would strengthen your argument.

1. The description of the literature search is clear but could be enhanced by specifying the inclusion and exclusion criteria used for selecting studies. This would add transparency and reproducibility to your research process. 2. Both RCTs and PSM are well-explained,



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but consider emphasizing their distinct roles and applications in clinical research more clearly. This could help readers better understand the rationale behind comparing these two methodologies. 3. While you've touched upon ethical considerations in RCTs, it would be beneficial to discuss ethical considerations in PSM as well, particularly regarding data privacy and the use of patient data from registries or electronic health records. 4. The section that compares RCTs and PSM is comprehensive. However, consider adding a brief summary at the end of each subsection to reinforce the key points and differences between the two methodologies. 5. You mention various models used in PSM, like logistic regression. It might be useful to discuss briefly how the choice of model can influence the outcomes and the limitations associated with these models. 6. The use of practical examples to illustrate the applications of RCTs and PSM is excellent. Ensure that these examples are relevant, recent, and accurately cited. 7. The discussion on the integration of RCTs and PSM is insightful. Expanding on how this integration could be implemented in practice, possibly with examples or case studies, would be beneficial. 8. Ensure that the methods section is aligned with the research question or hypothesis stated in your introduction. The connection between your methods and your research goals should be evident. 9. Discuss the limitations of your review method, such as potential biases in the literature search or limitations in the scope of the studies reviewed. CONCLUSION 1. Start by briefly reiterating the key findings from your study to remind readers of the most significant points discussed. 2. Stress the importance of considering the context in which each method is applied. Highlight situations where one method may be more advantageous than the other. 3. Suggest areas for future research, particularly in improving the methodologies or exploring new ways of combining them for more robust research outcomes. 4. Acknowledge any limitations in your study or analysis, such as potential biases or aspects that were not covered but could be relevant. 5. Discuss the implications of your findings for evidence-based medicine, particularly



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how they can contribute to more informed decision-making in clinical practice.