Research Brief

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Selective Reporting Bias in Randomised Controlled Trials from Two Network Meta-Analyses: Comparison of Clinical Trial Registrations and Their Respective Publications

Summary

Any discrepancy between the information provided in the clinical trial registry and the publication that is not disclosed may indicate concealment of results because of the statistical significance, magnitude or direction of the effect, leading to selective reporting bias. In this study, inconsistent reporting of serious adverse events (SAEs) in randomised trials that were included in two network meta-analyses (NMAs) was identified. The findings highlight the importance of including trial registry results and verifying safety data before incorporating it into NMAs.

Implications

The findings offer insights on how to improve transparency in trial data and comprehensiveness in knowledge synthesis. To improve consistency between trial registry data and publications, it is recommended that all trial registry results are posted by the same responsible parties that prepare the published manuscript.

Reference: Wong EKC,* Lachance CC,* Page MJ, et al. Selective Reporting Bias in Randomised Controlled Trials from Two Network Meta-Analyses: Comparison of Clinical Trial Registrations and Their Respective Publications. BMJ Open. 2019 Sep 5;9(9):e031138.

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PMID: 31492792

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What is the current situation?

- The validity of a knowledge synthesis, including NMA, is dependent on the quality of primary studies, which includes appropriate outcome reporting.
- A previous study found SAE reporting to be inconsistent between the registered trials and their corresponding publications.
- Outcome reporting bias can result in biased treatment effect estimates obtained with the NMA results, but has not been explored.

What is the objective?

- To determine the difference in the frequency of SAE reported in trial registrations and their respective primary publications.
- To determine the effect of adding SAE data from registries to a NMA in changing the surface under the cumulative ranking (SUCRA) curve values of interventions.

How was the review conducted?

- A retrospective review was conducted of the published journal articles and corresponding registration records for randomised trials included in two NMAs: one on pharmacologic therapy for Alzheimer disease (67 trials) and chronic obstructive pulmonary disease (136 trials).

What did the review find?

- Of the 203 randomised trials included, 140 (69.0%) were registered with a trial registry and 72 (35.5%) posted results in the registry.
- We identified inconsistent reporting of SAEs in randomised trials that were included in two NMAs, but inclusion of registry SAE data did not change overall treatment rankings.
- We found that 19.4% of publications with results posted in a clinical trial registry had inconsistent reporting of overall treatment and the most common discrepancy was not reporting the SAE data in the primary publication (50.0%).
- Findings highlight the importance of including trial registry results and verifying safety data before incorporating it into NMAs.

Dr. Andrea C. Tricco is funded by the Ontario Ministry of Research, Innovation, and Science Early Researcher Award (2015 to 2020)