Health Decision

ABSTRACT

Optimizing covariate selection and results inference in anchored matched adjusted indirect comparison method

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Indirect comparison methods become particularly prominent in pharmacoeconomic evaluations. This study delves into the anchored matched adjusted indirect comparison (MAIC) method, spotlighting the challenges of selecting appropriate covariates and distinguishing between predictive and prognostic factors. In addition, our research bridges the gap of MAIC results application inference, enhancing the methodological rigor and applicability of MAIC analyses. Through theoretical exploration and a detailed case study of toripalimab and pembrolizumab in the neoadjuvant treatment of NSCLC, we demonstrate the significant impact of covariate selection on the outcomes of pharmacoeconomic evaluations. Analyzing the individual patient data by using statistical methods alone is insufficient to identify all potential prognostic factors. Instead, a combination of previously published related research and expert consultations is necessary. The individual patient data network meta-analysis should be employed if the shared effect modifier assumption is not met to make the MAIC results be inferred for the real-world decision-making population.

Key words: matched adjusted indirect comparison, covariate selection, results inference

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Received: 15 June 2024; Published: 15 July 2024
https://doi.org/10.54844/hd.2024.0014