




HSE Legislation Effects on Reducing Industrial Accidents and Improving Occupational Health: A Systematic Review and Meta-analysis

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1. Round 1

1.1. Reviewer 1

Reviewer:

In the opening paragraph beginning with “Industrial accidents and occupational diseases continue to pose significant global public health and socioeconomic challenges”, the authors cite global statistics but do not specify whether these data refer to all industries or high-risk sectors only. Clarifying this distinction would improve conceptual precision.

The paragraph stating “Legislation governing Health, Safety, and Environment (HSE) represents one of the most critical policy instruments” would benefit from a clear operational definition of “HSE legislation” early in the manuscript, distinguishing between statutory law, regulatory enforcement, and voluntary standards.

The manuscript states that “two reviewers independently screened studies”, while later noting that “five reviewers” reviewed full texts. Please clarify the exact reviewer structure and justify the change in reviewer number across screening stages.

In the paragraph beginning “Effect sizes were standardized prior to pooling”, the manuscript does not explain how diverse outcome measures were harmonized into risk ratios. A short methodological explanation or formula is needed.

Authors revised the manuscript and uploaded the document.

1.2. Reviewer 2

Reviewer:

In the paragraph discussing heterogeneous findings (“Despite the widespread adoption of HSE legislation, its effectiveness remains contested”), the manuscript would be strengthened by explicitly identifying why previous reviews were insufficient (e.g., lack of quantitative synthesis, exclusion of legal enforcement mechanisms).

The sentence “All stages of study design, execution, data analysis, and reporting were performed in strict accordance with the PRISMA 2020 guidelines” is appropriate; however, the manuscript does not indicate whether a PRISMA checklist or protocol registration (e.g., PROSPERO) was completed. Please clarify this.

The MeSH-based search strategy is presented in detail; however, it is not stated whether gray literature or governmental reports were intentionally excluded. Given the legal nature of HSE interventions, justification for this decision is necessary.

In “Only studies published in English were included”, the authors should discuss the potential language bias introduced by this restriction, especially considering that HSE legislation is highly country-specific.

The statement “Priority was given to studies employing interventional, quasi-experimental, or cohort designs” would benefit from clarification on whether cross-sectional studies were excluded entirely or conditionally, as one included study appears cross-sectional (Hesham et al., 2025).

Authors revised the manuscript and uploaded the document.

2. Revised

Editor’s decision: Accepted.

Editor in Chief’s decision: Accepted.