

Peer Review

Review of: "Integrated Determinants of Persistent Wild Poliovirus Transmission in Pakistan and Afghanistan: The Roles of Cross-Border Mobility, Hard-to-Reach Populations, and Micro-Transmission Hotspots, 2010-2025"

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This manuscript addresses a highly important and timely topic—the persistence of WPV1 transmission in Pakistan and Afghanistan, the final global reservoirs of the virus. The integration of epidemiological, genomic, and operational evidence is commendable, and the framing of the two countries as a single epidemiological unit is well-justified and policy-relevant. The identification of immunity gaps among marginalized populations and persistent environmental hotspots adds meaningful practical value.

However, several aspects of the manuscript require clarification and strengthening before it can be considered for publication.

Some comments are:

1. Keywords

The manuscript does not include keywords. At least 4–6 well-defined keywords should be added to improve indexing and visibility.

2. Introduction:

The introduction lacks sufficient engagement with recent literature on cross-border disease transmission and surveillance systems. Incorporating relevant and up-to-date studies would significantly strengthen the conceptual framing and demonstrate the novelty of the work. The authors are encouraged to consider literature such as:

- <https://doi.org/10.1016/j.matcom.2023.01.040>
- <https://doi.org/10.1016/j.jiph.2023.02.006>
- <https://doi.org/10.1016/j.jiph.2025.102969>
- <https://doi.org/10.3390/life15121848>
- <https://doi.org/10.1038/s41467-025-60432-x>
- <https://doi.org/10.1016/j.jvacx.2025.100752>

3. These references would help situate the study within broader advances in cross-border epidemiology and infectious disease surveillance.

4. Methods – Transparency and Rigor:

While the manuscript states that a systematic search was conducted across multiple databases (PubMed, Embase, Scopus, Web of Science, and institutional repositories), the reporting lacks sufficient transparency. Specifically:

- The number of records retrieved from each database is not reported
- There is no PRISMA flow diagram to illustrate the screening and selection process
- No formal quality assessment or risk-of-bias evaluation is described

5. These omissions limit the reproducibility and methodological rigor of the review. Addressing these points is essential.

6. Synthesis of Evidence

Although the findings are clearly presented, the manuscript would benefit from a more structured synthesis (e.g., thematic or conceptual framework) linking cross-border mobility, immunity gaps, and environmental hotspots. This would improve clarity and enhance interpretability.

7. Policy Translation:

The conclusions are generally well-aligned with the findings; however, they could be further strengthened by outlining more concrete implementation pathways for synchronized cross-border interventions and targeted immunization strategies.

Overall Assessment:

This is a relevant and potentially impactful contribution to the global polio eradication literature. However, substantial improvements in methodological transparency and contextual framing are required. With these revisions, the manuscript could meet the standards expected for publication.

Declarations

Potential competing interests: No potential competing interests to declare.