

Critical Appraisal of Prognostic Studies

Leonardo Roever*

Department of Clinical Research, Federal University of Uberlândia, Uberlândia, Brazil

*Corresponding author: Leonardo Roever, Department of Clinical Research, Av Pará, 1720 - Bairro Umuarama, Uberlândia-MG-CEP 38400-902, Brazil, Tel: +553488039878; E-mail: leonardoroever@hotmail.com

Rec Date: 08 December, 2015; Acc Date: 15 December, 2015; Pub Date: 22 December, 2015

Copyright: © 2015 Roever L. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Introduction

Prognosis can be defined as the prediction of the future course of a disease after its installation. Patient groups are listed accompanied in time to measure their clinical outcomes. The Table 1 shows the checklists needed to make a critical analysis of prognostic studies [1-14].

Appraisal questions
The variables included in the rule are clearly defined?
Was a defined, representative sample of patients assembled at a common (usually early) point in the course of their disease?
Were objective and unbiased outcome criteria used?
Did the individual assessing the outcome criteria know whether or not the patient had a potential prognostic factor, i.e., were they blinded?
Were objective outcome criteria applied in a "blind" fashion?
Was there validation in an independent group ("test set") of patients?
Was patient follow-up sufficiently long and complete?
Was the initial sample of patient's representative?
People evaluating the outcome know the predictor variables?
People evaluating the predictor variables know the outcome?
Was the follow-up of these patients sufficiently long and complete?
Were the outcome criteria objective and applied in a blinded fashion?
Were outcome criteria either objective or applied in a 'blind' fashion?
If subgroups with different prognoses are identified, did adjustment for important prognostic factors take place?
If different subgroups of patients were identified, was there an adjustment for the different prognostic factors, as well as prospective validation in an independent "test group" of patients?
Was there adjustment for important prognostic factors?
Was there standardization for potentially important prognostic factors, e.g., age?
Were different sub-groups compared?
Was there validation in an independent group of patients?
Are the results of the study valid?
What are the results?
How likely are the outcomes over time?
How likely are the outcome event(s) over a specified period of time?

Were all important variables included and the positivity criteria explained?
The statistical method is adequately described?
How precise are the estimates of this likelihood?
Are the results presented with confidence intervals?
How precise are the prognostic estimates?
Were the study patients similar to this patient?
Can I apply this valid, important evidence about prognosis to my patient?
Is my patient so different to those in the study that the results cannot apply?
Will this evidence make a clinically important impact on my conclusions about what to offer to tell my patients
How do the outcomes behave over time?
Are the patients in the study similar to mine?
Will the results lead directly to selecting or avoiding a treatment?
Can the results be used in my clinical practice?
Are the results useful for reassuring or counselling my patient?
Will the evidence make a clinically important impact on your conclusions about what to offer or tell this patient?
Are exclusions and drop outs well described and do the authors discuss the reasons for them?
Sometimes the outcome cannot be measured in the same way in all patients.
In addition to your opinion, might there be studies analyzing the impact (in monetary terms or health results) of the rule?
If nothing will change, the rule is at best useless in terms of benefit to the patients.
How the initial estimation has changed after applying the rule, and the effect it has had on the action threshold.
Conflicts of interest are declared.
Rate the overall methodological quality of the study, using the following as a guide:
High quality (++): Majority of criteria met. Little or no risk of bias.
Acceptable (+): Most criteria met. Some flaws in the study with an associated risk of bias.
Low quality (-): Either most criteria not met, or significant flaws relating to key aspects of study design.
Reject (0): Poor quality study with significant flaws. Wrong study type. Not relevant to guideline.

Table 1: Critical appraisal of prognostic studies.

Use this checklist can improve the evaluation of prognostic studies.

References

1. Laupacis A, Wells G, Richardson WS, Tugwell P (1994) Users' guides to the medical literature. V. How to use an article about prognosis. Evidence-Based Medicine Working Group. *JAMA* 272: 234-237.
2. <http://www.cebm.net/wp-content/uploads/2014/04/cebm-prognosis-worksheet.pdf>
3. Carneiro AV (2002) Critical appraisal of prognostic evidence: practical rules. *Rev Port Cardiol* 21: 891-900.
4. Ferrero P, Iacovoni A, D'Elia E, Vaduganathan M, Gavazzi A, et al. (2015) Prognostic scores in heart failure - Critical appraisal and practical use. *Int J Cardiol* 188: 1-9.
5. Röcken C, Behrens HM (2015) Validating the prognostic and discriminating value of the TNM-classification for gastric cancer - a critical appraisal. *Eur J Cancer* 51: 577-586.
6. G Guyatt, MO Meade, DJ Cook, D Rennie (2014) Users' Guides to the Medical Literature: A Manual for Evidence-based Clinical Practice, Third edition. McGrawHill Companies, New York.
7. Sackett DL, Richardson WS, Rosenberg WS, Rosenberg W, Haynes BR (2010) Evidence-Based Medicine: how to practice and teach EBM. Churchill Livingstone.
8. http://media.wix.com/ugd/dded87_9f84310697164809ac7392ab63f3d8ca.pdf
9. <http://connect.jbconnectplus.org/help/rapiduserguide.pdf>
10. <http://joannabriggs.org/assets/docs/sumari/reviewersmanual-2014.pdf>
11. Dahm P, Gilbert SM, Zlotecki RA, Guyatt GH (2010) How to use an article about prognosis. *J Urol* 183: 1303-1308.
12. Romancik M, Kollarik B, Lenko V, Labudova V, Obsitnik M, et al. (2010) Critical appraisal of prognostic factors for transobturator tape implantation. *Bratisl Lek Listy* 111: 647-652.
13. Thunnissen FB, Schuurbiens OC, den Bakker MA (2006) A critical appraisal of prognostic and predictive factors for common lung cancers. *Histopathology* 48: 779-786.
14. Tabet JY, Beauvais F, Thabut G, Tartière JM, Logeart D, et al. (2003) A critical appraisal of the prognostic value of the VE/VCO2 slope in chronic heart failure. *Eur J Cardiovasc Prev Rehabil* 10: 267-272.