9.5 Quality assessment of prognostic studies

Prognostic studies

Are designed to answer questions about the expected course of a health condition, factors associated with health outcomes and risk factors associated with variations in outcomes. STARD reporting guidelines are recommended by the EQUATOR network. The STARD statement guides reporting but is not a quality assessment instrument.

The Cochrane Prognosis Methods Working Group provide links to resources for quality assessment of prognostic studies. One of these was published by Hayden et al (2013)[DOI 10.7326/0003-4819-158-4-201302190-00009]. These authors identified 6 important areas to consider when evaluating validity and bias in studies of prognostic factors and summarised these in the QUIPS tool. Reviewers planning to use the QUIPS tool are encouraged to read the report of its development.

Hayden and colleagues recommend quality assessment of participation, attrition, prognostic factor measurement, confounding measurement and account, outcome measurement, and analysis and reporting. The QUIPS tool provides prompting items rather than explicit decision rules for rating each item. Reviewers will therefore need to develop clear and unambiguous decision rules relevant to the review question before commencing quality assessment of studies included in the review.

The first area ‘Study Participation’ is reproduced below along with comments to guide development of decision rules.

Study Participation

1. Adequate participation in the study by eligible persons
2. Description of the source population or population of interest
3. Description of the baseline study sample
4. Adequate description of the sampling frame and recruitment
5. Adequate description of the period and place of recruitment
6. Adequate description of inclusion and exclusion criteria

   High bias: The relationship between the predictive factor and outcome is very likely to be different for participants and eligible nonparticipants

   Moderate bias: The relationship between the predictive factor and outcome may be different for participants and eligible nonparticipants
Low bias: The relationship between the predictive factor and outcome is unlikely to be different for participants and eligible nonparticipants

Decision rule: The reviewer needs to define

- the population of interest to the review
- a rule to define adequate participation by eligible people
- the features in baseline characteristics that confer confidence that the sample does represent the population of interest
- what constitutes an acceptable sampling frame
- whether the period and time of data collection is of relevance, and if so, what duration/time period is required to address the review question
- what features of inclusion and exclusion criteria would you consider ‘adequate’

Lastly some consistent approach is required for summarising across these elements to reach the decision that the work was conducted well (or otherwise) with respect to identifying and enrolling participants

This a priori work up of the instrument is required for each of the 6 domains. The authors point out that not all assessment elements are relevant to all review questions; you will need to sort out which are not relevant to your question

Resources

Download Word version of QUIPS

Introduction to systematic reviews of prognosis

References