

LETTER TO EDITOR

In-hospital and post-discharge treatment regimens of cardiac patients should be reported for a more accurate treatment selection bias assessment in prognostic studies.

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Dear Editor,

Cardiovascular diseases are one of the most important causes of death worldwide, resulting in a burden of 423 million DALYs and 21 million deaths in 2021 (1). Extensive research is being conducted in numerous fields of cardiovascular disease, and observational studies have become a significant body of related literature. One of the main purposes of observational studies is the evaluation of the diagnostic and prognostic capabilities of index tests, scoring tools, and other clinical and paraclinical factors (2-4).

Quality Assessment of Prognostic Accuracy Studies (QUAPAS) guidelines (5) have been recently introduced as an alternative to Quality Assessment of Diagnostic Accuracy Studies (QUADAS) guidelines (6) for appraisal of the risk of bias in prognostic studies. QUAPAS guidelines propose treatment regimen differences between patients as a source of bias in the flow and timing domain.

According to these guidelines, "Clinical management should ideally be identical for all study participants during the follow-up period"; otherwise, the study results will likely contain bias. In our previous systematic reviews (7-9), most articles had not specified their patient treatment regimens. The differences in treatment strategies between patients and between studies can affect the study results and influence the calculated prognostic or diagnostic value of a possible index test. Thus, these studies are evaluated as having some concerns regarding their risk of bias. Observational studies, especially diagnostic and prognostic accuracy studies, should

report the patient's treatment regimens to address this issue. Since it is often impossible to equate the treatments of cardiovascular patients due to their different assessed risks, the studies should utilize multivariate analysis models to adjust for the treatment regimen variations and report their results as adjusted odds ratio, adjusted relative risk, or adjusted hazard ratio. Prognostic studies are also subject to time-event outcomes and need to account for censoring. Therefore, we suggest these studies implement cox regression models in their analyses.

1. Declarations

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1.2. Authors' contributions

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1.3. Funding and supports

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1.4. Conflict of interest

The authors declare no conflicts of interest in this study.

1.5. Using artificial intelligence chatbots

None.

1.6. Ethical consideration

Not applicable.

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