

Peer Review Report

Review Report on Mitigating Sports-Related Concussions in Adolescent Athletes: A Systematic Review and Meta-Analysis of Communication and Education Interventions Submission prepared for the Review, Public Health Rev.

Reviewer: James Mooney
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EVALUATION

Q 1 Please summarize the main theme of the review.

The review focuses on evaluating the effectiveness of communication and education interventions designed to improve awareness, knowledge, attitudes, and reporting behaviors regarding sports-related concussions (SRCs) among adolescent athletes and their caregivers. The meta-analysis synthesizes data from 22 studies published between 2014 and 2024, primarily from North America. The findings highlight that SRC interventions are more effective at increasing awareness and knowledge than influencing attitudes or long-term behavioral changes. The study underscores the need for interventions that promote sustained attitude changes and behavioral adaptations.

Q 2 Please highlight the limitations and strengths.

Strengths

Comprehensive Review and Meta-Analysis: The study systematically evaluates and synthesizes data from multiple sources.

Robust Methodology: Uses PRISMA guidelines and a preregistered systematic review protocol.

Focus on a Critical Public Health Issue: Addresses the growing concern of SRCs among adolescents in competitive sports.

Comparative Analysis: Assesses different intervention strategies, including digital and in-person approaches.

Statistical Rigor: Employs standardized mean differences and moderator analysis to explore intervention effectiveness.

Quality Assessment of Studies: Uses the CONSORT checklist to evaluate study quality.

Limitations

Geographical Bias: Most studies are from the US and Canada, limiting generalizability to non-Western populations.

Short-Term Interventions: Many included studies assessed interventions lasting only one to two months, making long-term effectiveness unclear.

Limited Theoretical Frameworks: Few studies applied health communication theories, suggesting a need for better theoretical grounding in intervention design.

Heterogeneity in Study Designs: Considerable variation in methodologies, outcomes, and intervention formats affects comparability.

Underrepresentation of Caregivers and Coaches: Few studies assessed the role of caregivers or included non-athlete stakeholders.

Q 3 Please provide your detailed review report to the authors, structured in major and minor comments.

Major Comments

Need for Long-Term Follow-Up Data:

The review highlights the effectiveness of SRC education in improving knowledge and awareness, but there is a lack of long-term outcome data. Future studies should evaluate sustained behavior changes over extended periods.

Inclusion of More Diverse Populations:

The study predominantly includes North American cohorts. Expanding research to European, Asian, and other global populations would improve generalizability.

Addressing the Knowledge-Behavior Gap:

While knowledge and awareness improved, the review found weaker effects on attitude and behavioral changes. More research is needed on interventions that effectively bridge this gap.

Theory-Based Interventions:

Only a few studies applied established health behavior theories (e.g., Theory of Planned Behavior, Health Belief Model). Encouraging the use of theoretical frameworks can enhance intervention effectiveness.

Comparative Effectiveness Research:

The review suggests that different intervention modalities (digital vs. in-person) do not significantly affect outcomes. However, more rigorous studies are needed to assess the relative efficacy of various intervention formats.

Minor Comments

Clarification of Methodology:

While the inclusion criteria are well-defined, it would be helpful to specify how cultural differences in SRC perceptions might have influenced study outcomes.

More Details on Meta-Analysis:

The review mentions heterogeneity in effect sizes but could provide a clearer breakdown of which study characteristics contributed to variations.

Typographical and Formatting Issues:

The manuscript should undergo a final proofreading to correct minor grammatical errors and formatting inconsistencies.

PLEASE COMMENT

Q 4 Does the reference list cover the relevant literature adequately and in an unbiased manner?

Yes. The review includes a broad range of studies covering various SRC intervention strategies. However, the predominance of North American studies may introduce some selection bias.

Q 5 Does this manuscript refer only to published data? (unpublished data is not allowed for Reviews)

Yes.

Q 6 Does the manuscript cover the issue in an objective and analytical manner

Yes.

Q 7 Was a review on the issue published in the past 12 months?

No.

Q 8 Does the review have international or global implications?

Yes. Although most included studies are from North America, the issue of SRCs is relevant globally. The findings have implications for concussion prevention programs worldwide, particularly in youth sports.

Q 9 Is the title appropriate, concise, attractive?

Yes. The title clearly conveys the study's focus and methodology while being concise and informative.

Q 10 Are the keywords appropriate?

Yes. The keywords accurately reflect the study's focus, covering essential terms such as "concussion," "sport," "education," "communication," "intervention," "systematic review," and "meta-analysis."

Q 11 Is the English language of sufficient quality?

Yes. The manuscript is well-written, but minor grammatical and typographical errors should be addressed in a final proofreading.

Q 12 Is the quality of the figures and tables satisfactory?

Yes.

QUALITY ASSESSMENT

Q 13 Quality of generalization and summary

☐ ☐ ☐ ☐ ☐

Q 14 Significance to the field

☐ ☐ ☐ ☐ ☐

Q 15 Interest to a general audience

☐ ☐ ☐ ☐ ☐

Q 16 Quality of the writing

☐ ☐ ☐ ☐ ☐

REVISION LEVEL

Q 17 Please take a decision based on your comments:

Minor revisions.